

OPERATION & MAINTENANCE MANUAL

VERTICAL MIXERS



KIRBY MANUFACTURING
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NON-TRANSFERRABLE LIMITED WARRANTY

GENERAL TERMS AND CONDITIONS:

KIRBY MANUFACTURING, INC. (henceforth referred to as KMI), hereby warrants to the original purchaser of a newly manufactured KMI product, that all new KMI products are guaranteed against defects in materials or manufacture under normal use for a period of one year (1) or duty cycle of 3000 hours (whichever comes first) from the original in-service date.

Improper Activity will void this limited warranty. "Improper Activity" includes any, and all, of the following: Installation by anyone other than KMI or its authorized agent, improper installation, use/operation/maintenance other than in accordance with KMI's instructions, tampering, neglect or damage by the application of force, acts of vandalism, accidents, misuse, abuse, repair/alteration or adjustment by anyone other than KMI or its authorized agent.

FOR THE WARRANTY TO BE IN EFFECT: The warranty registration form must be signed, dated, and submitted to KMI within 15 days of the delivery date by the end user. If not returned, the warranty period begins from the date the equipment was invoiced to the dealer.

This warranty is subject to any existing conditions of supply which may directly affect our ability to obtain materials or manufacture replacement parts. This warranty shall in no way make KMI liable for personal injuries or damages, loss of time or expense of any kind either direct or indirect resulting from part failure or defect.

KIRBY MANUFACTURING, INC. DISCLAIMS ALL OTHER WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO AGENT OR EMPLOYEE OF KIRBY MANUFACTURING, INC IS AUTHORIZED TO EXTEND ANY OTHER WARRANTY OR OBLIGATION. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

WARRANTY PROVISIONS: During the warranty period (12 months or 3,000 hours), KMI will repair or replace parts of the product that prove defective because of improper material or workmanship, under normal use and maintenance. This warranty is subject to the following provisions:

1. Labor is covered for a period of 90 days from the original in-service date, except defects in workmanship, which is covered for the entirety of the warranty (12 months or 3,000 hours).
2. Labor will be paid at the dealer's standard hourly rate.
3. KMI will pay for standard ground shipping of parts within 90 days of the original in-service date.
 - a. The shipping carrier will be at the discretion of KMI.
 - b. All priority shipping is the responsibility of the dealer or customer.
4. All warranty work requires a KMI warranty claims form to be filled out and returned with all required documentation.
5. Warranty forms must be requested within 48 hours of the first business day after the repair.
6. All warranty claims must be submitted within 30 days of the warranty claim form date.

7. Replacement parts will have a 90-day warranty or the remainder of the KMI warranty period, whichever is longer. Parts must be installed by an authorized dealer or agent of KMI.
8. Any removed parts must be marked with serial number of the unit, date of repair and warranty number.
9. Parts must be held by the dealer upon request of KMI for 30 days.
10. Parts may be requested by KMI to be returned to KMI or a supporting vendor.
 - Supporting vendor - A return goods authorization (RGA) and warranty claim number will be issued.
 - KMI - Warranty claim number will be issued.
11. If deemed defective by KMI, parts with an RGA/Warranty claim number will be reimbursed, replaced, or credited back to the dealer at the net dealer cost.
12. Parts invoice for warranty goods received will be requested with warranty. If a part is purchased outside of KMI proof of purchase will be required for reimbursement.
13. The following are not covered under this warranty:
 - Overtime, freight, and travel.
 - Rental fees for loaner equipment to the end customer.
 - Other out of pocket expenses incurred during downtime.
 - Overnight/priority shipping.
 - Damages or repairs to tractors used with KMI equipment.
 - Truck and all truck parts/components (truck mounted models).
 - Normal wear and tear for normal replacement parts, cutting knives, exterior finish, chains, hydraulic oil & filters, belts, sprockets, u-joints etc.
 - Scale Systems have their own warranty and are not included in Kirby's limited warranty coverage. The warranty stated by the scale manufacturer will be honored by KMI. This does not include any freight, service calls or loaner unit for the specified repair. Scale warranty is outlined in the Scale System's owner's manual.
 - All parts requiring periodical maintenance, that have not been (but not limited to):
 - Greased (bearings, PTO & driveline u-joints).
 - Nuts and bolts tightened.
 - Chains adjusted.
 - Oil changed.
 - Filter changed.
 - Hydraulic hoses tightened.
14. Tires, wheels, and batteries have a limited warranty of 3 months from the date of original sale and warranty acceptance form. This includes oil seals for the axle hub. This does not include any flats or damage caused by negligent use or foreign objects.
15. Electrical switches and controls installed by KMI are covered against defect in workmanship for a period of one year under normal use. Part component switches are covered for 30 days.

PRODUCT IMPROVEMENTS: KMI reserves the right to make improvements and changes in material and / or design of its products with no obligation to incorporate such improvement into previously manufactured equipment.

DEALERS RESPONSIBILITIES

1. Instruct the customer in the safe operation and servicing of the unit.
2. Review the owner's manual with the customer and ensure the customer understands the complete operation, service, safety procedures and warranty of the unit.
3. Ensure customer signs and sends warranty registration to KMI within 15 days of delivery of unit.
4. Customer should be advised to have failed parts repaired or replaced immediately upon failure and that continued use could result in additional damage and excessive wear, voiding the warranty.
5. Follow correct warranty procedures including but not limited to notifying warranty department at KMI (209-723-0778) & submitting completed warranty claim form to KMI within the specified time as set forth under the "Warranty Provisions" section.
6. Perform warranty and service repairs.
7. **ALL DEALERS MUST WARRANTY THEIR TECHNICIAN'S WORK TO THE PURCHASER AND MUST INDEMNIFY KMI FROM SUCH CLAIMS.**

DELAYED WARRANTY REPAIRS

Warranty repairs should be scheduled and performed as soon as possible after notification of the dealer to KMI. There may be extenuating circumstances that require the availability of repair parts necessary to complete the repairs. In those cases, the dealer must notify KMI, in writing of the extenuating circumstance and advise that the continued use of the product will not add to the warranty claim. These claims, pre-approved by KMI, will then be processed as if the product is still within the warranty period.

DENIED CLAIMS

Dealers will be notified of a denied claim in writing that will state the reason for the denial. The dealer has the right to appeal this claim and must do so within 30 days of notification of denial. If there has been no appeal within the 30-day period, the claim will be considered closed.

Questions or comments? Contact Us:

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OPTIONAL EXTENDED WARRANTY

As a onetime offer, KMI offers the owner of a newly manufactured Kirby feed mixer the option to purchase an extended warranty policy. This extended warranty policy offers a total of 3 years of coverage (one-year standard warranty plus two years beyond the standard warranty). This extended warranty policy must be purchased at the time of equipment sale and will go into effect upon initial equipment start-up. A completed extended warranty acceptance documentation is required for the extended warranty to be in effect.

This extended warrant policy covers the replacement parts itemized below:

1. Hydrostatic hydraulic pumps
2. Hydraulic motors for planetary
3. Planetary gearboxes

The following items are NOT covered under this extended warranty:

1. Hydraulic auxiliary pump (pump for door ram and crossfeed motor)
2. Hydraulic Oil
3. Hydraulic Cooling systems including hydraulic fan motors.

The general terms and conditions of the standard warranty also apply to the extended warranty in addition to the special terms and conditions as listed below. This policy requires the equipment owner to take and send in oil samples at predetermined time intervals or **have an authorized Kirby Service agent maintain and record all service schedules according to owner's manual.**

These time intervals are as follows:

1. Gearbox oil samples every 6 months or 1,000 hours whichever comes first. (plus, initial sample taken 50 hours after start-up)
2. Hydraulic system oil samples every 3 months or 500 hours, whichever comes first.

These samples are to be sent in by the equipment owner to "WEARCHECK" laboratories for analysis. "WEARCHECK" laboratories will analyze the samples and send a complete report to the equipment owner stating the condition of the oil, as well as make recommendations about any concerns they may see regarding the condition of the oil. It is the equipment owner's responsibility to maintain the best oil condition in accordance with "WEARCHECK" laboratories recommendations.

(Note: sample bottles are pre-addressed to "WEARCHECK" laboratories. It is the equipment owner's responsibility to pay all mail charges to send samples to "WEARCHECK" laboratories)

Proration with limitations of the planetary gearbox with extended warranty

Shaft seals and O-rings of the planetary gearbox are warranted for only one year and not subject to the proration of the planetary. Prices based on suggested list price of planetary.

1. 1 to 12 months or 3,000 hours of usage, KMI at its sole discretion will replace or repair (parts and labor) defective gearbox. Included are shaft seals and O-rings (100% replacement with labor cost)
2. 13 to 24 months or 3,000 - 6,000 hours of usage, KMI at its sole discretion will replace or repair (parts and labor) (75% of cost replacement and 75% of labor cost).
3. 25 to 36 months or 6,000 - 9,000 hours of usage, KMI at its sole discretion will replace or repair (parts and labor) (50% of cost replacement and 50% of labor cost).

Equipment owner's responsibilities to maintain warranty

1. Purchase all sample bottles when purchasing equipment
 - Mechanically driven unit: 18 sample kits (6-2 speed, 12-planetary)
 - Hydraulically driven unit; 24 sample kits; (12-hydraulic system, 12-planetary)
1. Perform regular maintenance as specified in the Operation and Maintenance Manual
2. Take and send oil samples into WEARCHECK per time intervals stated above
3. Review oil reports and take corrective actions per WEARCHECK recommendations
4. All warranty claims must be accompanied with hard copies of the WEARCHECK reports

Any replacement provided under this warranty will be warranted for the remainder of the warranty period applicable to the product in which it is installed or which it replaces.

OPTIONAL EXTENDED WARRANTY

Business Name: _____ Date: _____

Model Type: _____ Serial No: _____

SAFETY PROCEDURES

When inspecting the machine **all power must be shut off** and secured. ***Do not attempt to work on machine when machine is running.***

Caution must be used when checking rotating parts under power. It is advisable to have two (2) persons present when checking for safety. The second person should be positioned by a stop switch so the machine can be stopped **immediately** in case of an emergency.

Do not leave machine unattended while in operation.

Be sure all guards and safety devices are in place.

Scale service requires special cautions-**See section F.**

Caution: The tractor power take-off (PTO) drive line should be removed from the tractor and the key removed prior to servicing or working on the mixer unit.

Caution: The truck engine should be shut off and keys removed and P.T.O. disengaged when servicing or working on the mixer unit.

SAFE OPERATIONS:

Operation of this mixer/feeder shall be limited to competent and experienced persons. In addition, anyone who will operate or work around a mixer/feeder must use good common sense. To be qualified, he or she must also know and meet all other qualifications, such as:

1. Some regulations specify that no one under the age of sixteen (16) may operate power machinery. It is your responsibility to know what these regulations are in your area and/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 in the safe operation and servicing of all equipment with which the employee is or will be involved.
3. Unqualified persons are to **STAY OUT OF THE WORK AREA.**
4. A person who is qualified to operate the machinery should be trained in and/or have read & understood all operating and safety procedures.

FAILURE TO READ THIS MIXER/FEEDER MANUAL AND ITS SAFETY INSTRUCTIONS ARE A MISUSE OF THE EQUIPMENT.

IMPORTANT SAFETY PRECAUTIONS

These operating and maintenance instructions contain safety information to:

- make you aware of the hazards associated with the machine
- inform you of the risk of injury associated with those hazards
- tell you how to avoid or reduce the risk of injury.

TAKE NOTE: THE BELOW SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS:
-ATTENTION
-BECOME ALERT
-YOUR SAFETY IS INVOLVED

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

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in serious injury or death. This signal word is to be limited to the **most** extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING: Indicates a potentially hazardous situation that, if not avoided, will result in serious injury or death, 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 that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or Kirby Manufacturing, P.O. Box 989, Merced, California; Phone number (209)-723-0778.



OPERATING PRECAUTIONS & INSTRUCTIONS

A. Check to see that no obstructions are present in the mixer prior to start up.

B. Before loading, run the mixer empty and check all operations.

C. **Do not overload the mixer.**

Maximum load is 16,000LB for 800 cu.ft. *single axle* mixer.

Maximum load is 30,000LB for 1000⁺ cu.ft. *tandem axle* mixer.

Maximum load is determined by weight, **not** volume.

D. Be sure all shields are in place before operation.

E. Use common sense when operating equipment.

ALWAYS REMEMBER SAFETY FIRST: The careful operator is the best operator. Most accidents are caused by human error.

Certain precautions must be observed to prevent the possibility of injury or death.



DO NOT ALLOW PERSONNEL OTHER THAN THE TRAINED AND QUALIFIED OPERATOR NEAR THE MACHINE.



NEVER START MACHINE UNTIL ALL GUARDS AND SAFETY SHIELDS ARE IN PLACE.



DO NOT CLEAN, ADJUST OR LUBRICATE THE MACHINE WHILE IT IS IN MOTION, (ALWAYS turn off and remove keys prior to performing maintenance on the machine).



BEFORE STARTING TRACTOR ENGINE, BE SURE PTO SHIELDS TURN FREELY.



LOOSE CLOTHING SHOULD NOT BE WORN BY ANYONE NEAR THE MACHINE.

EQUIPMENT SAFETY GUIDELINES

Safety is a key concern when designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury, study the following precautions and insist those working with you, or for you, follow them. Perform regular safety audits to ensure adherence.

To provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.

Replace any **CAUTION, WARNING, DANGER**, or instruction safety decal that is not readable or is missing.

Do not attempt to operate this equipment under the influence of drugs or alcohol.

Review the safety instructions with **ALL** users annually.

This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible adult familiar with farm machinery and trained in this equipment's operations. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.

To prevent injury or death, use a tractor equipped with a Roll Over-Protective System (ROPS). Do not paint over, remove, or deface any safety signs or warning decals on your equipment. Observe all safety signs and practice the instructions on them.

Never exceed the limitations of a piece of machinery, in its ability to do a job, or to do so Safely! If in question - **DON'T TRY IT!**

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.

KEEP ALL SHIELDS IN PLACE

Do not operate mixer/feeder without safety shields in place. Rotating parts can crush or dismember causing personal injury or death. Disconnect PTO driveline before removing shields for adjustment or service.

OPERATE MIXER/FEEDER SAFELY

Rotating parts can entangle or strike people, resulting in personal injury or death. Never enter a mixer/feeder while in operation. Operate the mixer/feeder from the operator's seat only.

Do not exceed load capacity of the mixer/feeder. (See loading instructions). Reduce speed when turning or traveling on rough terrain. Avoid traveling over or near loose fill, rocks, ditches, or holes. Keep transmissions in gear when traveling downhill.

KEEP RIDERS OFF MIXER/FEEDER

Keep riders off. Riders are subject to injury such as being struck by foreign objects, falling into the mixer and by being thrown off. Riders also obstruct the operator's view, resulting in the machine being operated in an unsafe manner.

STAY CLEAR OF ROTATING DRIVELINES

Entanglement in rotating driveline can cause serious injury or death. Always keep tractor master shield and driveline shields in place. Make sure rotating shields turn freely. Wear close fitting clothing. Stop the engine and be sure PTO driveline is stopped before adjusting connections or cleaning out PTO driven equipment.

AVOID HIGH-PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury or death. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.

SAFETY DECAL CARE

Keep safety decals and signs always clean and legible. Replace safety decals and signs that are missing or have become illegible. Replaced parts that displayed a safety sign should also display the current sign. Safety decals or signs are available from your dealer or Kirby Manufacturing. (See **Drawings LP-033 – LP-035**).



BEFORE OPERATION

Carefully study and understand this manual. Note: it is the responsibility of the owner to train all current, new and future operators of the equipment. If assistance is needed, please contact Kirby Manufacturing.

Do not hurry the learning process or take the unit for granted. Ease into it and become familiar with your new mixer/feeder. Practice operation of your mixer/feeder and its attachments. Completely familiarize yourself and other operators with its operation before using.

Do not wear loose-fitting clothing which may catch in moving parts. Always wear protective clothing and substantial shoes.

Keep wheel lug nuts or bolts tightened to specified torque. **See Section 2 of Appendix (Page 102).**

Assure that agricultural implement tires are inflated to the proper pressure.

Be sure that there are no tools lying on or in the mixer/feeder. Give the equipment a visual inspection for any loose bolts, worn parts or cracked welds, and make necessary repairs. Follow the maintenance safety instructions included in this manual.

Do not use the unit until you are sure that the area is clear, especially of children and animals. **Always** check inside of mixer prior to starting it up.

It is possible that this mixer/feeder may be used in dry areas or the presence of combustibles, special precautions should be taken to prevent fires and firefighting equipment should be readily available.

Do not allow anyone to stand between the tongue or hitch and the towing vehicle when backing up to the mixer/feeder.

IMPORTANT: Drive components can be damaged from excessive speed. Do not operate tractor at speeds more than recommended PTO rpm. This feed mixer may be equipped with either a 1000 RPM or a 540 RPM driveline. Match tractor PTO with the feed mixer driveline.

IMPORTANT: To prevent driveline damage, adjust tractor drawbar to recommended setting. Disengage power to tractor PTO before turning tractor. Remove clevis if equipped. Turn offset drawbar down. Adjust drawbar length.

ADJUST TRAILER HITCH CLEVIS. Mixer should be approximately level when attached to tractor.

Securely attach to towing unit. Use a high strength, appropriately sized hitch pin with a mechanical retainer.

IMPORTANT: Connect safety tow chain (customer supplied) between trailer and tractor. The safety tow chain assembly should have a minimum tensile strength rating of 50,000 lbs.

DURING OPERATION

Beware of bystanders, **particularly children!** Always look around to make sure that it is safe to start the engine of the towing vehicle or move the unit. 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 tractor or equipment, except as required for operation.

Keep hands and clothing clear of moving parts. Do not clean, lubricate, or adjust your mixer/feeder while it is running.

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

Do not operate on steep slopes as 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 the edges of ditches or gullies and steep hillsides. Be extra careful when working on inclines.

Periodically clear the equipment of hay, feed, twine or other materials to prevent buildup of dry combustible materials.

Maneuver the tractor or towing vehicle at safe speeds. Avoid overhead wires or other obstacles. Contact with overhead lines could cause serious injury or death. Allow for unit length when making turns.

Do not walk or work under raised components or attachments unless securely positioned and blocked.

Keep all bystanders, pets and livestock clear of the work area.

Operate the towing vehicle from the operator's seat only. Never stand alongside of the unit with engine running. Never attempt to start engine and/or operate machine while standing alongside of unit.

Never leave a running mixer/feeder unattended.

As a precaution, always check the hardware on mixer/feeder prior to operating the equipment. Correct all problems. Follow the maintenance safety procedures.

FOLLOWING OPERATION

Following operation, or when unhitching, stop the tractor or towing vehicle, set the brakes, disengage the PTO and all power drives, shut off the engine and remove the ignition keys.

Store the unit in an area away from high traffic areas.

To prevent damage to the equipment and injury to livestock, do not park equipment where it will be exposed to livestock for long periods of time.

Do not permit children to play on or around the stored unit.

Make sure parked machine is on a hard, level surface and engage all safety devices.

Wheel chocks should be used to prevent unit from rolling.



HIGHWAY AND TRANSPORT OPERATIONS

Always keep the brake pedals latched together. Never use independent braking with machine in tow as loss of control and/or upset of unit can result.

Always drive at a safe speed relative to local conditions and ensure that your speed is low enough for an emergency stop to be safe and secure. Keep speed to a minimum.

Reduce speed prior to turns to avoid the risk of overturning.

Avoid sudden uphill turns on steep slopes.

Always keep the tractor or towing vehicle in gear to provide engine braking when going downhill. Do not coast.

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 the highway during daylight and nighttime transport. The 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 the tractor and mixer/feeder on the road or highway under 20 MPH (40 KPH) at night or during the day, use flashing amber warning lights and a slow-moving vehicle (SMV) identification emblem.

Plan your route to avoid heavy traffic. Be a safe courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.

Be observant of bridge loading ratings. Do not cross bridges rated lower than the gross weight at which you are operating. Watch for obstructions overhead and to the side while transporting.

Always operate mixer/feeder in a position to provide maximum visibility.

Make allowances for increased length and weight of the mixer/feeder when making turns, stopping the unit, etc.

EQUIPMENT OPERATIONS

Pre-Startup Check List (Ensure key is out of ignition and unit is not running)

Before operating your Kirby Mixer, make sure the following have been checked: Take appropriate action to correct any deficiencies.

Truck Mount

- Check that all guards are in place and secure.
- Visually inspect all hydraulic lines for wear, fitting tightness, and any leaks.
- Check hydraulic fluid level in hydraulic tank.
- Visually inspect inside of mixer chamber for loose or missing blades, clear of any foreign objects. If lined with stainless steel liners, check for wear.
- Oil levels on planetary gearbox are at the proper levels.
- Charge pump filter glass ball at top reads green.
- Front discharge door is closed.
- Rear door is closed.
- Check if hay stops are fully out, or at proper insertion.

Trailer Mount

- Check that trailer's safety tow chain is securely attached to tractor.
- Check that all guards are in place and secure.
- PTO lock collar of the mixer is properly locked into place on the output PTO of the tractor.
- PTO guard is installed, PTO is on and shows no signs of damage.
- Hydraulic lines are installed to the tractor's hydraulic remotes.
- Visual inspect inside of mixer chamber for loose or missing blades, clear of any foreign objects. If lined with stainless steel liners, check for wear.
- Oil levels on planetary gearbox are at the proper levels.
- Visually inspect for any leaks from gearboxes.
- Tires have proper inflation (fill to maximum pressure rating shown on side of tire).
- Front discharge door is closed.
- Rear door is closed.
- Check if hay stops are fully out, or at proper insertion.

Loading/Discharging Instructions

IMPORTANT - Idle engine speed down before engaging the tractor's Power Take Off (P.T.O) or engaging the truck's hydraulic augers by switch. Failure to do so could result in damage to the drive system.

Check operation of the following:

- Front door opens and closes.
- Rear door (if equipped) opens and closes.
- "Discharge Conveyor" chain turns on and off.
- "Conveyor Slide" (if so equipped) slides in and out.

- Turn on scales and “0” balance or check procedure appropriate for your scale type and model (scale owner’s manual).
- Trailer mount: ensure that the two speed shifts from high to low and ensure you are in low gear (slowest auger speed) to mix the ration (see section in this manual on two speed shifting procedure).
- **WHEN MIXING WITH A TRAILER MOUNT MIXER ALWAYS MIX IN LOW SPEED SETTING ON THE GEARBOX.**

The average mixing cycle is from 3 to 5 minutes with normal rations for a thorough and accurate mix. If possible, some mixing time can occur while traveling from the loading/mixing area to the feeding area. The correct length of time for your application will be found by experimentation.

The length cut of the hay you put into the mixer will be determined primarily by the following:

- Quality and type of hay.
- Hay stops in or out.
- How many and the sharpness of the cutting blades on your augers.
- The speed of the augers (direct relationship with Engine RPM).
- Length of mixing time.

Recommended RPM of mixer in a stationary position for mixing of ration (ensure all brakes are set when loading mixer)

Truck mount: 1,500 to 1,800 RPM truck engine speed

Trailer mount: 1,600 to 1,800 RPM tractor engine speed

- PTO speed 900 RPM; for tractors with the larger “1000 RPM PTOs”

- PTO speed 540 RPM; for tractors with the smaller “540 RPM PTOs”

Load hay first with mixer running at recommended RPM. If after a load you have determined that your hay needs to be cut shorter, you may want to check the hay stops and start with pushing in one hay stop for a finer cut. If you are not satisfied with the cut length push in the second hay stop and check the RPM of the power source.

Always remove all twine, wire or wrappings from the bales before loading into the mixer.

NEVER THROW HAY BY HAND FROM THE STACK OR A PLATFORM INTO THE MIXER! The possibility of falling into the Mixer could result in serious injury or death.

Always use a loading device for all commodities loaded into the mixer.

You may continue to add the commodities with the recommendation of the following:

- Balance of grains or commodities keeping fragile commodities towards the end of the mix.
- Concentrates or other dry ingredients of small quantity should be added to the middle of the loading sequence.
- Silage, green chop, or other high moisture commodities.
- Add wet ingredients last (water, whey, animal fat, molasses, liquid supplements).

Inspection of the mix may be made on the platform or ladder of the mixer. Caution should be taken that only one person at a time is viewing the load. **Only stand on mixer platform or ladder while**

mixer is stationary, (Never climb higher than the platform or ladder allow). Never stand/ride on the platform or ladder while mixer is being moved.

NOTE: Whenever possible, leave augers running while traveling from the loading/mixing area to the feeding area. This will minimize packing of the feed mixture.

On trucks mounted mixers, this can be done by not pulling the speed control handle all the way to the “OFF” position and leaving it a little forward of the “OFF” position.

On trailer mounted mixers, this can be done by finding the best gear that will give you the desired ground speed you want, while at the same time allowing you to leave the PTO running at the slowest speed possible with 2 speed gearbox in low speed.

Discharging Instructions

The discharge rate of your mixers ration is controlled by three items:

- the amount that the discharge door is opened
- auger speed
- conveyor speed.

The conveyor should be running any time that the discharge door is opened to dispense the load. You may vary the speed of the discharge conveyor with the one-to-ten flow control. Adjustment of discharge speed setting will allow an even discharge of your ration.

On truck mounted units, the truck engine should be operated between 1500 and 1800 RPM to provide adequate hydraulic oil to operate the conveyor and door controls, and for the most effective mixer operation.

After you have engaged the tractor PTO when starting to discharge a full load, the engine of the tractor should be operating at 1800 RPM and the mixer should be in low gear. When 6,000 lbs. of mix or less are in your mixer, shift two speed gearbox on mixer into high speed for a quicker clean out, (maintain 1800 RPM on tractor’s engine).

TWO SPEED SHIFTING, (TRAILER MOUNTS ONLY)

ALWAYS STOP THE PTO WHEN SHIFTING THE COMER TWO-SPEED GEARBOX

The shift feature of this two-speed reducer is accomplished by sliding splines in and out of mesh. For this reason, the reducer must be shifted while in the static or non-rotating mode (PTO off). An isolator spring is incorporated in the design to act as a cushion should splines meet head to head in the static mode. The spring allows the piston to complete its travel without overloading the spline tips and provides the acceleration necessary to engage the splines once slight rotation is accomplished. For this reason, the lower the PTO shaft acceleration or start up speed, the better the chance for a completed shift will be.

- **To make a shift you should first lower the engine speed to low idle speed and disengage the PTO shaft.**
- **Activate the toggle switch in the cab of the tractor or shift the manual cable lever to initiate a shift with the engine at low idle and PTO off.**
- **Engage the PTO slowly and look for a complete shift.**

If a ratcheting sound is heard, then a shift was not completed. No harm will be done to the gearbox because the spring controls the forces seen by the splines.

Retry the shift sequence following the instructions above maintaining a low engine speed and insuring PTO is off. When the shift is completed then increase the engine speed until the desired speed is reached.

TWO SPEED SHIFTING, (TRUCK MOUNTED MIXER)

Your Kirby truck mounted hydraulic drive mixer has a two-speed hydraulic motor coupled to each of the planetary gearbox drive of your mixing augers.

The speed of the auger is determined by two factors, one is rpm of the truck and the other is pressure required by the hydraulic system to keep the augers turning.

Once you have discharged the load to a weight that produces less than 3,125psi in the hydraulic circuit the augers will automatically shift back to high speed to assist with a faster clean-out.

If your truck's engine speed is mixing at an RPM of 1800 rpm, your augers will be turning approximately 40 RPM. This is with an empty load and minimum pressure needed to turn the augers. If you were to load your hay first into the mixer the augers would be turning at approximately 40 RPM for faster cutting action. Once your load reaches a predetermined pressure (3,125psi) the augers will shift down to half the speed, (approximately 20 RPM). The above pressure is the pressure that the hydraulic circuit experiences while in operation. This will reduce your power requirements and still give you an excellent mix.

GENERAL MAINTENANCE

Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.

Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.

Before working on the mixer/feeder, stop the towing vehicle, set the brakes, and disengage the PTO and all power drives, shut off the engine and remove the ignition keys.

Be certain all moving parts on attachments have come to a complete stop before attempting to perform maintenance.

Always use a safety support and block the wheels. Never use a jack to support the machine.

Always use the proper tools or equipment for the job at hand.

Use extreme caution when making adjustments.

Never use your hands to locate hydraulic leaks on attachments. Use a small piece of cardboard or wood. Hydraulic fluid escaping under pressure can penetrate the skin.

When disconnecting hydraulic lines, shut off hydraulic supply and relieve all hydraulic pressure.

Openings in the skin and minor cuts are susceptible to infection from hydraulic fluid. If injured by escaping hydraulic fluid, see a doctor at once. Gangrene can result. Without immediate treatment, serious infection and reactions can occur.

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 step or platform.

Never replace hex bolts with less than grade five (5) bolts unless otherwise specified.

Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications.

Kirby Manufacturing will not be responsible for damages caused using *unapproved parts* and/or accessories. This will void your warranty.

If equipment has been altered in any way from original design, Kirby Manufacturing does not accept any liability for injury or warranty.

A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this mixer/feeder.

MIXER STRUCTURE & TRAILER

Observe for cracks in metal and welds in mixer chamber, trailer frame, and axle assembly and around discharge door and chute. Re-weld, as necessary.

Observe trailer hitch for:

- Cracked welds. Re-weld, as necessary.
- Bent or worn. Replace or repair, as necessary.

Observe that all bolts are in place and that all sets crews are properly seated. Replace or tighten as required.

Observe for hydraulic oil leaks. Repair any leaks.

Trailer mount only. Observe trailer tires:

- For cuts or punctures in tires.
- Check for proper inflation using pressure gauge (fill to the maximum pressure rating shown on side of tire).

Observe wheel hubs and bearings:

- Check for oil seal leaks. Replace if seal leaks.
- Check wheel hubs for proper bearing tightness. Tighten as required.
- Observe oil level in cap, oil must be **level** with bottom of filler hole. Fill with proper lubricant to overflow.

MAIN AUGERS, SHAFTS & BEARINGS

CAUTION! THE MIXER SHALL NOT BE IN OPERATION FOR THE FOLLOWING:

Observe auger flighting, in mixing chamber

- Bent, deformed, or worn to less than 25% of new thickness.
- Replace flighting, as necessary.
- Check blades on mixer replace when worn.

Observe mixing chamber, sides and ends.

- Walls and ends should be straight, not bulging in appearance. This condition can result from over loading or foreign objects present in ration.
- Look for signs of excessive wear.

Observe tractor drive line and mixer drive line for bent shafts.

- Ensure all shields are in place and operational (sliding without restrictions).

SPROCKET & CHAINS

Observe chain for properly seating on sprocket. Use caution while observing mixer while in operation. Look for chain jerking motion when chain wraps around sprocket. Jerking motion may indicate:

- Misalignment of chain and sprocket. Realign.
- Worn or loose chain. Replace worn chain.
- Loose chain idlers. Reposition and tighten idler.
- Bent shafts. Replace with new shafts.

Observe sprocket tooth wear pattern.

- Tooth worn on sides indicates misalignment. Realign sprocket.
- Tooth worn to a sharp point indicates loose or worn chain. Adjust sprockets.
- Tooth worn to cup at base indicates excessive load on chain. Adjust sprockets.

Observe sprockets for the following.

- Main key sheared or shearing. Replace key.
- Main set screws loose or missing. Tighten or replace.
- Movement or signs of movement of sprockets on shaft. Tighten or replace.
- Alignment - Using a straight bar, ensure that both sprocket faces are in full contact with the edge of the bar.

DRIVELINES & POWER TAKEOFFS

Tractor PTO driveline:

- Shields must be secured by locking devices
- Shields must slide freely.
- Observe shields for damage.
- Driveline shafts must slide freely, binding may cause false readings on the scale system. Lubricate all shaft splines.
- U-joints cross & yoke must fit tight in the bearing cups and have zerk fittings for lubrication.

Truck mounted mixer PTOs:

- Observe for oil leaking around PTO shaft seal. Replace seal.
- Check PTO for loose bolts holding PTO to transmission or engine crank shaft. Tighten bolts.
- Check U-joints, bearings, yokes, and set bolts. Replace worn parts and tighten all bolts.
- Lubricate driveline “U” joints as per the “*Preventive Maintenance and Lubrication Schedule*”.

Mixer drive line:

- Check for loose or missing set screws or lock collars in pillow block bearings and driveline yokes. Tighten or replace lock collars set screws.

- Check for loose or missing bolts in pillow block bearings. Tighten or replace.
- Observe driveline under operation. CAUTION STAY CLEAR OF ALL MOVING PARTS, DO NOT WEAR LOOSE CLOTHING!!
- Check for vibration, worn bearings, bad U-joint bearings, or bent shaft. Replace worn or damaged parts.
- Observe for linear movement through bearings, this is indicated by unpainted surface of shaft exposed on each side of bearing locking collar. Realign and tighten loose locking bolts.
- Observe for loose set screws or PTO shaft not slipping in sleeve, causing end thrust load on the bearings.
- Check for bent shaft. Replace and grease as per lubrication schedule.

GEARBOXES

PLANETARY GEARBOX (located under mixer body)

IMPORTANT: Determine which planetary gearbox is on your machine. This is important to know since each planetary gearbox has uniquely different maintenance requirements. Kirby manufacturing offers two (2) options for planetary gearboxes. One is the *Reggiana* planetary gearbox and the other is the *Comer* planetary gearbox. When referring to this manual, it is important to determine which planetary gearbox is on your machine. Below are photos illustrating both the *Reggiana* and the *Comer* planetary gearboxes, (viewed from under the machine).



Reggiana Planetary Gearbox



Comer Planetary Gearbox

Things to check:

- Observe oil level in gearboxes, using clear reservoir or view tube on oil reservoir.
- Observe for any over-fill oil coming out of the gearbox oil reservoir tank.

TWO-SPEED GEARBOX

IMPORTANT: Determine which two speed gearbox is on your machine. This is important to know since each two-speed gearbox has uniquely different maintenance requirements. Kirby manufacturing offers two (2) options for two speed gearboxes. One is the *Zuidberg* two speed gearbox and the other is the *Comer* two speed gearbox. When referring to this manual, it is important to determine which two speed gearbox is on your machine before performing any maintenance. Below are photos illustrating both the *Zuidberg* and the *Comer* two speed gearboxes, (shown mounted on the front tongue of the machine).



Zuidberg Two Speed Gearbox



Comer Two Speed Gearbox

Things to check:

- Observe shaft seals for leaks. Replace seals.
- Check for loose bolts that secure gearbox to mounting bracket.
- Check for misalignment to other components: U-joints. Shear hub
- Check input shaft, movement indicates worn bearings. Replace.
- Check out put shaft for movement, realign and tighten set screws.
- Check to see that the oil is level with the filler plug located on the side of this gearbox. Fill to overflow.
- Check tightness of gearbox mounting bolts.
- Check shifting lever and cables. Adjust cable for optimum engagement in both *high* and *low* speed selections on gearbox.

For regular service, refer to the “*Lubrication and Maintenance Schedule*” located on **Page 28** of the manual.

TRUCK HYDRAULIC SYSTEM

Thank you for your investment in a Kirby hydraulic driven mixer. With proper care and service, you can extend the life of the hydraulic system.

Your system is equipped with two (2) Sauer-Sundstrand Series 90 axial piston pumps, two (2) Parker/VOAC variable displacement hydraulic motors Series V14 and two (2) planetary gearboxes.

To ensure hydraulic system efficiency only fresh, clean oil should be added to the hydraulic tank. **ALL** hydraulic oil that is added to the system **must be filtered** through a 10-micron filter to ensure oil cleanliness. If any lines are damaged, unfastened or replaced, **extreme** care must be taken to prevent dirt from entering the hydraulic system. All open lines should be capped. Filter indicator should be checked regularly, and the filters should be replaced if indicated, or as hours of use require. When replacing the filters always replace O-ring on canister.

It is critical that proper maintenance and filter changes be made on a regular basis. Warranty is based on the regular maintenance of your system. Not changing your oil and filters properly and within the time frame given **WILL VOID YOUR WARRANTY**. All filters should be kept clean and free of foreign contaminants when replacing to avoid oil contamination.

All hydraulic filters and all planetary gearbox oil should be changed after the first **initial 50 hours** of use. Thereafter, all hydraulic filters should be changed every **500 hours**. Hydraulic oil changes should occur every **3,000 hours or 12 months** whichever comes first. Use the reservoir filter gauges, located on the top of the hydraulic fluid reservoir, to help determine when the next filter change is necessary. *Kirby Manufacturing* recommends that only authorized *Kirby* filters be used for replacement. The filters used must be at least a 10-micron filter. KMI currently uses Chevron AW68 hydraulic oil.

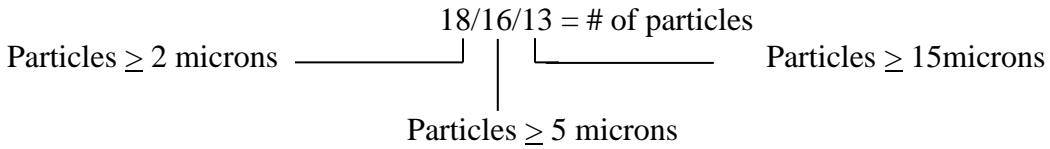
“Extended Warranty” oil sampling:

If you have opted for the “*Extended Warranty*”, you will be provided with oil sampling kits. You should use these kits when pulling oil samples on your equipment. It is crucial that oil samples be pulled in accordance with the provided schedule. **YOUR WARRANTY WILL BE VOID IF ONE OIL SAMPLING TEST IS MISSED.**

Once your oil sample is sent in and analyzed, the information will then be sent back to you. This information will provide you with valuable information on the condition and maintenance of your hydraulic system. It is your (the customer’s) responsibility to maintain the oil cleanliness to the specifications provided. **OIL SAMPLING SHOULD BE DONE WITH EVERY OIL FILTER CHANGE, INCLUDING THE FIRST 50 HOURS.**

After you receive your fluid analysis report, you should check it to ensure that it meets or exceeds the specifications stated. For hydraulic oil, the “cleanliness code” specifications are as follow: Your hydraulic oil should be in the 18/16/13 range. Any sampling that is lower than this is good; any sampling that is higher is an indication that your oil is not clean and thus will reduce the life expectancy of your system. You must **immediately** change your hydraulic filters and oil. Then run the unit for 50 hours and take another sample.

ISO CODE MEANING



If you have opted for the “*Extended Warranty*”, you will receive all the necessary oil sampling kits when you receive your equipment. It is the customer’s responsibility to pull the oil samples and send them in for analysis. All mail charges will be paid by the customer.

At this time, we suggest you purchase your next set of change filters. The mixer will require (1) external tank filter element part# 7963A and (2) hydraulic pump filters part# 7956. We recommend that you **NEVER** use paper element filters. Kirby offers a high efficiency, and high capacity Microglass III type.

Oil temperature, cooling system and low fluid volume shutdown

Your unit is equipped with a hydraulic oil temperature readout (optional read-out) and hydraulic oil cooling system. Normal operating temperature range of your system depends on ambient temperature and duty cycle. The range should vary between 150- and 180-degrees Fahrenheit.

An automatic hydraulic shut-off for the system is set at 190 degrees Fahrenheit. If the hydraulic oil reaches the 190-degrees mark, the hydraulic system will automatically shut down. You will still be able to drive your truck (truck mounted models), but the system will not come back on until the oil cools down. If this failure occurs and you are unable to find the cause, call Kirby Mfg. Inc at **209-723-0778** for further assistance.

Your system has a hydraulic oil cooling system equipped with fan(s), which automatically will turn on when the oil temperature reaches 120 degrees. The radiator for this system should be cleaned daily. **NOTE:** be careful not to damage cooling fins on radiator when using compressed air to blow out radiator. You should periodically physically check the fans to ensure they are working when the hydraulic fluid temperature is above 120 degrees. **DO NOT** use water for cleaning the hydraulic cooler.

Your unit is also equipped with a low volume hydraulic sensor in the hydraulic fluid reservoir. If for any reason, there is a loss of hydraulic fluid in the system the unit will automatically shut down. For truck mounted units with front mounted pumps, the truck engine must not be started. **SEVERE DAMAGE** will occur to the hydraulic system if you run the truck engine after the hydraulic system has automatically shut down.

A check of the system should be made to determine the cause of the low volume shutdown. If for whatever reason, your unit is **not** equipped with the “automatic shut-down” feature and you have a major loss of hydraulic fluid in the system, you **must** shut down the truck engine **immediately** or the hydraulic system will be **severely damaged**.

GENERAL CHECK LIST

Observe all fittings, pipes, tubes, and hoses for leakage. Tighten as needed.

Observe oil level in main tank. On truck mounted units the dipstick capacity allowed is 95 liters. (25 gallons)

On tractors, the maximum pump capacity required to operate the mixer is 53 liters per minute (14 gpm) @ 2200 P.S.I. The minimum pump capacity required to operate the mixer is 46 liters per minute (12 gpm) @ 2200 P.S.I.

Manifold block specification is 53 liters per minute (14 gpm) @ 3000 P.S.I. **Caution: do not exceed these limits.**

Manifold relief valve is factory set @ 2200 P.S.I. for maximum safety to the system.

Manifold needle valve controls the speed at which the door opens. It may be adjusted as needed.

Discharge conveyor motor specification, maximum 57 liters per minute (15 gpm) @ 1700 P.S.I.

Discharge conveyor motor under normal operation requires a minimum of 46 liters per minute (12 gpm) to a maximum of 53 liters per minute (14 gpm) to provide adequate unload speed. The speed is controlled through the crossfeed flow control valve located on the mixer.

Stalling of the discharge conveyor motor may be caused by the loss of oil pressure (P.S.I.) to the motor, due to incorrect adjustment of relief valve, or worn pump/ motor.

Slow speed of discharge conveyor motor may be caused by the loss of oil flow from the pump source to the motor, due to worn pump or restricted flow in the tractor hydraulic system/hydraulic hoses.

Truck mounted mixers have 12-volt solenoid valves to operate conveyor motor and hydraulic door. Solenoids may be shifted manually by inserting 1/8" shaft into the hole at each end of solenoid. This method will determine if the 12-volt power supply or the switches are defective. This method can also be used to determine if the solenoid is struck or otherwise defective resulting in a problem with the operation of the discharge.

For service see preventive maintenance and lubrication schedule in **Section E.**

LUBRICATION & MAINTENANCE

Main auger bearings.

- Some planetary gearboxes (located under mixer body) have a top bearing that needs lubrication. Lubricate these bearings from the grease bank zerks located on the sides of the mixer. **Lubricate these bearings every 140 hours!**
- Check to see that all grease lines and grease zerks are in place and in good working order, not plugged, loose or kinked.
- Pump grease using a standard hand pump one (1) pump for each bearing. Always be sure the machine is operating, and the bearings are rotating to ensure that they take grease.

CAUTION: DO NOT OVER GREASE. THIS SHOULD BE A TWO MAN OPERATION. ENSURE ALL SAFETY PRECAUTIONS ARE TAKEN.

- **BEWARE OF ALL MOVING PARTS.**
- **DO NOT WEAR LOOSE FITTING CLOTHING.**
- **BEWARE OF THE PTO.**

Discharge conveyor bearings.

- There are two take-up bearings on the discharge end of the crossfeed conveyor
- There are also two flange bearings on the opposite side of the discharge
- Both have grease zerk that need greasing once a week
- Check that all grease lines and grease zerks are in place and in good working order, not plugged, loose or kinked.
- Pump grease using a standard hand pump grease gun 3 to 4 times for each bearing. Always be sure the machine is operating, and the bearings are rotating to ensure that they take grease.

CAUTION: Excessive grease will blow out the bearing seals. **DO NOT OVER GREASE. THIS SHOULD BE A TWO MAN OPERATION. ENSURE ALL SAFETY PRECAUTIONS ARE TAKEN**

- **BEWARE OF ALL MOVING PARTS.**
- **DO NOT WEAR LOOSE CLOTHING.**
- **BEWARE OF THE PTO.**

Power takeoff. U-joints and slip sleeves.

- Follow safety procedures. **DO NOT** service while the tractor is running, or the PTO is engaged or in motion.
- Key should be removed from tractor or truck before attempting to grease the PTO, U-Joints & Yokes.
- U-joints (crosses and yokes) must be tight in the bearing cups.
- Bearings are greased through zerk grease fittings. Pump grease using a standard hand pump grease gun until you observe grease coming out of **ALL FOUR** CAPS OF THE U-JOINT bearings.
- Check all safety shields and ensure that all are in place.

LUBRICATION SCHEDULE

(Unless stated differently in this manual use the below chart as a general lubrication schedule guideline when performing preventative maintenance on your equipment)

PM SERVICE	1 st 50 Hours	Every 100 Hours	Every 140 Hours	Every 500 Hours	Every 1000 Hours	Every 3 Months	Every 6 Months	Every 12 Months
Change oil in All gearboxes	X				X ⁽²⁾		X ⁽²⁾	
⁽¹⁾ Pull gearbox oil sample for analysis	X				X ⁽²⁾		X ⁽²⁾	
Change hyd. Oil & Send in samples								X
⁽¹⁾ Pull hydraulic oil sample for analysis	X			X ⁽³⁾		X ⁽³⁾		
Grease top Planetary Bearing			X ⁽⁴⁾					
Change hydraulic oil filters	X			X ⁽³⁾		X ⁽³⁾		
Grease all Mixer bearings		X						
Grease PTO, Drive Line & Slip Sleeve		X						
Check out Mixer		X						
Repack Wheel bearings								X

NOTE: For a more detailed Preventative Maintenance (PM) Schedule refer to the “Maintenance Schedule Checklist” located at the end of this chapter.

⁽¹⁾ If you have opted for the three (3) year “Extended Warranty Policy” on all major components, it is **required** that you sample oils on the frequencies stated in the “Extended Warranty Policy” section of this manual. This is necessary to **not** void the “Extended Warranty Policy” (see the “warranty section” of this manual for more details). Even if you have not chosen the “Extended Warranty Policy”, it is “best practices” to perform regular oils sampling and analysis for proper maintenance of the equipment.

⁽²⁾ 1,000hrs or 6 months whichever comes first.

⁽³⁾ 500hrs or 3 months whichever comes first.

⁽⁴⁾ This ONLY applies to planetary gearboxes with greaseable top bearings.

LUBRICANT TYPES:

The Reggiana Planetary Gearbox:

IMPORTANT: The Reggiana planetary gearboxes are originally filled with “Chevron Meropa Ultra Gear 220” gear oil at the factory. When adding make-up oil use “Chevron Meropa Ultra Gear 220” gear oil.

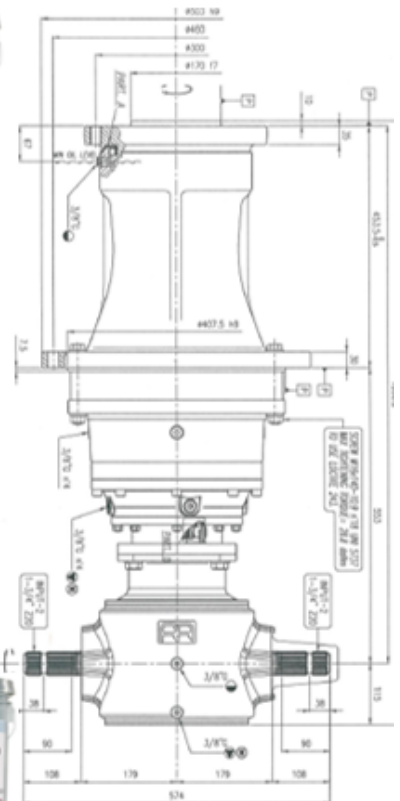
LUBRICATION GUIDELINES REGGIANA RIDUTTORI RA3200 GEARBOXES

GENERAL GUIDELINES FOR LUBRICATION OF BOTH THE REGGIANA PLANETARY AND BEVEL GEARBOXES:

NOTE: THE PLANETARY AND BEVEL GEARBOXES HAVE DIFFERENT LUBRICATION REQUIREMENTS AND THEREFORE TAKE DIFFERENT LUBRICANTS; **VERY IMPORTANT:** MAKE SURE THE CORRECT GEAR OIL IS PUT INTO THE CORRECT GEARBOX AND NEVER MIX DIFFERENT GEAR OILS SPECS. OR BRANDS TOGETHER!

** RA3200 PLANETARY GEARBOX LUBRICANT: (THIS IS THE UPPER VERTICAL SHAFT GEARBOX)

- IF USING A SYNTHETIC GEAR OIL IN THE PLANETARY:
RR RECOMMENDS: MOBILE SHC GEAR 220; SYNTHETIC GEAR OIL
- BELOW ARE GUIDELINES FOR CHANGING OIL IN THE PLANETARY:
 - CHANGE THE OIL AFTER FIRST 50 HRS
 - THEN CHANGE THE OIL EVERY 1,000 HRS OR 6 MONTHS, WHICH EVER COMES FIRST
 - TO DRAIN RUN GEARBOX TO WARM OIL, REMOVE MAGNETIC PLUG AND FULLY DRAIN OIL, WIPE DOWN PLUG AND REPLACE PLUG
 - FILL PLANETARY GEARBOX **COMPLETELY FULL** WITH OIL, IF AN EXTERNAL COOLING SYSTEM IS USED DRAIN AND **COMPLETELY FILL** IT AS WELL; (see section 8.0.a)
 - **VERY IMPORTANT:** NEVER USE PRESSURES GREATER THAN **20 PSI** WHEN PUMPING OIL INTO THE PLANETARY GEARBOX
 - OIL MUST **ALWAYS** BE VISABLE IN THE OIL RESERVIOR SIGHTGLASS TUBE PRIOR TO AND WHILE OPERATING MIXER, CHECK FREQUENTLY!!



** RA3200 BEVEL GEARBOX LUBRICANT: (THIS IS THE LOWER HORIZONTAL SHAFT GEARBOX)

- IF USING A SYNTHETIC GEAR OIL IN THE BEVEL GEARBOX:
RR RECOMMENDS: MOBILE SHC DELVAC 1 75W-90; SYNTHETIC GEAR OIL
- BELOW ARE GUIDELINES FOR CHANGING OIL IN THE BEVEL GEARBOX:
 - CHANGE THE OIL AFTER FIRST 50 HRS
 - THEN CHANGE THE OIL EVERY 1,000 HRS OR 6 MONTHS, WHICH EVER COMES FIRST
 - TO DRAIN RUN GEARBOX TO WARM OIL, REMOVE MAGNETIC PLUG AND FULLY DRAIN OIL WIPE DOWN PLUG AND REPLACE PLUG
 - FILL BEVEL GEARBOX TO FULL LEVEL PORT LOCATED (MID-POINT) OF GEARBOX



NOTE: 90% OF ALL GEARBOX FAILURES TYPICALLY ARE A RESULT OF POOR STANDARDS OF LUBRICATION; WHETHER IT IS USING SUB-STANDARD QUALITY LUBRICANTS OR TOO LONG OF PERIODS BETWEEN OIL CHANGES. THE BEST THING THAT THE “END USER” CAN DO TO ENSURE A LONG LIFE FOR THEIR GEARBOXES IS TO USE THE RECOMMENDED LUBRICANTS AND CHANGE THE OILS FREQUENTLY.

The **Comer** Planetary Gearbox:

IMPORTANT: The **Comer** planetary gearboxes are originally filled with “Chevron Meropa Ultra Gear 220” gear oil at the factory. When adding make-up oil use “Chevron Meropa Ultra Gear 220” gear oil.

LUBRICATION GUIDELINES COMER PLANETARY GEARBOXES

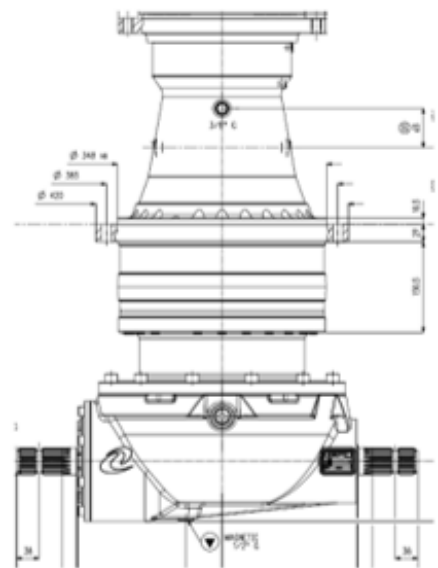
GENERAL GUIDELINES FOR LUBRICATION OF THE COMER PLANETARY GEARBOX:

NOTE: THE PLANETARY GEAR SETS AND LOWER BEVEL GEAR SETS IN THE COMER PLANETARY GEARBOX ARE OF AN INTEGRAL DESIGN AND THEREFORE SHARE THE SAME LUBRICANT WITHIN THE GEARBOX HOUSING

** COMER PLANETARY GEARBOX LUBRICANT:

- IF USING A SYNTHETIC GEAR OIL IN THE PLANETARY: COMER RECOMMENDS: USING A SYNTHETIC ISO 220 OIL

Viscosity	Oil Type	Ambient temperature t°C (min / max)			
		Mineral		Synthetic	
				PAO	PG
	ISO VG 150	- 10°C	+ 30°C		
	ISO VG 220	+ 10°C	+ 45°C	- 20°C	+ 60°C
	ISO VG 320	+ 30°C	+ 60°C		



Producer	Lubricants		
	Mineral	Synthetic	
		PAO	PG
SHELL	Omala S2G	Omala S4GX	Omala S4 WE
EXXON MOBIL	Mobilgear XMP	Mobil SHC Gear	Glygoyle
KLÜBER	Kluberoil GEM1	Klubersynth EG4	Klubersynth GH6
AGIP	Blasia	Blasia SX	Blasia S
BP	Energol GR-XP	Energyn EPX	Energyn SG XP
CASTROL	Alpha SP	Aphasyn EP	Alphasyn PG
CHEVRON	Ultra Gear	Tegra Synthetic Gear	HiPerSYN
TOTAL	Carter EP	Carter SH	Carter SY

** MOBILE SHC GEAR 220 SYNTHETIC GEAR OIL IS A GOOD CHOICE

- BELOW ARE GUIDELINES FOR CHANGING OIL IN THE PLANETARY GEARBOX:
 - CHANGE THE OIL AFTER FIRST 50 HRS
 - THEN CHANGE THE OIL EVERY 1,000 HRS OR 6 MONTHS, WHICH EVER COMES FIRST
 - TO DRAIN RUN GEARBOX TO WARM OIL, REMOVE MAGNETIC PLUG AND FULLY DRAIN OIL, WIPE DOWN PLUG AND REPLACE PLUG
 - FILL PLANETARY GEARBOX **COMPLETELY FULL** WITH OIL, IF AN EXTERNAL COOLING SYSTEM IS USED DRAIN AND **COMPLETELY FILL** IT AS WELL; (see section 8.0.a)
 - **VERY IMPORTANT:** NEVER USE PRESSURES GREATER THAN **20 PSI** WHEN PUMPING OIL INTO THE PLANETARY GEARBOX
 - OIL MUST **ALWAYS** BE VISABLE IN THE OIL RESERVIOR SIGHTGLASS TUBE PRIOR TO AND WHILE OPERATING MIXER, CHECK FREQUENTLY!!

NEVER MIX DIFFERENT GEAR OILS SPECS. OR BRANDS TOGETHER!

NOTE: 90% OF ALL GEARBOX FAILURES TYPICALLY ARE A RESULT OF POOR STANDARDS OF LUBRICATION; WHETHER IT IS USING SUB-STANDARD QUALITY LUBRICANTS OR TOO LONG OF PERIODS BETWEEN OIL CHANGES. THE BEST THING THAT THE “END USER” CAN DO TO ENSURE A LONG LIFE FOR THEIR GEARBOXES IS TO USE THE RECOMMENDED LUBRICANTS AND CHANGE THE OILS FREQUENTLY.

The **Zuidberg** Two Speed Gearbox:

IMPORTANT: The **Zuidberg** two speed gearbox is originally filled with “Castro Trans Max DEXIII MULTIVEHICLE ATF” transmission fluid at the factory. When adding make-up fluid use “Castro Trans Max DEXIII MULTIVEHICLE ATF” transmission fluid.

LUBRICATION GUIDELINES
ZUIDBERG 2 SPEED GEARBOX

GENERAL GUIDELINES FOR LUBRICATION OF THE ZUIDBERG TWO SPEED GEARBOX:

NOTE: THE ZUIDBERG GEARBOX UTILIZES AN AUTOMATIC TRANSMISSION FLUID (ATF) AS A LUBRICANT.

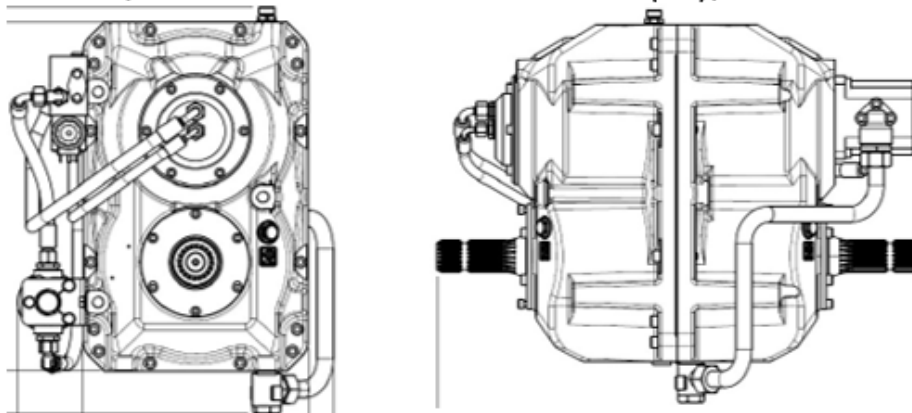
VERY IMPORTANT: MAKE SURE THAT THE CORRECT ATF LUBRICANT IS USED IN THIS GEARBOX AND NEVER MIX DIFFERENT LUBRICANT SPECIFICATIONS OR BRANDS TOGETHER!

ZUIDBERG TWO SPEED GEARBOX LUBRICANTS: (NEVER USE GEAR OIL IN THE ZUIDBERG TWO SPEED GEARBOX)

	SUPPLIER:	PRODUCT NAME:	VISCOSITY@40°C:	VISCOSITY@100°C:	VISCOSITY INDEX	
AUTOMATIC TRANSMISSION FLUID (ATF)	AGCO	AGCO POWERFLUID 411 ATF SAE 9W-20	35	7.2	174	
	CASTROL	CASTROL TRANSMAX DEXII MULTIVEHICLE	35	7.2	175	
	CASTROL	CASTROL TRANSMAX Z	38	7.2	170	
	CHEVRON	TEXACO TEXAMATIC 7M5E	34	7.4	194	
	EXXONMOBIL	MOBIL MULTI VEHICLE ATF	34	7.4	193	
	EXXONMOBIL	MOBIL DELVAC SYNTHETIC ATF	39	7.3	168	
	KUWAIT PETROLEUM	Q8 AUTO 15	36	8.0	200	
	PETRONAS	TUTELA TRANSMISSION G/IE	37	7.6	180	
	SHELL	SHELL SPIRAX S4 ATF HDX	33	7.2	189	
	SHELL	SHELL SPIRAX S6 ATF VM	34	7.4	185	
	TOTAL	TOTAL FLUIDE XLD FE	34	7.1	181	
	TOTAL	TOTAL FLUIDE G3	33	7.1	N/A	
	TOTAL	TOTAL ELFMATIC G3	33	7.1	N/A	
	TOTAL	TOTAL FLUIDE AT42	34	7.7	207	
	VALVOLINE	HEAVY DUTY ATF PRO	36	7.2	172	
	ATF-OIL WITH THE DEFINED SPECIFICATIONS AND AN APPROVAL FOR GM DEXRON III G AND ZF TE-ML 04D			<38	>7.0	>170

LUBRICANT SERVICE INTERVALS: LUBRICANT/FILTER: 500HRS/1000HRS OR YEARLY.

LUBRICANT SPECS. / VOLUMES: AUTOMATIC TRANSMISSION FLUID (ATF) / 6.5 LITERS OR 6.2 GALLONS



NOTE: 90% OF ALL GEARBOX FAILURES TYPICALLY ARE A RESULT OF POOR STANDARDS OF LUBRICATION; WHETHER IT IS USING SUB-STANDARD QUALITY LUBRICANTS OR TOO LONG OF PERIODS BETWEEN LUBRICANT CHANGES. THE BEST THING THAT THE “END USER” CAN DO TO ENSURE A LONG LIFE FOR THEIR GEARBOXES IS TO USE THE RECOMMENDED LUBRICANTS AND CHANGE THE LUBRICANT FREQUENTLY.

Rev. 7-21-2020

LUBRICANT TYPES:

The **Comer** Two Speed Gearbox:

IMPORTANT: The **Comer** two speed gearbox is originally filled with “Chevron Meropa Ultra Gear 220” gear oil at the factory. When adding make-up oil use “Chevron Meropa Ultra Gear 220” gear oil.

COMER TWO SPEED GEARBOXES

GENERAL GUIDELINES FOR LUBRICATION OF THE COMER TWO SPEED GEARBOX:

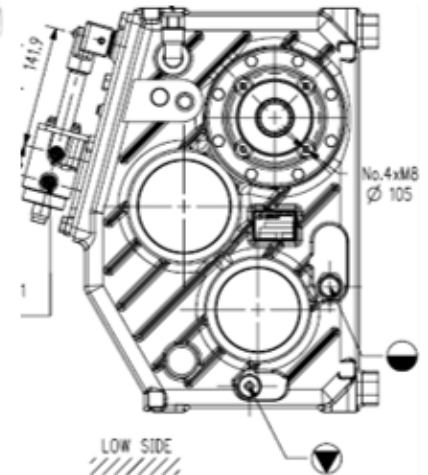
NOTE: THE TWO SPEED GEAR SETS UPPER AND LOWER GEARS IN THE COMER TWO SPEED ARE OF AN INTEGRAL DESIGN AND THEREFORE SHARE THE SAME LUBRICANT WITHIN THE GEARBOX HOUSING.

**COMER TWO SPEED GEARBOX LUBRICANT:

- IF USING A SYNTHETIC GEAR OIL IN THE TWO SPEED GEARBOX: COMER RECOMMENDS: USE A SYNTHETIC ISO 220 OIL



Oil Type	Ambient temperature t°C (min / max)			
	Mineral		Synthetic	
			PAO	PG
ISO VG 150	- 10°C	+ 30°C		
ISO VG 220	+ 10°C	+ 45°C	- 20°C	+ 60°C
ISO VG 320	+ 30°C	+ 60°C		

Producer	Lubricants		
	Mineral	Synthetic	
		PAO	PG
SHELL	Omala S2G	Omala S4GX	Omala S4 WE
EXXON MOBIL	Mobilgear XMP	Mobil SHC Gear	Glygoyle
KLÜBER	Kluberoil GEM1	Klubersynth EG4	Klubersynth GH6
AGIP	Biasia	Biasia SX	Biasia S
BP	Energol GR-XP	Enersyn EPX	Enersyn SG XP
CASTROL	Alpha SP	Aphasyn EP	Alphasyn PG
CHEVRON	Ultra Gear	Tegra Synthetic Gear	HiPerSYN
TOTAL	Carter EP	Carter SH	Carter SY



** MOBILE SHC GEAR 220 SYNTHETIC GEAR OIL IS A GOOD CHOICE

- BELOW ARE GUIDELINES FOR CHANGING OIL IN THE TWO SPEED GEARBOX:

- CHANGE THE OIL AFTER FIRST 50 HRS
- THEN CHANGE THE OIL EVERY 1,000 HRS OR 6 MONTHS, WHICH EVER COMES FIRST
- TO DRAIN; RUN GEARBOX TO WARM OIL, REMOVE MAGNETIC PLUG AND FULLY DRAIN OIL, WIPE DOWN PLUG AND REPLACE DRAIN PLUG 
- FILL TWO SPEED GEARBOX TILL OIL FLOWS OUT OF FILL PORT PLUG 

NEVER MIX DIFFERENT GEAR OILS SPECIFICATIONS OR BRANDS TOGETHER!

NOTE: 90% OF ALL GEARBOX FAILURES TYPICALLY ARE A RESULT OF POOR STANDARDS OF LUBRICATION; WHETHER IT IS USING SUB-STANDARD QUALITY LUBRICANTS OR TOO LONG OF PERIODS BETWEEN OIL CHANGES. THE BEST THING THAT THE “END USER” CAN DO TO ENSURE A LONG LIFE FOR THEIR GEARBOXES IS TO USE THE RECOMMENDED LUBRICANTS AND CHANGE THE OILS FREQUENTLY.

<u>COMPONENTS</u>	<u>LUBRICATE NAME</u>	<u>LUBRICATE TYPE</u>	<u>LUBRICATE GRADE</u>
PLANETARY GEARBOX OIL (IMPORTANT!!)	SEE CHOICE A: 2 BELOW	SEE CHOICE A: 2 BELOW	SEE CHOICES A: 2 BELOW
PLANETARY GEARBOX TOP BEARING GREASE	SEE CHOICE B: BELOW	SEE CHOICE B: BELOW	SEE CHOICE B: BELOW
BEARINGS AND DRIVE LINE YOKES GREASE	PENNZOIL	AW	NLGI #2
TWO SPEED (Comer ONLY) SHIFTABLE GEARBOX OIL	SEE CHOICES A: 2 BELOW	SEE CHOICES A: 2 BELOW	SEE CHOICES A: 2 BELOW
HYDRAULIC SYSTEM OIL (TRUCK ONLY)	PENNZOIL	AW	68
HYDRAULIC MOTOR SPLINES (TRUCK ONLY)	SEE CHOICE C: BELOW	SEE CHOICE C: BELOW	SEE CHOICE C: BELOW

A: GEARBOX OIL CHOICES: (unless stated otherwise in this manual)

- 1.) MobilMobilube SHC 75W-90; (BEVEL TEE GB)
- 2.) Chevron.....Chevron Meropa Ultra Gear 220; (PLANETARY GB)
- 3.) Texaco.....Texaco Syn-Star GL 75W-90; (BEVEL TEE GB)
- 4.) Chevron... Chevron Delo Syn Gear HD 75W-90; (BEVEL TEE GB)

* **IMPORTANT !!:** All gearbox oils **MUST** have an **EP** (“Extreme Pressure”) additive.

B: PLANETARY GEARBOX TOP BEARING GREASE:

** Use an NLGI Grade 2 grease with an **EP** (“Extreme Pressure”) additive.

C: COUPLING GREASE:

Texaco Coupling grease, CPS number 221912

Use when mating male and female splined shafts and coupling to reduce “*fretting*” of spline material.

Areas of application:

- between PTO spline connections
- between hydraulic motor splines and planetary input splines

PROCEDURE FOR SAMPLING AND CHANGING OILS: (W/O AUX. COOLING)

The following information pertains to changing and sampling the oils in both the gearboxes and the hydraulic circuit (trucks only) on the mixer. Always make sure to change and sample oil immediately after the equipment has been in operation. This will ensure that the oils are warm which will allow them to flow more freely when being drained. Also, this will ensure that any particles that are in the oil will be in suspension while pulling an oil sample. **ALWAYS PARK EQUIPMENT ON A LEVEL SURFACE WHEN CHANGING OIL AND CHECKING OIL LEVELS.**

I. GEARBOXES:

A. Planetary Gearboxes, (truck and trailer):

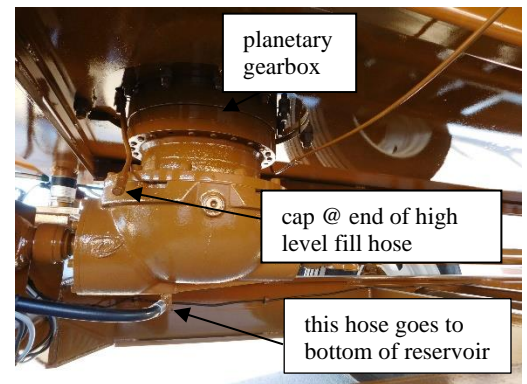
Draining gearbox:

1. Locate gearbox oil reservoir on outside of unit.
2. Wipe hose end and fitting clean below oil reservoir.
3. Place drain pan on the ground under oil reservoir.
4. Remove cap at end of the high-level fill hose hanging down beside gearbox under mixer.
5. Remove hose from bottom of reservoir and drain into pan, (this hose is used for draining and filling gear oil).
6. While oil is draining out, approx. 30 seconds, capture a sample in the cleaning sample bottle.
7. Cap sampling bottle and completely fill out information sheet.



Filling gearbox:

1. Fill gearbox via the reservoir hose. **Note:** Since gear oil is thick and doesn't flow freely, an oil dispensing pump system is needed when refilling oil. Dispensing pump pressure should never exceed 20 psi, so seals are not damaged.
2. **IMPORTANT:** gearbox is full **only** when oil starts to flow from the "high level" fill hose, **do not** run mixer until oil is seen coming out of "high level" fill hose.
3. At this point, stop adding oil to the reservoir and observe "high level" fill hose.
4. When the excess oil has stop flowing from the "high level" fill hose **SECURELY** replace cap.
5. Reconnect hose to bottom of reservoir.
6. Check oil level on gearbox reservoir, (the oil level in the reservoir should be located at approximately the middle of the reservoir, add oil if needed).
7. Run equipment, recheck oil levels and check for leaks.
8. You have now successfully completed the oil changing process.
9. **IMPORTANT:** Recheck oil levels daily in reservoirs over the next week period to ensure proper oil levels are maintained.



B. Two Speed Manual Shift Gearbox, (optional on trailer only):

Draining gearbox:

Step

1. Locate drain plug on bottom of gearbox
2. Wipe area clean around drain plug
3. Place drain pan under gearbox drain plug
4. Remove drain plug from bottom of gearbox.
5. While oil is draining out capture sample in clean sampling bottle
6. Cap sampling bottle and completely fill-out information sheet
7. **SECURELY** replace plug when last of oil has drained from gearbox

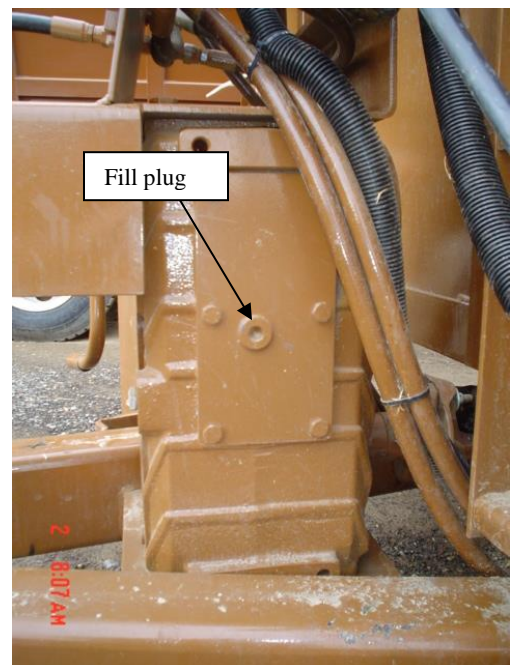


C. Two Speed Manual Shift Gearbox, (optional on trailer only):

Filling gearbox:

Step

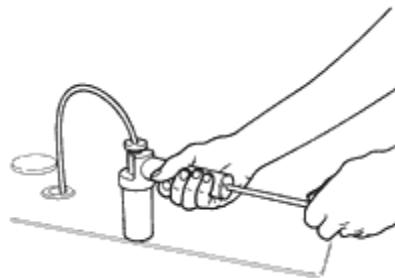
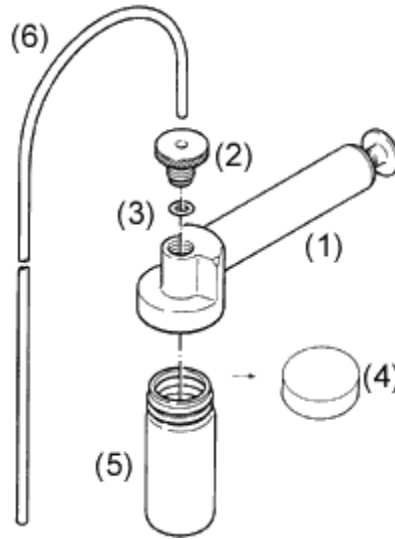
1. Remove fill plug on side of gear box, (this plug is in the middle of the gearbox).
2. Fill gearbox through the fill plug hole, (Note: warm oil will flow quicker).
3. Continue filling until oil starts to flow from fill hole.
4. Replace plug and wipe excess oil from area.
5. Run equipment and recheck oil levels and check for leaks.



II. HYDRAULIC SYSTEM, (truck mount only):

BOTTLE SAMPLING PROCEDURE:

1. A representative oil sample should be drawn directly after the shut down before the filter.
2. Check whether the thread of the pump (1) is clean, if not please use a lint- free cloth.
3. The sample can be taken quickly through the dipstick opening. Please estimate the required tube length (use the dipstick) and cut the end to an angle of approximately 45°.
4. Release the aluminum knurled screw (2) on the pump (1) so that you can insert the tube through the whole of the knurled screw.
5. Tighten the knurled screw (2). So, the tube (6) will be fixed to the seal (3). The system is sealed now.
6. Screw the open sampling bottle (5) on the "VAMPIRE" pump (1).
7. Carefully clean the sample taking tube to avoid sample contamination.
8. Insert the end of the sampling tube through the inlet into the oil. The tube should not touch the bottom of the oil tank or oil pan.
9. Always hold the sampling bottle in a vertical position (see picture).



10. Start pumping the oil into the bottle. Stop pumping early enough to prevent contamination of the pump by overflowing the bottle. Leave 1 cm of the bottle unfilled to allow the oil being shaken.
11. Loose the knurled screw to release the vacuum and remove the tube from the pump.
12. Unscrew the bottle and close it with the cap (4).

PLANETARY GEARBOXES WITH "AUXILIARY COOLING SYSTEMS":

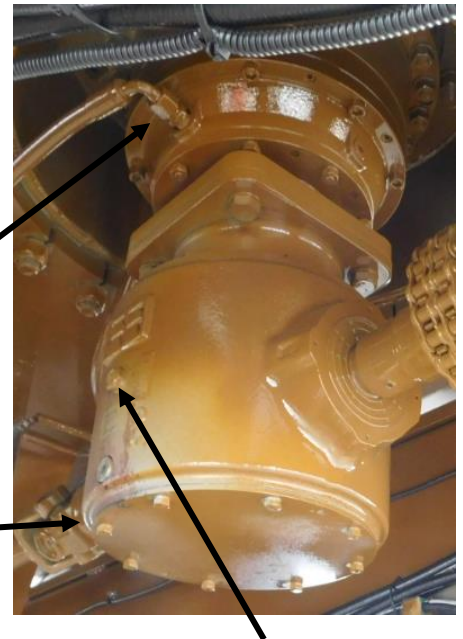
(for complete oil immersion lubrication systems with NO greased top bearing)

Oil Changing Procedure: (Reggiana Gearbox)

NOTE: This Planetary consists of two (2) independent gearboxes that need to be addressed during service separately. There is an upper planetary gear box and a lower "T" bevel gear box. Each requiring ***different types*** of oils; (see the "**LUBRICANT TYPE**" section of this manual)

Draining the System:

1. Run the machine to warm up oil
2. Place drain pan under planetary and T gear box
3. Remove lower hose on planetary gear box
4. Let oil drain completely from planetary gear box and hose
5. Re-connect lower hose to planetary gear box
6. Remove lower drain plug from lower "T" gear box
7. Let oil drain completely from lower "T" gear box
8. Replace lower drain plug from lower "T" gear box
9. Remove system's filter and replace with good quality filter



"T" gear box fill plug (full level)

Re-Filling the System:

NOTE: All planetary gear oil can be filled using the fill line located just below the oil reservoir tank. If possible warm oil to make filling easier

1. Remove pressure relief by-pass hose and cap ends
2. Remove fill-port cap on fill line just below reservoir tank
3. Pump new oil into fill line, (do not exceed 20 psi)
4. Fill until oil level on sight glass is at operating level
5. Wait 30 minutes and recheck oil level and add oil if needed
6. Repeat steps #3 - #5 until oil level is stable
7. Replace pressure relief by-pass hose and cap fill-port
8. Start machine and run for 15 minutes
9. Recheck oil level and add oil if needed through breather cap
10. Once oil level stays at operating level, oil filling is complete
11. Periodically, re-check oil levels during first day of operation to ensure oil level is stable and at the operating level
12. Fill "T" gear box until oil flows out of fill plug and replace plug



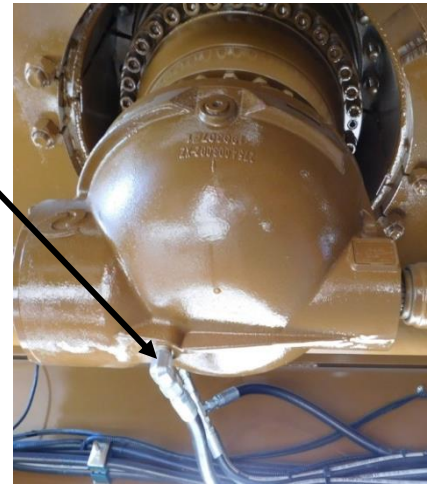
PLANETARY GEARBOX "AUXILIARY COOLING SYSTEMS":

Oil Changing Procedure: (Comer)

NOTE: This planetary consists of one (1) common gearbox housing which houses both the lower bevel gear set and the upper planetary gear set. The oil in this housing is shared between both gear sets and therefore requires one type of oil; (see the "LUBRICANT TYPE" section of this manual)

Draining the System:

1. Run the machine to warm up oil
2. Place drain pan under planetary gear box
3. Remove lower hose on planetary gear box
4. Let oil drain completely from planetary gear box and hose
5. Re-connect lower hose to planetary gear box
6. Remove system's filter and replace with good quality filter



Filling the System:


NOTE: All planetary gear oil can be filled using the fill line located just below the oil reservoir tank. If possible warm oil to make filling easier

1. Remove pressure relief by-pass hose and cap ends
2. Remove fill-port cap on fill line just below reservoir tank
3. Pump new oil into fill line, (do not exceed 20 psi)
4. Fill until oil level on sight glass is at operating level
5. Wait 30 minutes and recheck oil level and add oil if needed
6. Repeat steps #3 - #5 until oil level is stable
7. Replace pressure relief by-pass hose and cap fill-port
8. Start machine and run for 15 minutes
9. Recheck oil level and add oil if needed through breather cap
10. Once oil level stays at operating level, oil filling is complete
11. Periodically, re-check oil levels during first day of operation to ensure oil level is stable and at the operating level



IMPORTANT: ALWAYS CHECK OIL LEVELS PRIOR TO STARTING THE MACHINE


Maintenance Schedule (Trailer Mount)

<h2 style="margin: 0;">Maintenance Schedule</h2>					
equipment:		vertical mixer (trailer mount)			
frequency:		100 hours, (approximately 1 week intervals); (UNLESS STATED OTHERWISE BELOW)			
Customer		Location			
Date service performed		Hours on unit			
Equipment ser. no.		Service technician			
MAJOR AREAS					
1. CUSTOMER INFO.					
	minor areas	item	description	check-off	follow-up required (y/n)
	general	1	1 speak with equipment operators		
		2	2 speak with maintenance technicians		
2. HYDRAULIC SYSTEM					
	minor areas	item	description	check-off	follow-up required (y/n)
	general	1	1 check for leaks; (hoses, fittings, seals, etc)		
		2	2 check oil levels, fill if needed (after pulling samples)		
		3	3 check pressure bypass settings & <u>record (where applicable)</u>		
		4	4 check for worn hoses & loose fittings		
		5	5 start mixer and check general operating parameters		
		6	6 check operations of hydraulic cylinders & motors		
3. MECHANICAL SYSTEM					
	minor areas	item	description	check-off	follow-up required (y/n)
	general	1	1 are all guards in place, (notify customer if not)		
		2	2 start mixer and listen for unusual noises		
		3	3 look for worn/broken parts		
		4	4 lubricate all grease zerk fittings and/or points of lubrication		
		5	5 check drive line shear pin		
	planetary gearbox	1	1 check oil levels (daily) , fill if needed; (pull oil sample and change oil every 1000 hrs, 1st oil change at 50 hrs)		
		2	2 pull and identify oil samples, (send out for testing)		
		3	3 is oil clear and free of contamination		
		4	4 grease top bearing every 140 hours		
	augers	1	1 check backlash & tightness, (rotate auger back & forth)		
		2	2 check for damage & wear on flighting		
		3	3 check knives for wear & tightness		
	main tub	1	1 check wear on inside of tub, (floor & walls)		
		2	2 check stainless seams and wear (where applicable)		
		3	3 check door operations, adjust if needed & lubricate		
		4	4 check hay brake operations		

	cross conveyor	1	check for wear on chain assembly					
		2	check for wear on flooring					
		3	check drive system					
		4	check conveyor take-ups and adjust if needed					
		5	check operations of cross conveyor slide					
	two speed gear box	1	check yokes for tightness, (check set screws)					
		2	check oil levels, fill if needed (after pulling sample)					
		3	check shift pressures & record (where applicable)					
		4	check shift linkage adjustment & tighten (where applicable)					
		5	check tightness of gear mounting bolt, is gearbox tight to frame					
	PTO	1	check and grease shaft, (check set screws & locking collar)					
4. WEIGH SYSTEM								
	minor areas	item	description	check-off	follow-up required (y/n)			
	general	1	check operations of scales					
		2	check for rotation of load cells					
		3	check for damaged wiring					
		4	check and clean load cell mounting "V" block brackets					
		5	check local support/truck frames for cracks					
		6	check to see if "V" blocks are loose and not carrying the load)					
5. TEST MIXER'S OPERATIONS								
	minor areas	item	description	check-off	follow-up required (y/n)			
	general	1	"run-in" mixer for a period of time (15min+) to insure smooth operations. Walk around equipment and inspect all components for smooth operations					
ADDITIONAL NOTES AND COMMENTS:								
AFTER SERVICE IS COMPLETED: WRITE SERVICED DATE WITH YOUR INITIALS ON A STICKER AND PLACE ON UNIT NEXT TO SERIAL NUMBER ID PLATE.								

NOTE: It is suggested to make copies of this “Maintenance Schedule” form to assist with performing routine maintenance inspection of the equipment. This will also serve as a retention record of all safety and maintenance inspections.

Maintenance Schedule (Truck Mount)

<h2 style="margin: 0;">Maintenance Schedule</h2>						
equipment:		vertical mixer (truck mount)				
frequency:		100 hours; approximately 1 week intervals; (UNLESS STATED OTHERWISE BELOW)				
Customer		Location				
Date service performed		Hours on unit				
Equipment ser. no.		Service technician				
MAJOR AREAS						
1. CUSTOMER INFO.						
		minor areas	item	description	check-off	follow-up required (y/n)
general			1	1 speak with equipment operators		
			2	2 speak with maintenance technicians		
2. HYDRAULIC SYSTEM						
		minor areas	item	description	check-off	follow-up required (y/n)
general			1	1 check for leaks; (hoses, fittings, seals, etc)		
			2	2 pull and identify oil samples, (every 500 hrs)		
			3	3 check oil levels, fill if needed		
			4	4 change all oil filters, (every 500 hrs)		
			5	5 change hydraulic oil, (every 4000 hrs.; approx. 1 year)		
			6	6 check pressure bypass (relief) settings & <u>record</u>		
			7	7 check for worn hoses		
			8	8 start mixer and listen for unusual noises		
			9	9 start mixer and check general operating parameters		
			10	10 check driveline to pumps; (lubricate yokes every 8 hrs) (a needle lube gun fitting is needed, grease must squirt out of all 4 caps)		
			11	11 check operations of hydraulic actuators		
			12	12 check and record pressures on pump (w/ load & w/o load)		
			13	13 check and record pressures on motor (w/ load & w/o load)		
			14	14 clean heat exchanger (radiator) on hydraulic system (daily)		
3. MECHANICAL SYSTEM						
		minor areas	item	description	check-off	follow-up required (y/n)
general			1	1 are all guards in place, (notify customer if not)		
			2	2 start mixer and listen for unusual noises		
			3	3 look for worn/broken parts		
			4	4 lubricate all grease zerkl fittings and/or points of lubrication		
planetary gearbox			1	1 check oil levels (daily) , fill if needed; (pull oil sample and change oil every 1000 hrs, 1st oil change at 50 hrs)		
			2	2 if applicable, identify oil samples; (send out for testing)		
			3	3 is oil clear and free of contamination		
			4	4 grease top bearing every 140 hours		

	augers	1	check backlash & tightness, (rotate auger back & forth)			
		3	check for damage & wear on flighting			
		4	check knives for wear & tightness			
	main tub	1	check wear on inside of tub, (floor & walls)			
		2	check stainless seams and wear			
		3	check door operations, adjust if needed & lubricate			
		4	check hay brake operations			
	cross conveyor	1	check for wear on chain assembly			
		2	check for wear on flooring			
		3	check drive system			
		4	check conveyor take-ups and adjust if needed			
		5	check operations of cross conveyor slide			
4. WEIGH SYSTEM						
(mechanical)						
	minor areas	item	description	check-off	follow-up required (y/n)	
		1	check operations of scales			
		2	check for rotation of load cells and tighten locking screw			
		3	check for damaged wiring			
		4	check and clean load cell mounting "V" block brackets			
		5	check local support/truck frames for cracks			
		6	make sure 7/8" bolt in load mounting bracket is loose			
ADDITIONAL NOTES AND COMMENTS:						
<u>AFTER SERVICE IS COMPLETED; WRITE SERVICED DATE WITH YOUR INITIALS ON A STICKER</u>						
<u>AND PLACE STICKER ON UNIT NEXT TO SERIAL NUMBER ID PLATE.</u>						
NOTE: The above maintenance program covers the operation of the mixer and						
does not include truck maintenance checks or safety checks, (other than guarding).						

NOTE: It is suggested to make copies of this “**Maintenance Schedule**” form to assist with performing routine maintenance inspection of the equipment. This will also serve as a retention record of all safety and maintenance inspections.

ELECTRONIC SCALES & LOADCELLS

CAUTION: DO NOT WELD ON EQUIPMENT. Scales must be disconnected from power source and/or battery before welding to prevent damage to micro-processor and strain gauges.

Observe (4) bolts on each load cell stabilizer bracket. They should move freely. Battery or 12-volt power supply must have a minimum of 12 volt-15volt for satisfactory operation of scale. **SEE SCALE MANUAL FOR PROPER OPERATION.**

Battery terminals, connections must be clean and corrosion free and kept tightened.

Loose connection to power or ground will interfere with scale.

Observe J-Box, load cell cables, and power cords for cuts, hanging loose or pulled too tight at the terminals and for loose connections. Correct these conditions.

CAUTION: DO NOT EXPOSE OPEN WIRES, J-BOX OR SCALE INSTRUMENTS TO DIRECT FORCE OF WATER. All entry points are water resistant but must not be subjected to direct force of water.

Scale instruments are very dependable, but microprocessors are sensitive to electrical interference.

- (I) For stationary mixer operated from commercial power, be sure to confirm that the power source is stable.
- (II) Check to eliminate the power supply as the source of a scale problem. To do this connect the scale directly to a separate charged 12-volt vehicle battery. If the scale problem goes away, the power source is the problem.
- (III) This method may also be used to trace or isolate many other glitches from unknown sources.

CAUTION: SCALE REPAIRS ARE BEST ACCOMPLISHED BY TRAINED AND QUALIFIED SCALE REPAIR PERSONNEL.

CAUTION: ELECTRICAL MOTORS, POWER SUPPLIES, AND CONTROL CABINETS MUST BE REPAIRED BY QUALIFIED SERVICE ELECTRICIANS.

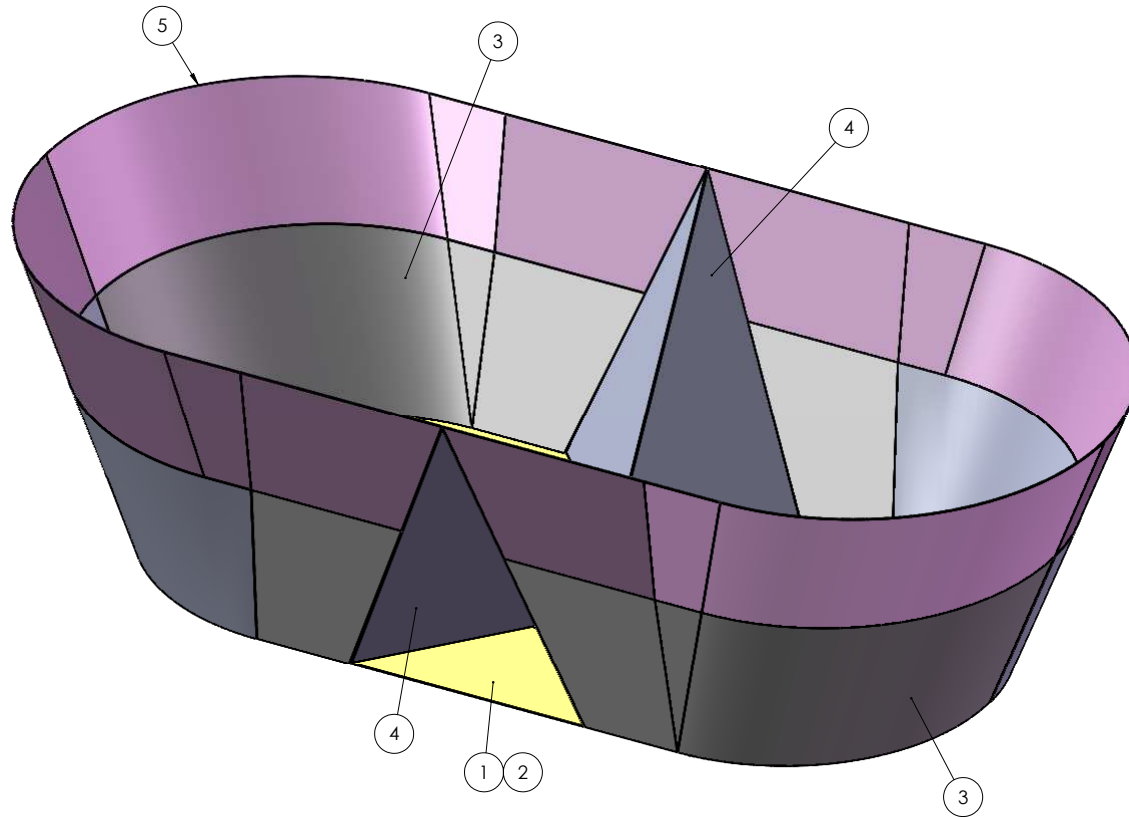
**** NOTE: SEE APPENDIX FOR ADDITIONAL INFORMATION**

SPARE PARTS

DRAWING NO	DESCRIPTION
LP-001	LINERS, STAINLESS STEEL
LP-002A	AUGER DRIVE ASSEMBLY, LP800 TRAILER
LP-002B	AUGER DRIVE ASSEMBLY, LP1000-LP1400 TRAILER
LP-002C	AUGER DRIVE ASSEMBLY, TRUCK
LP-002D	AUGER & GEARBOX SELECTION
LP-003A	MIXER BODY OPTIONS
LP-003B	MIXER BODY OPTIONS - I
LP-003C	MIXER BODY OPTIONS - II
LP-004A	CROSSFEED. 36" HYDRAULIC CHAIN
LP-004B	CROSSFEED TAKE-UP COMPONENTS
LP-005	CROSSFEED, DUAL, 36" HYDRAULIC CHAIN
LP-006	CHAIN, 36" CROSSFEED w/ FLATBAR
LP-007	CRADLE, CORSSFEED
LP-008A	TRAILER, TANDEM AXLE
LP-008B	SUSPENSION, TANDEM RUNNING GEAR
LP-009A	TRAILER, SINGLE POINT TANDEM AXLE
LP-009B	SUSPENSION, 900 SERIES SINGLE POINT, 50K
LP-010A	TRAILER, SINGLE AXLE
LP-010B	AXLE ASSEMBLY, 10-HOLE ON 11 ¼" BC
LP-011	TRAILER, LP STEERABLE AXLE
LP-012	AXLE ASSEMBLY, 8-HOLE ON 8 ¾" BC
LP-013	HITCH ASSEMBLY OPTIONS
LP-014	SUBFRAME, TRUCK MOUNT
LP-015A	DRIVE ASSEMBLY, 2-SPEED TRAILER
LP-015B	GEARBOX, 2-SPEED OPTIONS-I
LP-015C	GEARBOX, 2-SPEED OPTIONS-II

DRAWING NO	DESCRIPTION
LP-016	DIRECT DRIVE ASSEMBLY, TRAILER
LP-017	DRIVELINE, HYDRAULIC TRUCK, PUMP
LP-018A	LADDER OPTIONS
LP-018B	COOLER ASSEMBLY
LP-019A	HYDRAULIC CIRCUIT, TRUCK SIDE DOOR
LP-019B	HYDRAULIC CIRCUIT, TRUCK CROSSFEED
LP-020	TANK, HYDRAULIC 65 GALLON
LP-021	COOLER & TANK ASSEMBLY
LP-022	COOLER MOTOR ASSEMBLY
LP-023A	SOLENOID MANIFOLD ASSEMBLY, TRUCK
LP-023B	HYDRAULIC SET-UP, TRAILER
LP-024A	PUMP & MOTOR ASSEMBLY, FRONT MOUNT
LP-024B	PUMP ASSEMBLY, FRONT MOUNT
LP-025A	PUMP & MOTOR ASSEMBLY, REAR MOUNT
LP-025B	PUMP ASSEMBLY, REAR MOUNT
LP-026	FOLDING SPOUT, HYDRAULICS
LP-027A	ELECTRICAL SCHEMATIC, VERTICAL TRUCK – I
LP-027B	ELECTRICAL SCHEMATIC, VERTICAL TRUCK – II
LP-027C	ELECTRICAL SCHEMATIC, VERTICAL TRUCK – III
LP-028	TRUCK CAB COMPONENTS
LP-029	COOLING SYSTEM, COMER PLANETARY GEARBOX
LP-030	COOLING SYSTEM, REGGIANA PLANETARY GEARBOX
LP-031	COOLING SYSTEM, COMER 2-SPEED GEARBOX
LP-032	COOLING SYSTEM, ZUIDBERG 2-SPEED GEARBOX
LP-033	DECALS – I
LP-034	DECALS – II
LP-035	DECALS - III


ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	391010	FLOOR LINER, 20" AUGER PIPE
2	1	391010-BC	FLOOR LINER, 24" AUGER PIPE
3	1	LP-0054	LINER, 42" FROM FLOOR
4	1	LP-0053	SEPARATORS, STAINLESS STEEL
5	1	LP-0063	LINER, 42" TO TOP

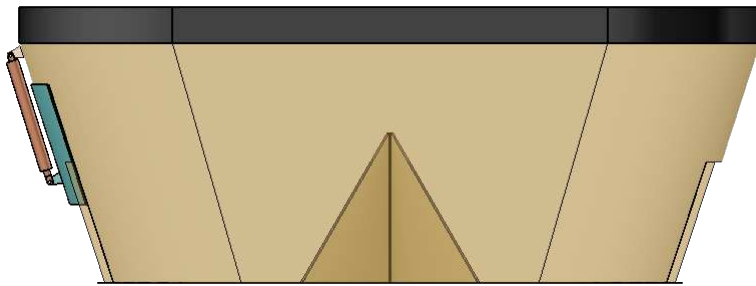


NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

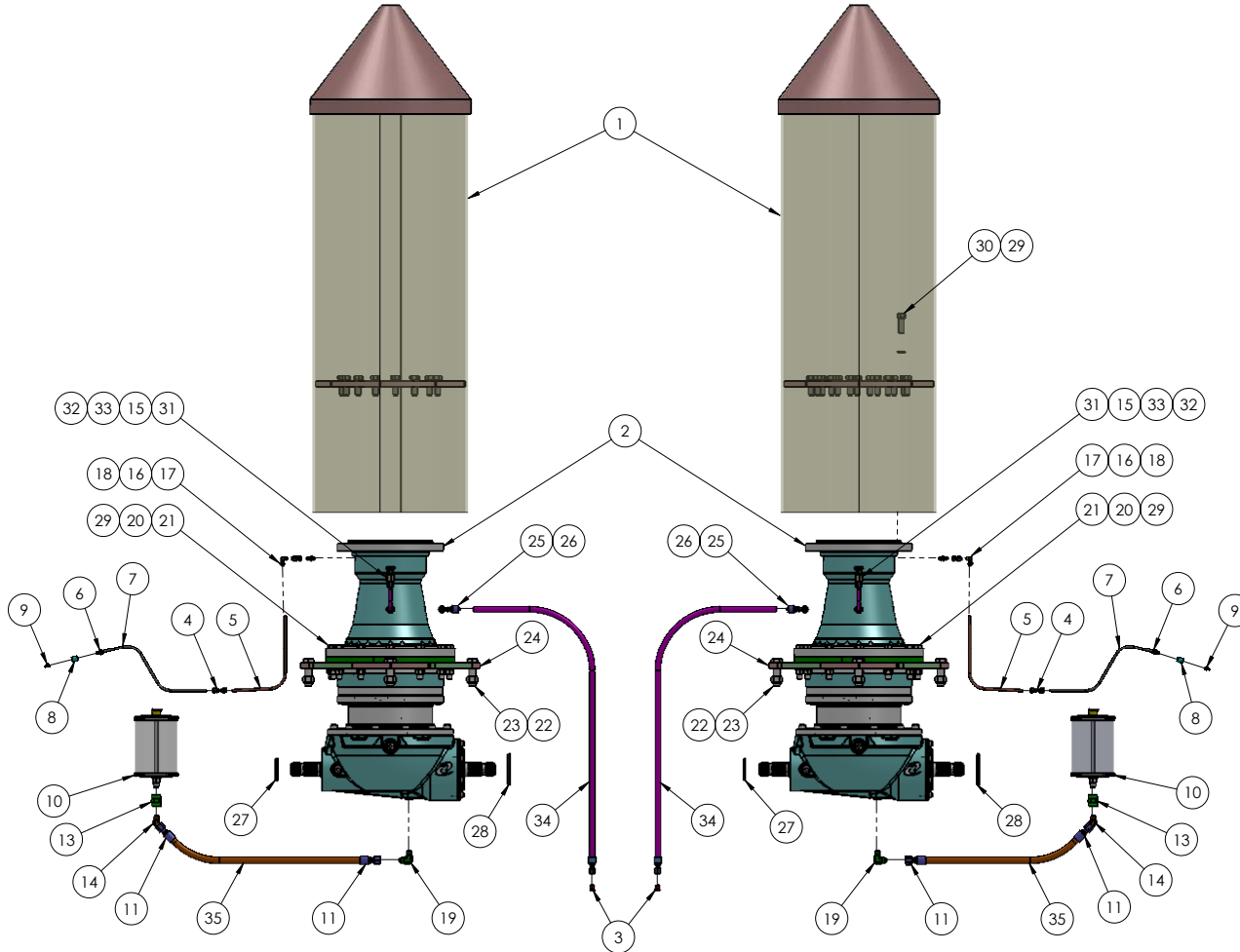
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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL: ±
 ANGULAR: MACH ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION LINERS, STAINLESS STEEL		
		MATERIAL: SEE BOM				
DRAWN BY:	DATE: 9-30-20	NAME: MCCURE	FINISH:	SIZE: C	PART NUMBER: LP-001	REV: -
DESIGNED BY:	DATE: 9-30-20	VENDOR:	VENDOR P/N:	SCALE: 1:2	WEIGHT: 409.323 lbs	SHEET 1 OF 1



NOTE: AUGER FLIGHTS NOT SHOWN



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	SEE NOTES	AUGER ASSEMBLY
2	2	7423	GEARBOX, PLANETARY, COMER
3	2	6 PNTX-S	3/8" M JIC PLUG
4	2	9612	UNION 1/4" COMP
5	2	9605	TUBE, COPPER, 1/4"OD x 20" LG.
6	2	9614	FITTING, TUBE CONNECTOR- 1/4" OD x 1/8" M NPTF
7	2	9669A	1/4" POLYPROPYLENE TUBING
8	2	9250	COUPLER, STRT. 1/8" NPTF
9	2	11310	GREASE ZERK, STR. 1/8" M NPTF
10	2	7964A	OIL RESERVOIR, GEARBOX
11	4	10643-8-8	HOSE END, STRT. 1/2" FM JIC, SWIVEL
12	2	10643-6-6	HOSE END, STRT. 3/8" x 3/8" FM JIC SWIVEL
13	2	1_2 GG-S	FITTING, COUPLING, STRT. 1/2" FM NPTF
14	2	8-8 VTX-S	FITTING, 45° ELBOW, 1/2" M JIC x 1/2" M NPTF
15	2	7291S	AIR BREATHER- 3/8" NPTF
16	2	4 G6X-S	FITTING, STRT. 1/8" FM NPTF x 1/4" FM JIC, SWIVEL
17	2	9611	UNION, 90°, 1/4" COMP x 1/8" NPTF
18	2	4F42EDMXS	FITTING, 1/4" M JIC x 1/8" M BSPP
19	2	8-8 CTX-S	FITTING, 90°, 1/2" M JIC x 1/2" M NPTF
20	26	10550	NUT, 5/8" NC
21	26	10592	BOLT- 5/8" NC GR8 x 4" LG.
22	8	10742	NUT, NYLOCK- 7/8" NF
23	8	10762	BOLT- 7/8" NF GRD.8 x 3" LG.
24	2	391211	COMER MOUNTING AND SPACER ASSEMBLY
25	2	13943-6-6	HOSE END, 90°, 3/8" x 3/8" FM JIC, SWIVEL
26	2	6-8 FTX-S	FITTING, STR, 3/8" M JIC x 1/2" MNPTF
27	2	7429D	OIL SEAL, COMER, FRONT
28	2	7421F	OIL SEAL, COMER, REAR
29	56	10553	WASHER- 5/8" LOCK
30	30	7421A	BOLT, M16-2.0 x 60MM, 10.9 COMER
31	2	6-6 GTX-S	FITTING, STRT, 3/8" M JIC x FM NPTF
32	2	6-6 F4OMXS	FITTING, STRT, 3/8" M JIC x 3/8" M BSPP
33	2	8766	TUBE ASSY, 90°, 3/8" TUBE
34	2	451TC-6-RL	HOSE, HYDRAULIC, 3/8" (CUT TO LENGTH)
35	2	451TC-8-RL	HOSE, HYDRAULIC, 1/2" (CUT TO LENGTH)

NOTES: UNLESS OTHERWISE SPECIFIED

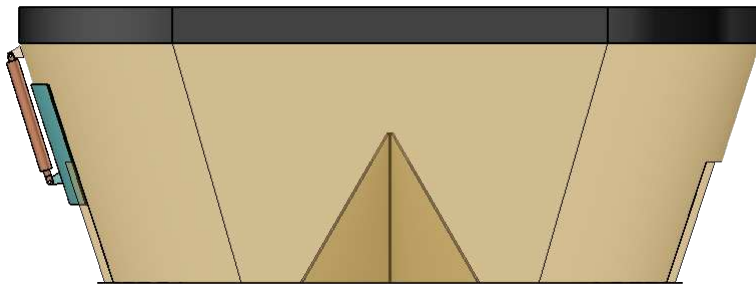
1 - SEE TABLES ON DRAWING NO. LP-002D FOR AUGER AND GEARBOX SELECTION.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

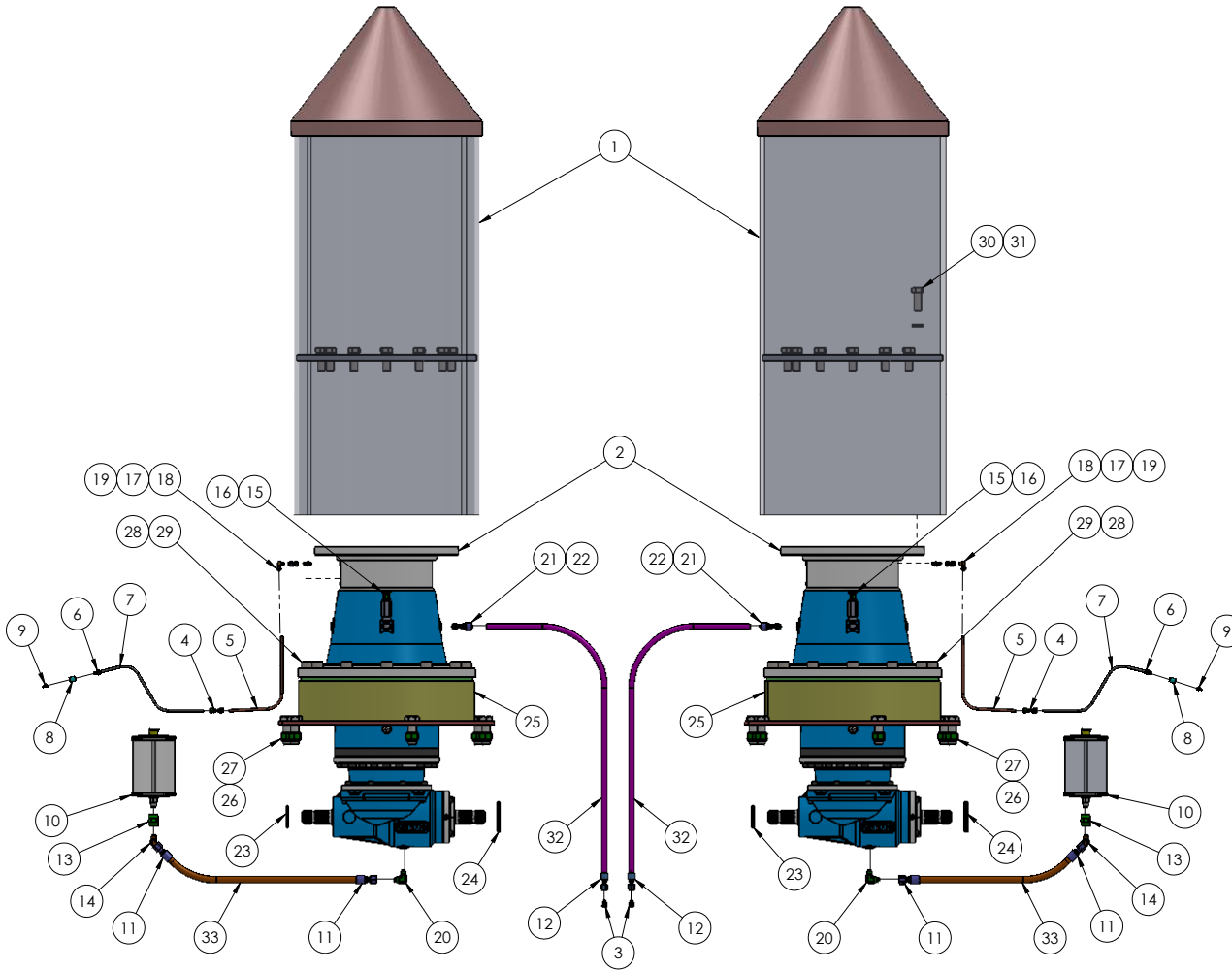
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 TOLERANCES:
 FRACTIONAL: ±
 ANGULAR: MACH ±
 BEND: ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION AUGER DRIVE ASSEMBLY, LP800 TRAILER
		SEE BOM			
DRAWN BY: 8-11-17 DESIGNED BY: 8-11-17 APPROVED BY:	DATE: 8-11-17	NAME: MCCLEURE	MATERIAL P/N: FINISH: VENDOR: VENDOR P/N:	SIZE: C PART NUMBER: LP-002A SCALE: 1:32 WEIGHT: 141.836149 lbs	REV.: SHEET 1 OF 1



NOTE: AUGER FLIGHTS NOT SHOWN



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	SEE NOTES	AUGER ASSEMBLY
2	2	7429/7430	GEARBOX, PLANETARY, COMER
3	2	6 PNTX-S	3/8" M.JIC PLUG
4	2	9612	UNION 1/4" COMP
5	2	9605	TUBE, COPPER, 1/4"OD x 20" LG.
6	2	9614	FITTING, TUBE CONNECTOR- 1/4" OD x 1/8" M NPTF
7	2	9669A	1/4" POLYPROPYLENE TUBING
8	2	9250	COUPLER, STRT. 1/8" NPTF
9	2	11310	GREASE ZERK, STR. 1/8" M NPTF
10	2	7964A	OIL RESERVOIR, GEARBOX
11	4	10643-8-8	HOSE END, STRT. 1/2" FM JIC, SWIVEL
12	2	10643-6-6	HOSE END, STRT. 3/8" x 3/8" FM JIC SWIVEL
13	2	1_2 GG-S	FITTING, COUPLING, STRT. 1/2" FM NPTF
14	2	8-8 VTX-S	FITTING, 45° ELBOW, 1/2" M JIC x 1/2" M NPTF
15	2	7291S	AIR BREATHER- 3/8" NPTF
16	2	1_2 x 3_8 PTR-S	FITTING, REDUCER, 1/2" M NPTF x 3/8" F NPTF
17	2	4 G6X-S	FITTING, STRT, 1/8" FM NPTF x 1/4" FM JIC, SWIVEL
18	2	9611	UNION, 90°, 1/4" COMP x 1/8" NPTF
19	2	4F42EDMXS	FITTING, 1/4" M JIC x 1/8" M BSPP
20	2	8-8 CTX-S	FITTING, 90°, 1/2" M JIC x 1/2" M NPTF
21	2	13943-6-6	HOSE END, 90°, 3/8" x 3/8" FM JIC, SWIVEL
22	2	6-8 FTX-S	FITTING, STR, 3/8" M.JIC x 1/2" MNPTF
23	2	7429D	OIL SEAL, COMER, FRONT
24	2	7421F	OIL SEAL, COMER, REAR
25	2	392029	MOUNTING PLATE ASSEMBLY
26	12	10820A	BOLT, 1" NC GR8 x 3" LG.
27	12	10802	NUT, 1" NC NYLON LOCK
28	24	7429C	NUT, NYLOCK, M24 x 3.0
29	24	7429B	BOLT, SHCS, M24 x 3.0 x 90 MM LG.
30	24	7429A	BOLT, M22 x 1.5 x 60 MM LG.
31	24	10748	WASHER, LOCK- 7/8"
32	2	451TC-6-RL	HOSE, HYDRAULIC, 3/8" (CUT TO LENGTH)
33	2	451TC-8-RL	HOSE, HYDRAULIC, 1/2" (CUT TO LENGTH)

NOTES: UNLESS OTHERWISE SPECIFIED

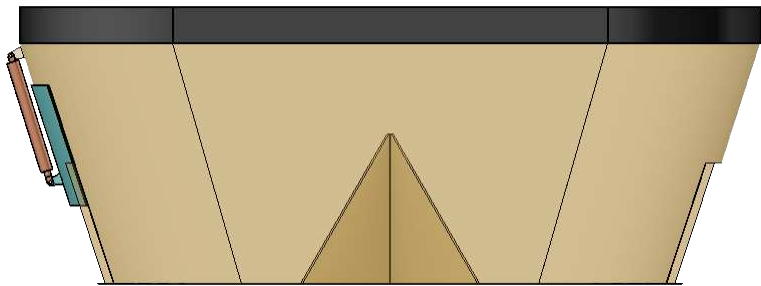
1 - SEE TABLES ON DRAWING NO. LP-002D FOR AUGER AND GEARBOX SELECTION.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

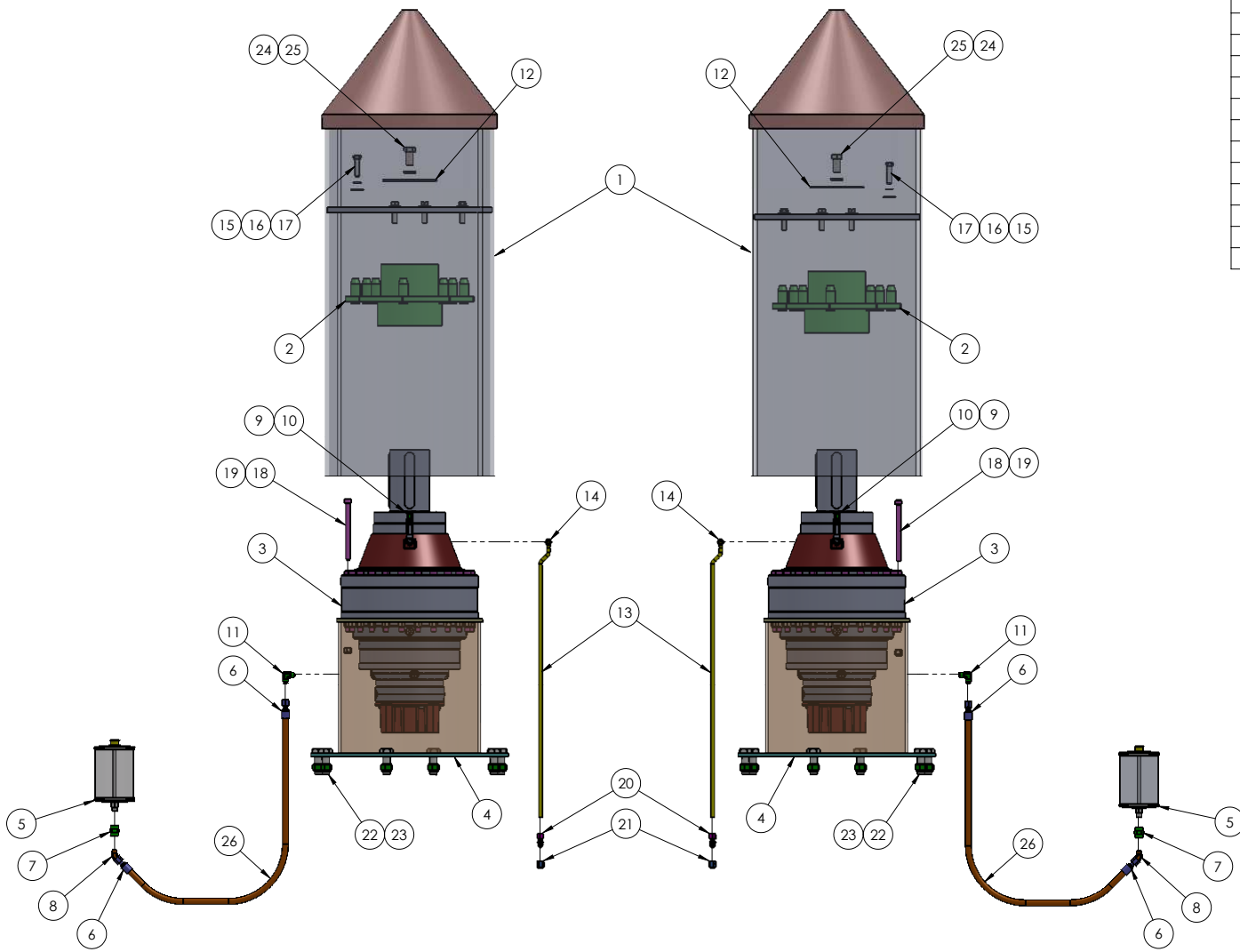
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 FRACTIONAL: ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			
		JOB #: MATERIAL: SEE BOM			
DRAWN BY:	DATE:	NAME:	FINISH:	DESCRIPTION AUGER DRIVE ASSEMBLY, LP1000 - LP1400 TRAILER	
DESIGNED BY:	8-11-17	ACCLURE	VENDOR:	SIZE:	PART NUMBER
APPROVED BY:	8-11-17		VENDOR P/N:	C	LP-002B
				SCALE: 1:32	WEIGHT: 770.065583 lbs
					SHEET 1 OF 1



NOTE: AUGER FLIGHTS NOT SHOWN



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	SEE NOTES	AUGER ASSEMBLY
2	2	192043COM-TRK	MOUNT, PLANETARY G.B. AUGER
3	2	7433	GEARBOX, COMER, 53.1:1
4	2	392252	COMER TRUCK PLANETARY MOUNT
5	2	7964A	OIL RESERVOIR, GEARBOX
6	4	10643-8-8	HOSE END, STRT. 1/2" FM JIC, SWIVEL
7	2	1_2 GG-S	FITTING, COUPLING, STRT. 1/2" FM NPTF
8	2	8-8 VTX-S	FITTING, 45° ELBOW, 1/2" M JIC x 1/2" M NPTF
9	2	1_2 x 3_8 PTR-S	FITTING, REDUCER, 1/2" M NPTF x 3/8" F NPTF
10	2	7291S	AIR BREATHER- 3/8" NPTF
11	2	8 CTX-S	FITTING, 90°, 1/2" M JIC x 3/8" M NPTF
12	2	192059	HOLD DOWN PLATE
13	2	7422F	DRAIN TUBE, 1/2" x 90° x 40" LG.
14	2	8 FTX-S	FITTING, STRT, 1/2" M JIC x 3/8" M NPTF
15	8	10552	WASHER, FLAT- 5/8"
16	8	10553	WASHER- 5/8" LOCK
17	8	10579	BOLT 5/8" NC GR-8 X 2 1/2"
18	46	10618	BOLT, SHCS, 5/8" NC x 8" LG.
19	46	10556	NUT, NYLOCK- 5/8" NC
20	2	8 XHBU-S	FITTING, STRT, 1/2" M JIC x 1/2" TUBE
21	2	8 FNTX-S	END CAP, 1/2" FM JIC
22	12	10820A	BOLT, 1" NC GR8 x 3" LG.
23	12	10802	NUT, 1" NC NYLON LOCK
24	2	10808	WASHER 1" LOCK
25	2	7433E	BOLT, HEX, M24 x 3.0 x 50 MM LG.
26	2	451TC-8-RL	HOSE, HYDRAULIC, 1/2" (CUT TO LENGTH)

NOTES: UNLESS OTHERWISE SPECIFIED

1 - SEE TABLES ON DRAWING NO. LP-002D FOR AUGER AND GEARBOX SELECTION.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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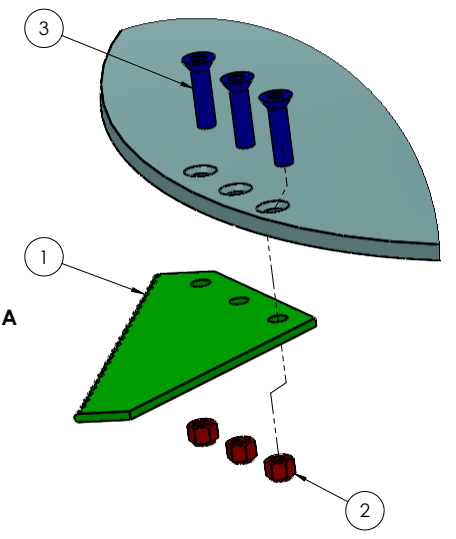
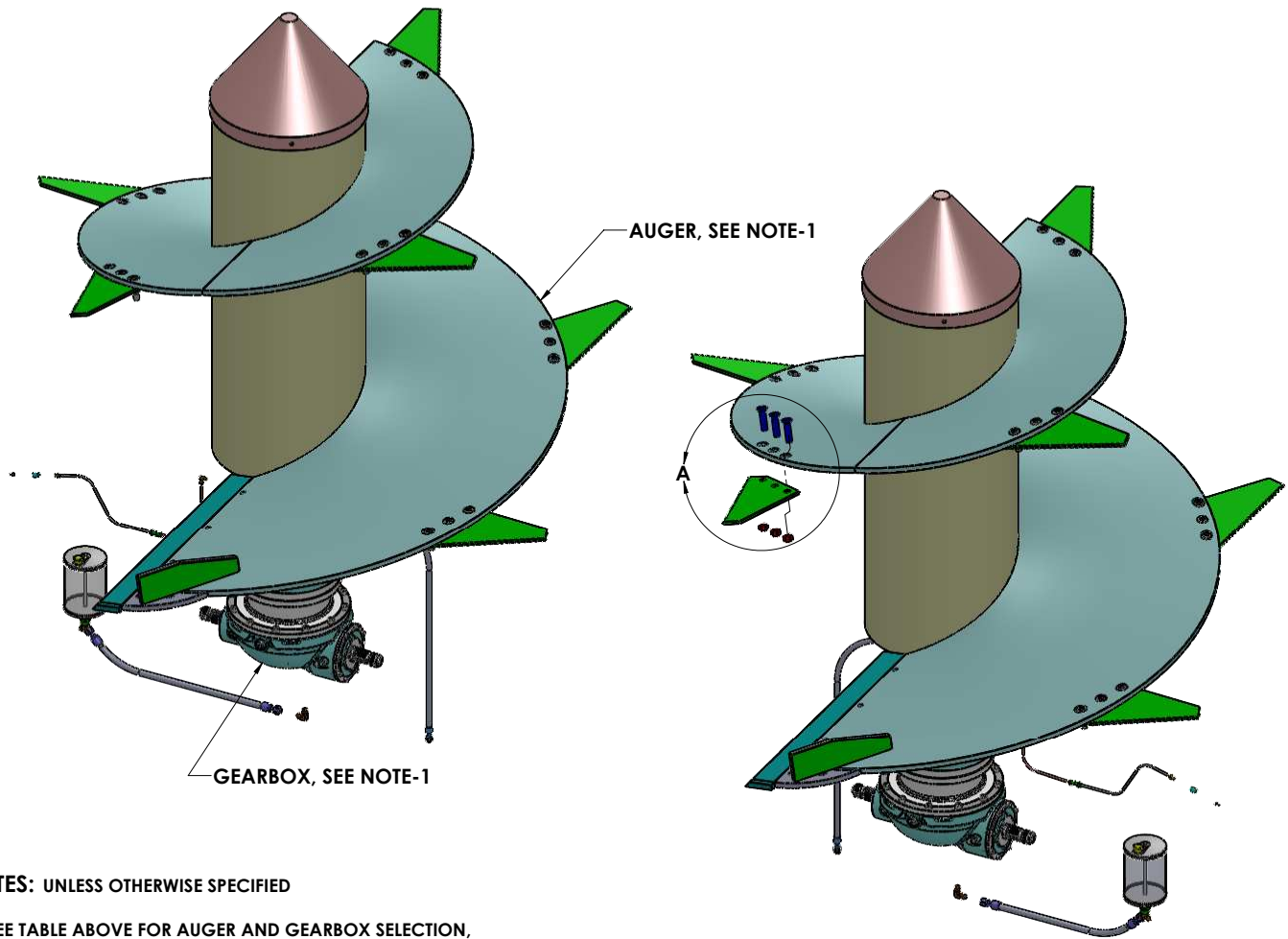
DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION AUGER DRIVE ASSEMBLY, TRUCK	
		SEE BOM MATERIAL P/N:			
DRAWN BY: 8-11-17 DESIGNED BY: 8-11-17 APPROVED BY:	DATE: 8-11-17 NAME: ACCURE	FINISH: VENDOR: VENDOR P/N:	SIZE: C PART NUMBER: LP-002C SCALE: 1:32 WEIGHT: 396.484596 lbs	REV:	SHEET 1 OF 1

UNIT TYPE	GEARBOX	AUGER SIZE	AUGER NUMBER	AUGER W/SWEEPER	AUGER FLIGHT LINER	AUGER PIPE LINER
TRAILER MOUNT						
LP800	7423	20"	LP-394006-COM	LP-394006-COMS	LP-0048	LP-0049
LP1000 - LP1200 (2-SPEED)	7429	24"	LP-394006-24	LP-394006-24S	LP-0029	LP-0034
LP1000 - LP1200 (DIRECT DRIVE)	7430	24"	LP-394006-24	LP-394006-24S	LP-0029	LP-0034
LP1400 (2-SPEED)	7429	24"	LP-394240-TRLR	LP-394240-TRLR	LP-5002	1600-6001
TRUCK MOUNT						
LP800 - LP1200	7433	24"	LP-394006-24TK	LP-394006-24STK	LP-0029	LP-0034
LP1400	7433	24"	LP-394240-TRK	LP-394240-TRKS	LP-5002	1600-6001

ITEM NO.	PART NUMBER	DESCRIPTION
1	7774	BLADE, VERTICAL AUGER
2	10647	NUT, 3/4" NC, NYLOCK
3	10730	BOLT, FHSCS, 3/4" NC X 3" LG.

AUGER BLADES SOLD SEPARATELY



NOTES: UNLESS OTHERWISE SPECIFIED

1 - SEE TABLE ABOVE FOR AUGER AND GEARBOX SELECTION, OTHER VARIATIONS MAY EXIST.

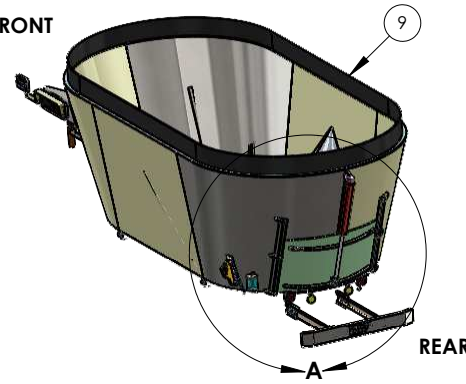
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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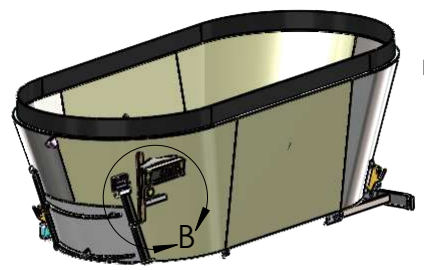
DIMENSIONS ARE IN INCHES
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 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			
		SEE BOM			
DATE	NAME	MATERIAL	FINISH	SIZE	DESCRIPTION
DRAWN BY: 8-11-17	ACCLURE			C	AUGER AND GEARBOX SELECTION
DESIGNED BY: 8-11-17		VENDOR		PART NUMBER	LP-002D
APPROVED BY:		VENDOR P/N		SCALE: 1:12	WEIGHT: 2924.79876 lbs
				SHEET 1 OF 1	

FRONT



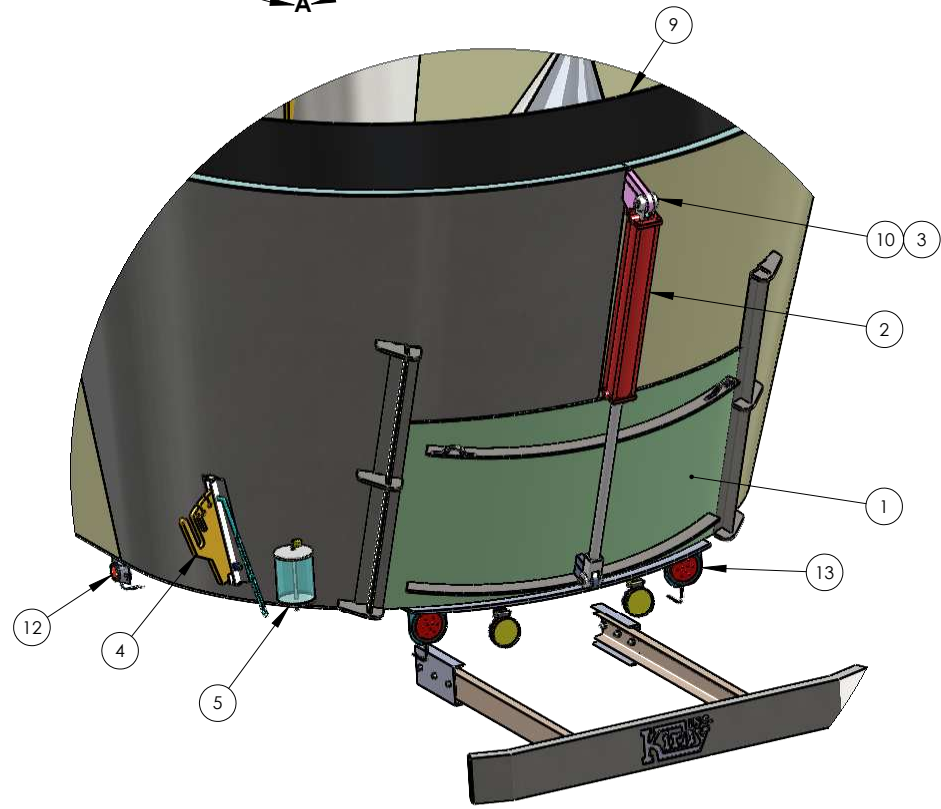
REAR



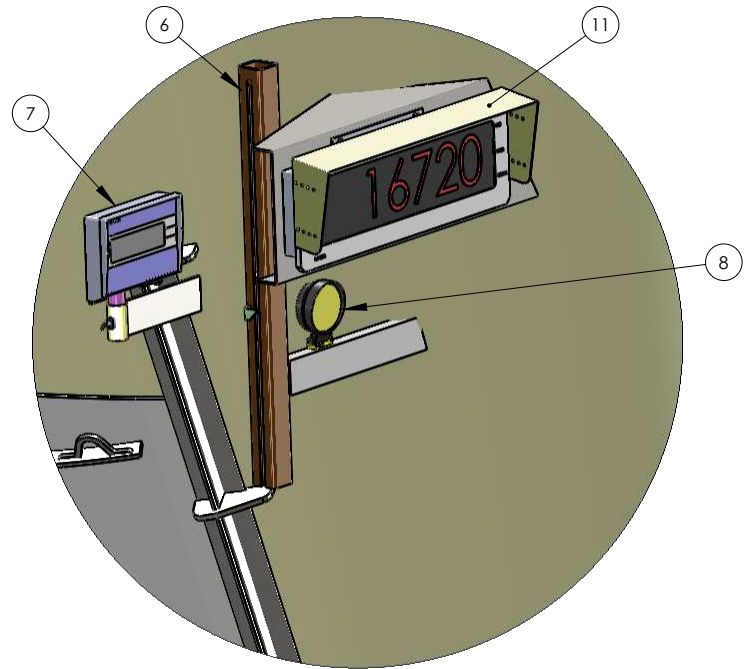
FRONT

REAR

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	392007R1	DISCHARGE DOOR ASSEMBLY
2	1	8267	CYLINDER, 3" x 30"
3	4	7928	CLEVIS PIN, CYLINDER
4	2	SEE NOTE 1	CHOP GATE
5	2	7964A	OIL RESERVOIR, GEARBOX
6	1	192021	INDICATOR, DISCHARGE DOOR
7	1	SEE NOTE 1	REMOTE DISPLAY, RD 2500V
8	3	4719L	FEED LIGHT, LED
9	1	6536	BELTING, RUBBER- 9/16" x 10' x X" LG.
10	8	7929	CLIP, CYLINDER CLEVIS PIN
11	1	SEE NOTE 1	REMOTE DISPLAY, LED, RD 4000
12	4	SEE NOTE 1	DEFLECTOR LIGHT ASSEMBLY
13	2	SEE NOTE 1	TAIL LIGHT ASSEMBLY



DETAIL A



DETAIL B

NOTES: UNLESS OTHERWISE SPECIFIED

1 - SEE DRAWING NO. LP-003B AND LP-003C FOR OPTIONS AND PART NUMBERS.

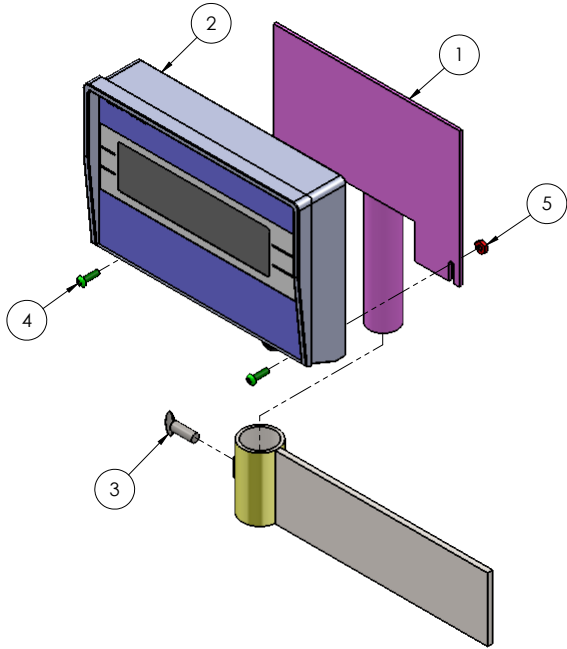
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION MIXER BODY OPTIONS
MATERIAL: SEE BOM		JOB #:			
DRAWN BY: 8-11-17	DATE: 8-11-17	NAME: ACCURE	FINISH:	SITE: C	PART NUMBER: LP-003A
DESIGNED BY:	DATE:	VENDOR:	VENDOR P/N:	SCALE: 1:50	WEIGHT: 9126.629 lbs
APPROVED BY:					SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	21204	BRACKET, REMOTE DISPLAY MOUNTING
2	1	SEE NOTES	REMOTE DISPLAY, RD 2500V
3	1	10175	THUMB SCREW, 3/8" NC x 1" LG.
4	2	9080	SCREW, RD HD MACH. 12-24NC x 3/4" LG.
5	2	9084	NUT, HEX, MACH. 12-24 NC



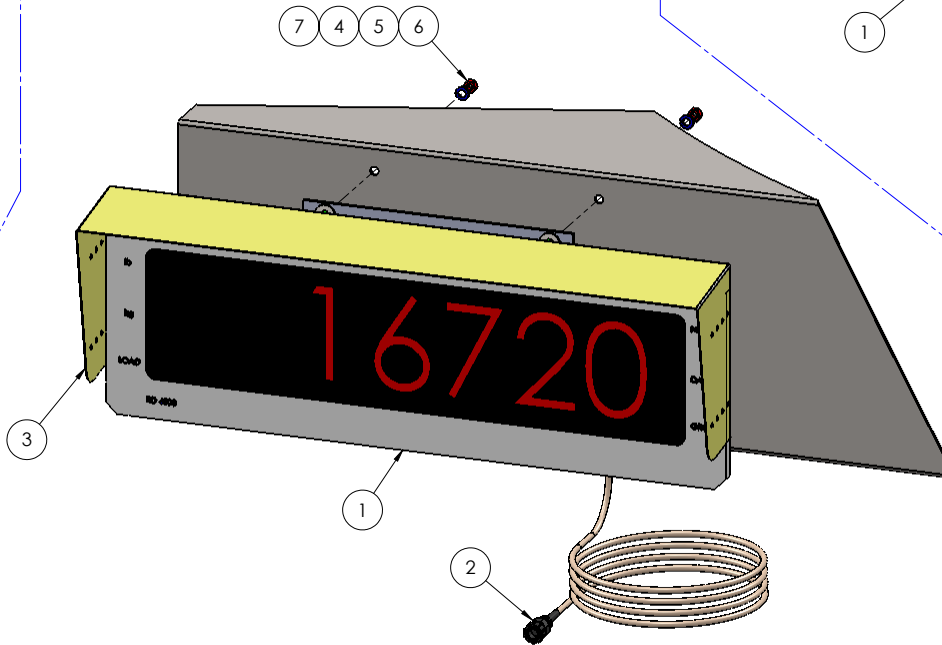
NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER COMPLETE ASSEMBLY WITH DISPLAY AND CABLE, USE PART NO. 5204.
- 2 - TO ORDER COMPLETE ASSEMBLY WITH DISPLAY, CABLE, XMTR AND RCVR, USE PART NO. 5205.

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	5317	REMOTE DISPLAY, LED, RD 4000
2	1	5319	CABLE, RD4000 REMOTE, 33 FT. LG.
3	1	5314	VISOR, SST, W/SREWS, RD4000
4	4	10110	BOLT- 5/16" NC GRD.5 x 1" LG.
5	4	10098	WASHER, LOCK- 5/16"
6	4	10090	NUT, HEX, 5/16" NC
7	4	10099	WASHER, FLAT, 5/16"

NOTES: UNLESS OTHERWISE SPECIFIED

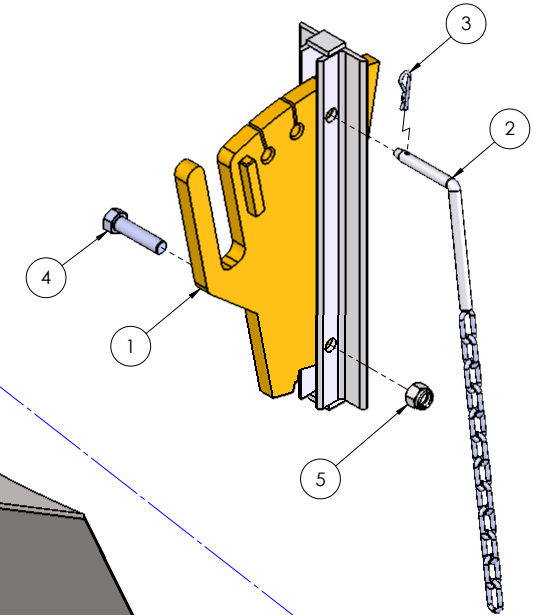
- 1 - TO ORDER COMPLETE ASSEMBLY WITH DISPLAY, CABLE AND VISOR, USE PART NO. 5314.
- 2 - TO ORDER COMPLETE ASSEMBLY WITH DISPLAY, CABLE, XMTR, RCVR AND VISOR, USE PART NO. 5315.



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	392014-1	CHOP GATE ASSEMBLY
2	1	191065	CHOP GATE PIN
3	1	5935C	CLIP, HAIR PIN, 1/8" x 1 3/4"
4	1	10578	BOLT- 5/8" NC GR5 x 2 1/2" LG.
5	1	10556	NUT, NYLOCK- 5/8" NC

NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER COMPLETE ASSEMBLY, USE PART NO. 392014.



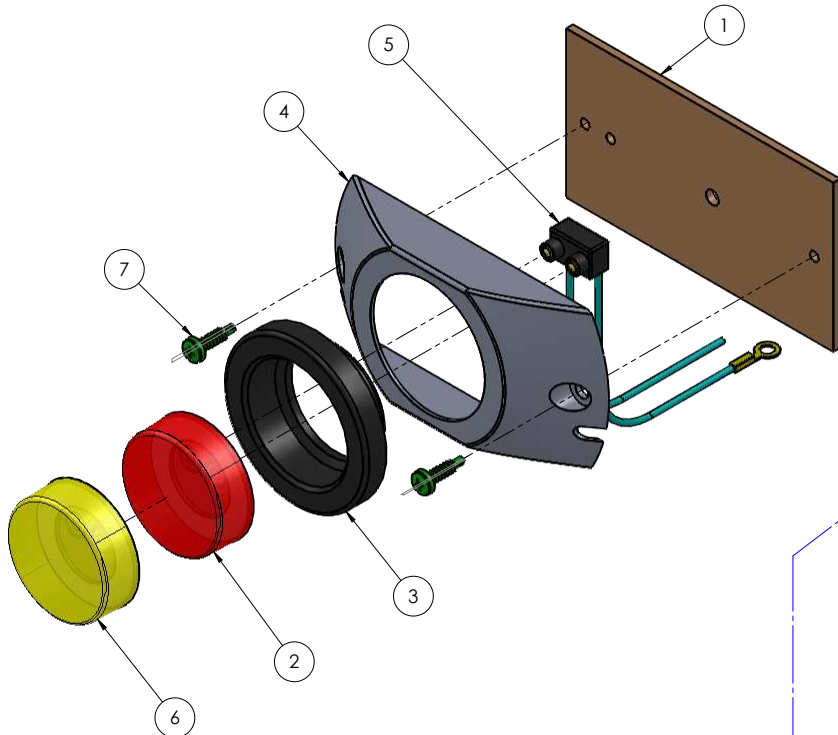
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION MIXER BODY OPTIONS - I
MATERIAL: SEE BOM		FINISH:		
DRAWN BY: 8-11-17	DATE: 8-11-17	ACCLURE	VENDOR:	SIZE: C
DESIGNED BY: 8-11-17	DATE: 8-11-17	APPROVED BY:	VENDOR P/N:	PART NUMBER: LP-003B
SCALE: 3/8				WEIGHT: 41.445 lbs
				SHEET 1 OF 1

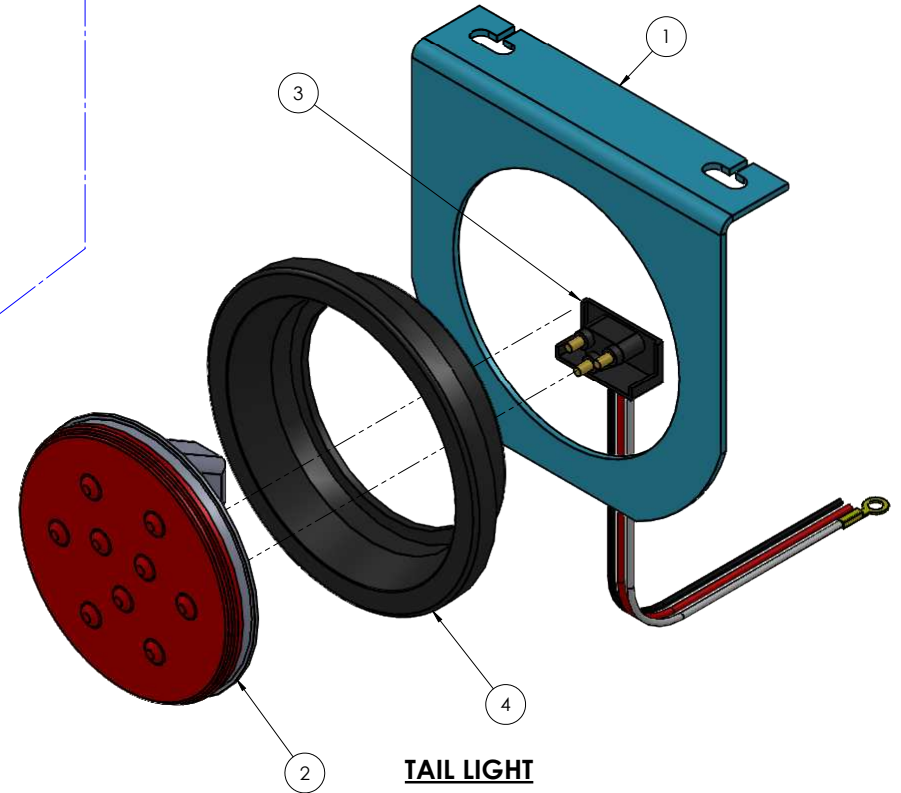
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	391110	MOUNT PLATE, CLEARANCE LIGHT
2	1	4680	LIGHT, CLEARANCE, 2" RND RED, 12V
3	1	4682A	GROMMET, RUBBER, 2" RND LIGHT
4	1	4688A	DEFLECTOR MOUNT, 2" RND LIGHT
5	1	4703	CONNECTOR PLUG, 2-WIRE PRONG
6	1	4681	LIGHT, CLEARANCE, 2" RND AMBER, 12V
7	2	10032	SCREW, PH, SELF TAP, #10 x 3/4" LG.



OPTIONAL LIGHT COLOR

DEFLECTOR LIGHT

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	21248	LIGHT BRACKET, 4" ROUND
2	1	4704	TAIL LIGHT, 4" RND RED, 12V
3	1	4695	CONNECTOR PLUG, 3-WIRE PRONG
4	1	4690	GROMMET, RUBBER, 4" RND LIGHT



TAIL LIGHT

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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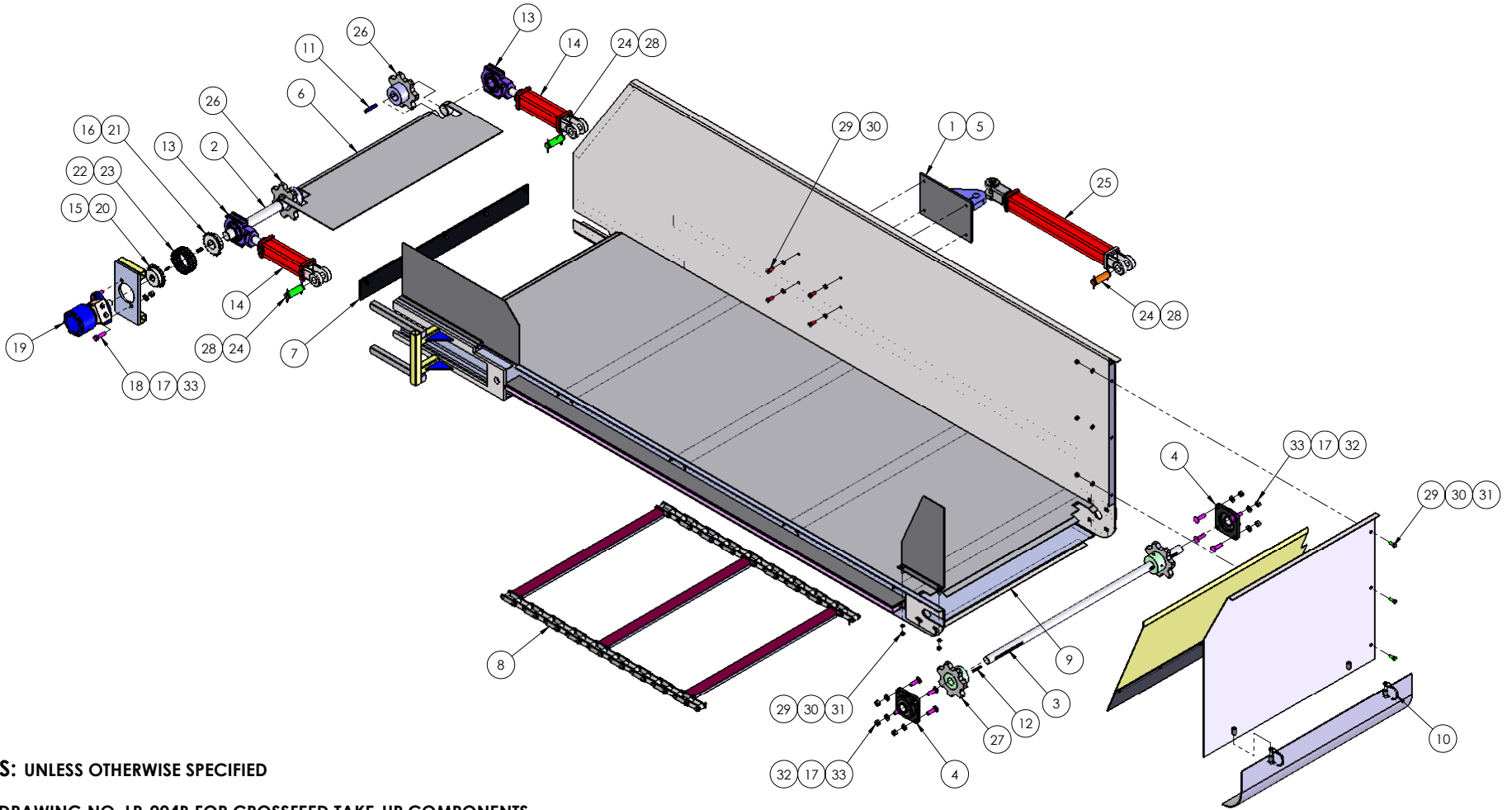
DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION MIXER BODY OPTIONS - II
MATERIAL P/N: SEE BOM		JOB #:		
DRAWN BY: 8-15-17	DATE	NAME	FINISH:	SIZE: C PART NUMBER: LP-003C SCALE: 3/4" = 1" WEIGHT: 2.496 lbs SHEET 1 OF 1
DESIGNED BY: 8-15-17	DATE	ACCLURE	VENDOR:	
APPROVED BY:	DATE	NAME	VENDOR P/N:	

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	392027Mc	RAM MOUNT PLATE
2	1	391055	DRIVE SHAFT
3	1	391056	IDLER SHAFT
4	2	2073	BEARING, 4-HOLE FLANGE, 1-1/4" I.D.
5	1	391051	RAM MOUNT
6	1	391121	TAKE-UP PLATE
7	1	391200	EXCESS WIPER
8	1	392030	CHAIN ASSEMBLY
9	1	5654	PIANO HINGE, 31" LG.
10	2	4125	GUARD PIN
11	2	3693	KEY, SQ. 3/8" x 2 1/2" LG.

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
12	2	3687	KEY, SQ. 1/4" x 2" LG.
13	2	2105	BEARING, TAKE-UP 1-1/2"
14	2	7925	CYLINDER, HYDRAULIC, 2" x 6"
15	1	7879B	KEY, WOODRUFF- 1/4" x 1"
16	1	3694	KEY, SQ. 3/8" x 1 1/4" LG.
17	10	10398	WASHER, LOCK- 1/2"
18	2	10416	BOLT- 1/2" NC GRD.5 x 1 3/4" LG.
19	1	7965	MOTOR, HYDRAULIC
20	1	2742	SPROCKET, 50-B-18 x 1.00" I.D.
21	1	2746	SPROCKET, 50-B-18 x 1.50" ID
22	1	6704	CHAIN, #50-2 CON-LINK

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
23	1	6703	CHAIN, 50-2 DRIVE (.95 FT LG.)
24	4	7928	CLEVIS PIN, CYLINDER
25	1	8245	CYLINDER, HYDRAULIC 2" x 18"
26	2	27048	SPROCKET, FLOOR DRIVE - D667X
27	2	27080	SPROCKET, 1-1/4" ID - D667X
28	8	11215	COITER PIN, 3/16" x 2 1/2" LG.
29	9	10181	BOLT- 3/8"-16 NC GRD.5 x 1"
30	9	10178	WASHER, 3/8" LOCK
31	5	10170	NUT- 3/8" NC
32	8	10412	BOLT, CARRIAGE- 1/2" NC x 1 3/4" LG.
33	10	10390	NUT 1/2" NC



NOTES: UNLESS OTHERWISE SPECIFIED

1 -SEE DRAWING NO. LP-004B FOR CROSSFEED TAKE-UP COMPONENTS.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

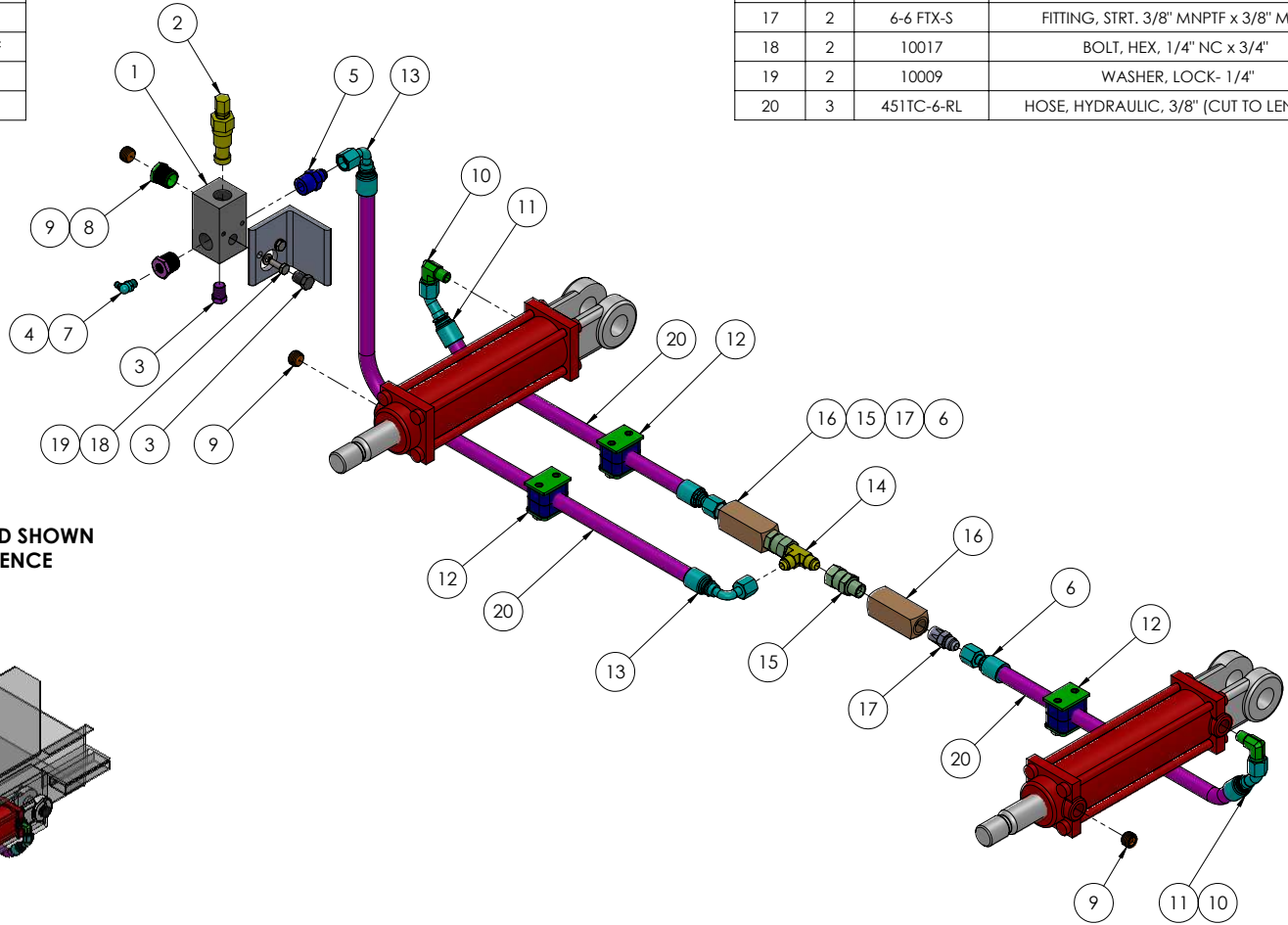
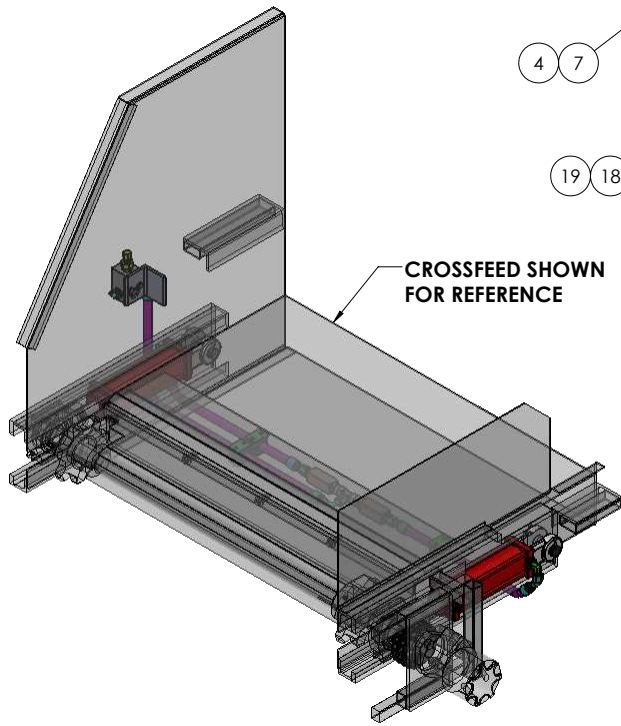
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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION CROSSFEED, 36" HYDRAULIC CHAIN
SEE BOM		JOB #:			
DRAWN BY:	DATE:	NAME:	MATERIAL FIN:	SITE:	
DESIGNED BY:	DATE:	APPROVED BY:	VENDOR:	PART NUMBER:	
			VENDOR FIN:	LP-004A	
				SCALE: 1:12	WEIGHT: 990.613 lbs
				SHEET 1 OF 1	

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	8074	RELIEF VALVE BODY
2	1	7892	RELIEF VALVE, 1/2"
3	2	1_4 HP-S	FITTING, PLUG, HEX HEAD, 1/4" NPTF
4	1	1/2 x 1/8 PTR-S	FITTING, REDUCER, 1/2" M NPTF x 1/8" FM NPTF
5	1	6-8 FTX-S	FITTING, STR, 3/8" MJIC x 1/2" MNPTF
6	2	10643-6-6	HOSE END, STRT, 3/8" x 3/8" FM JIC SWIVEL
7	1	11312	ZERK, GREASE, 90° x 1/8" NPTF
8	1	1_2 x 3_8 PTR-S	FITTING, REDUCER, 1/2" M NPTF x 3/8" F NPTF
9	3	7296BB	BREATHER, 3/8" NPTF
10	2	6-6 CTX-S	FITTING, 90°, 3/8" M JIC x 3/8" M NPTF

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
11	2	13743-6-6	HOSE END, 45°, 3/8" FM JIC x 3/8" HOSE, SWIVEL
12	3	8684	CLAMP, SINGLE HOSE, 3/8"
13	2	13943-6-6	HOSE END, 90°, 3/8" x 3/8" FM JIC, SWIVEL
14	1	6 JTX-S	FITTING, TEE, 3/8" MALE JIC
15	2	6-6 F6X-S	FITTING STR SWIVEL, 3/8" FJIC X 3/8" MNPTF
16	2	7897A	CHECK VALVE 3/8" C600S
17	2	6-6 FTX-S	FITTING, STRT, 3/8" MNPTF x 3/8" MJIC
18	2	10017	BOLT, HEX, 1/4" NC x 3/4"
19	2	10009	WASHER, LOCK- 1/4"
20	3	451TC-6-RL	HOSE, HYDRAULIC, 3/8" (CUT TO LENGTH)



NOTES: UNLESS OTHERWISE SPECIFIED

1 - TAKE-UP COMPONENTS USED ON ALL CROSSFEEDS.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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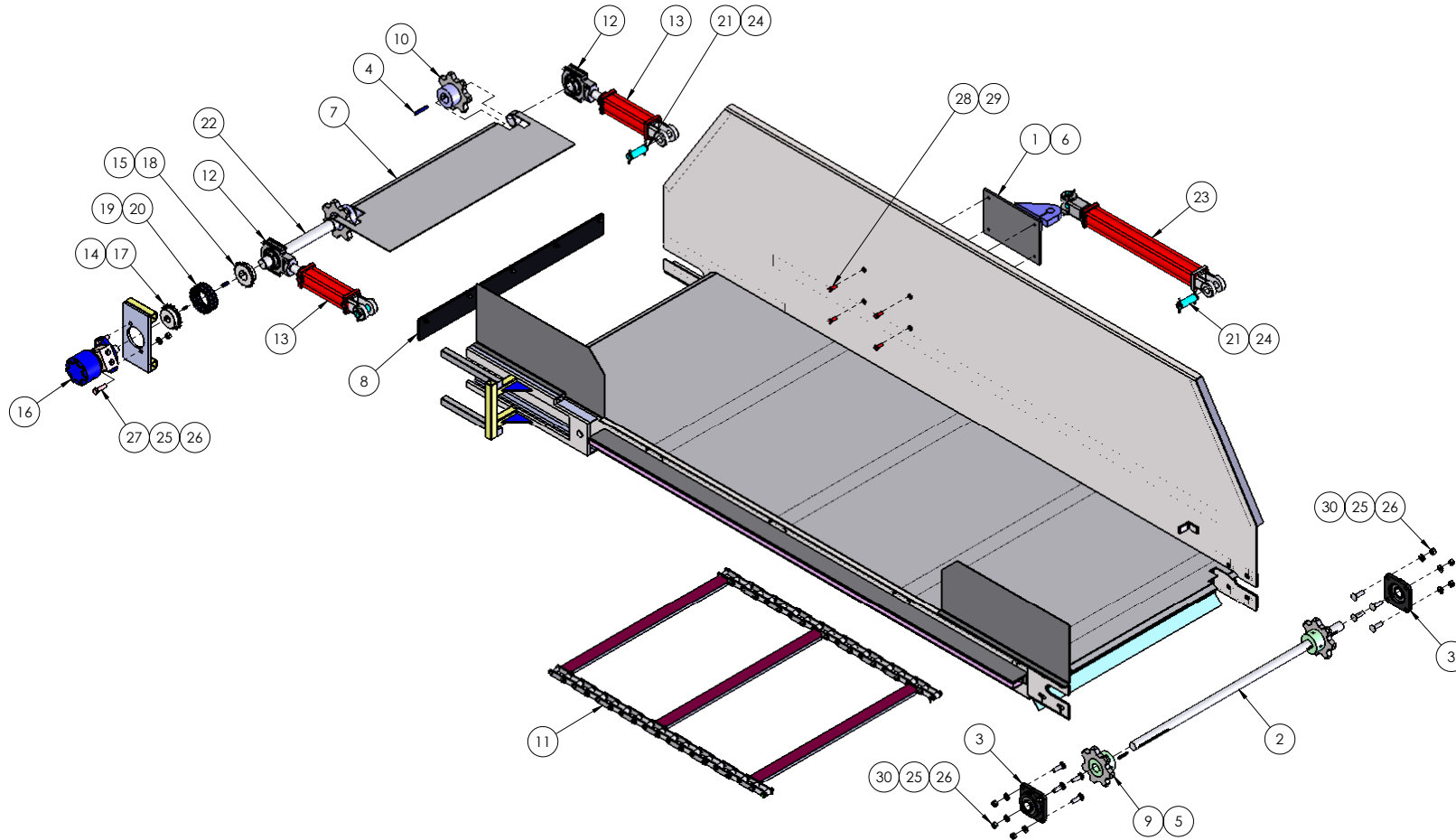
DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mig Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION CROSSFEED TAKE-UP COMPONENTS
MATERIAL:		SEE BOM			
DRAWN BY:	DATE	NAME	FINISH:	SIZE	PART NUMBER
DESIGNED BY:	9-18-17	MCCLURE	VENDOR:	C	LP-004B
APPROVED BY:			VENDOR P/N:	SCALE: 1:8	WEIGHT: 324.342 lbs
				SHEET 1 OF 1	

ITEM NO.	QTY.	PART NUMBER	F
1	1	392027Mc	RAM MOUNT PLATE
2	1	391056	IDLER SHAFT
3	2	2073	BEARING, 4-HOLE FLANGE, 1-1/4" I.D.
4	2	3693	KEY, SQ. 3/8" x 2 1/2" LG.
5	2	3687	KEY, SQ. 1/4" x 2" LG.
6	1	391051	RAM MOUNT
7	1	391121	TAKE-UP PLATE
8	2	391200	EXCESS WIPER
9	2	27080	IDLER SPROCKET, D667X
10	2	27048	DRIVE SPROCKET, D667X

ITEM NO.	QTY.	PART NUMBER	F
11	1	392030	CHAIN ASSEMBLY
12	2	2105	BEARING, TAKE-UP 1-1/2"
13	2	7925	CYLINDER, HYDRAULIC, 2" x 6"
14	1	7879B	KEY, WOODRUFF- 1/4" x 1"
15	1	3694	KEY, SQ. 3/8" x 1 1/4" LG.
16	1	7965	MOTOR, HYDRAULIC
17	1	2742	SPROCKET, 50-B-18 x 1.00" I.D.
18	1	2746	SPROCKET, 50-B-18 x 1.50" ID
19	1	6704	CHAIN, #50-2 CON-LINK
20	1	6703	CHAIN, 50-2 DRIVE (.95 FT LG.)

ITEM NO.	QTY.	PART NUMBER	F
21	4	7928	CLEVIS PIN, CYLINDER
22	1	391055	DRIVE SHAFT, 36" CROSSFEED
23	1	8245	CYLINDER, HYDRAULIC, 2" x 18"
24	8	11215	COITER PIN, 3/16" x 2 1/2" LG.
25	10	10398	WASHER, LOCK- 1/2"
26	10	10390	NUT 1/2" NC
27	2	10416	BOLT- 1/2" NC GRD.5 x 1 3/4" LG.
28	4	10181	BOLT- 3/8"-16 NC GRD.5 x 1"
29	4	10178	WASHER, 3/8" LOCK
30	8	10412	BOLT, CARRIAGE- 1/2" NC x 1 3/4" LG.



NOTES: UNLESS OTHERWISE SPECIFIED

1 -SEE DRAWING NO. LP-004B FOR CROSSFEED TAKE-UP COMPONENTS.

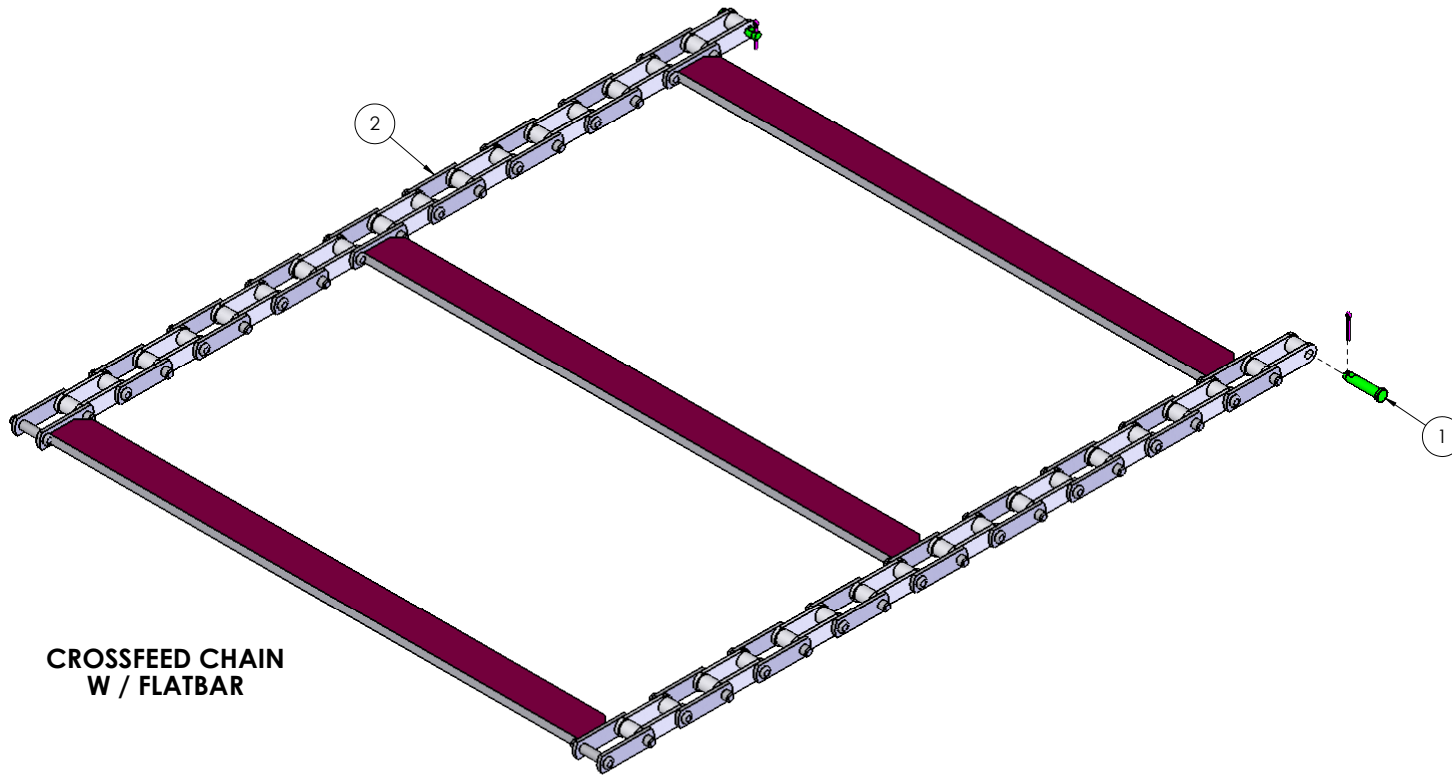
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL: ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL: ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION CROSSFEED, DUAL, 36" HYDRAULIC CHAIN
MATERIAL: SEE BOM		FINISH:		
DRAWN BY: 8-11-17	DATE: 8-11-17	ACCLURE	VENDOR:	SIZE: PART NUMBER
APPROVED BY:			VENDOR P/N:	C LP-005
SCALE: 1:12			WEIGHT: lbs	REV: - SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	6762	C-77 CHAIN - PIN & KEY
2	1	392030	CHAIN ASSEMBLY



**CROSSFEED CHAIN
W / FLATBAR**

NOTES: UNLESS OTHERWISE SPECIFIED

1 - CROSSFEED CHAIN TYPE IS C-77 CHAIN.

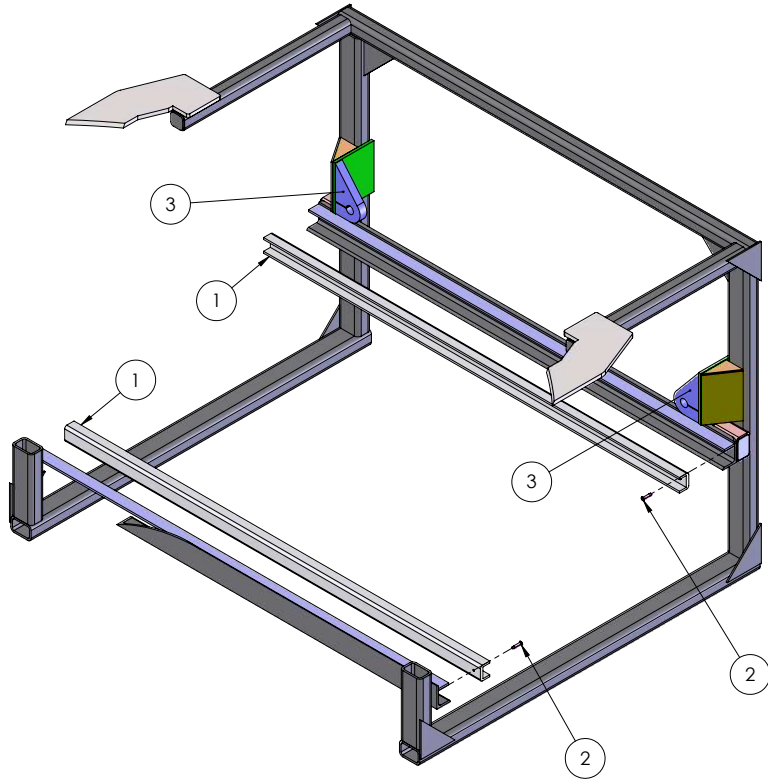
**NOTE: UNIT SERIAL # NEEDED
FOR ALL PART ORDERS**

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DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION CHAIN, 36" CROSSFEED W/FLATBAR	
		MATERIAL: SEE BOM			
DRAWN BY:	8-11-17	ACCLURE	FINISH:	SIZE:	PART NUMBER
DESIGNED BY:	8-11-17		VENDOR:	C	LP-006
APPROVED BY:			VENDOR P/N:	SCALE: 1:4	WEIGHT: 41.28 lbs
					REV.:
					SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	7797	CHAN., UHMW- 1/4" x 2' x 1 3/8" x 61 1/4" LG.
2	2	10025	SCREW, TORQUE SELF TAP, 1/4" NC x 1 1/4" LG.
3	2	391051	RAM MNT. LOW PROFILE CROSSFEED

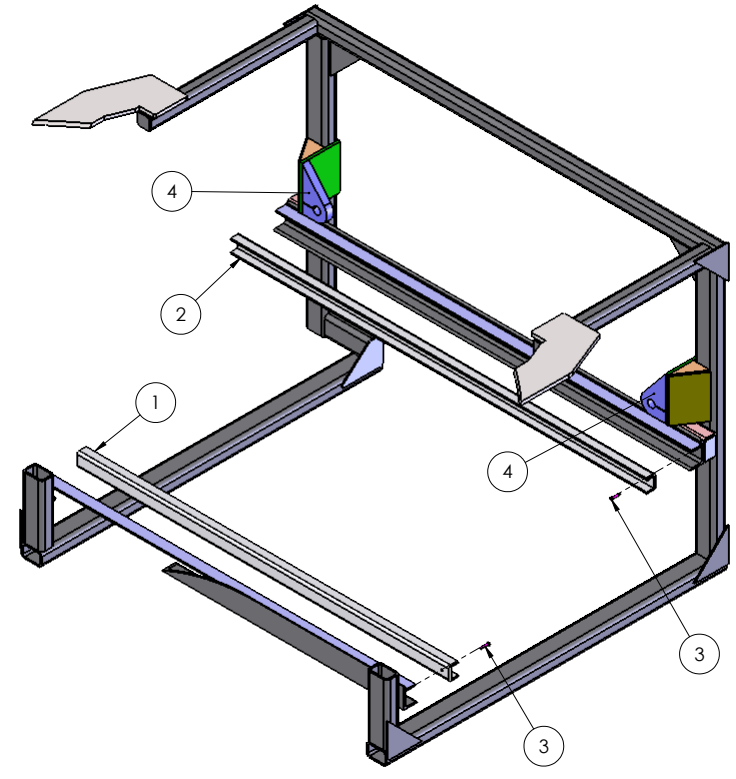


NOTES: UNLESS OTHERWISE SPECIFIED

1 - FOR A LEFT OR RIGHT HAND CROSSFEED,
TO ORDER COMPLETE CRADLE ASSEMBLY, USE PART NO. LP-6002.

**NOTE: UNIT SERIAL # NEEDED
FOR ALL PART ORDERS**

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7797	CHAN., UHMW- 1/4" x 2' x 1 3/8" x 54 3/4" LG.
2	1	7797	CHAN., UHMW- 1/4" x 2' x 1 3/8" x 61 1/4" LG.
3	2	10025	SCREW, TORQUE SELF TAP, 1/4" NC x 1 1/4" LG.
4	2	391051	RAM MNT. LOW PROFILE CROSSFEED



NOTES: UNLESS OTHERWISE SPECIFIED

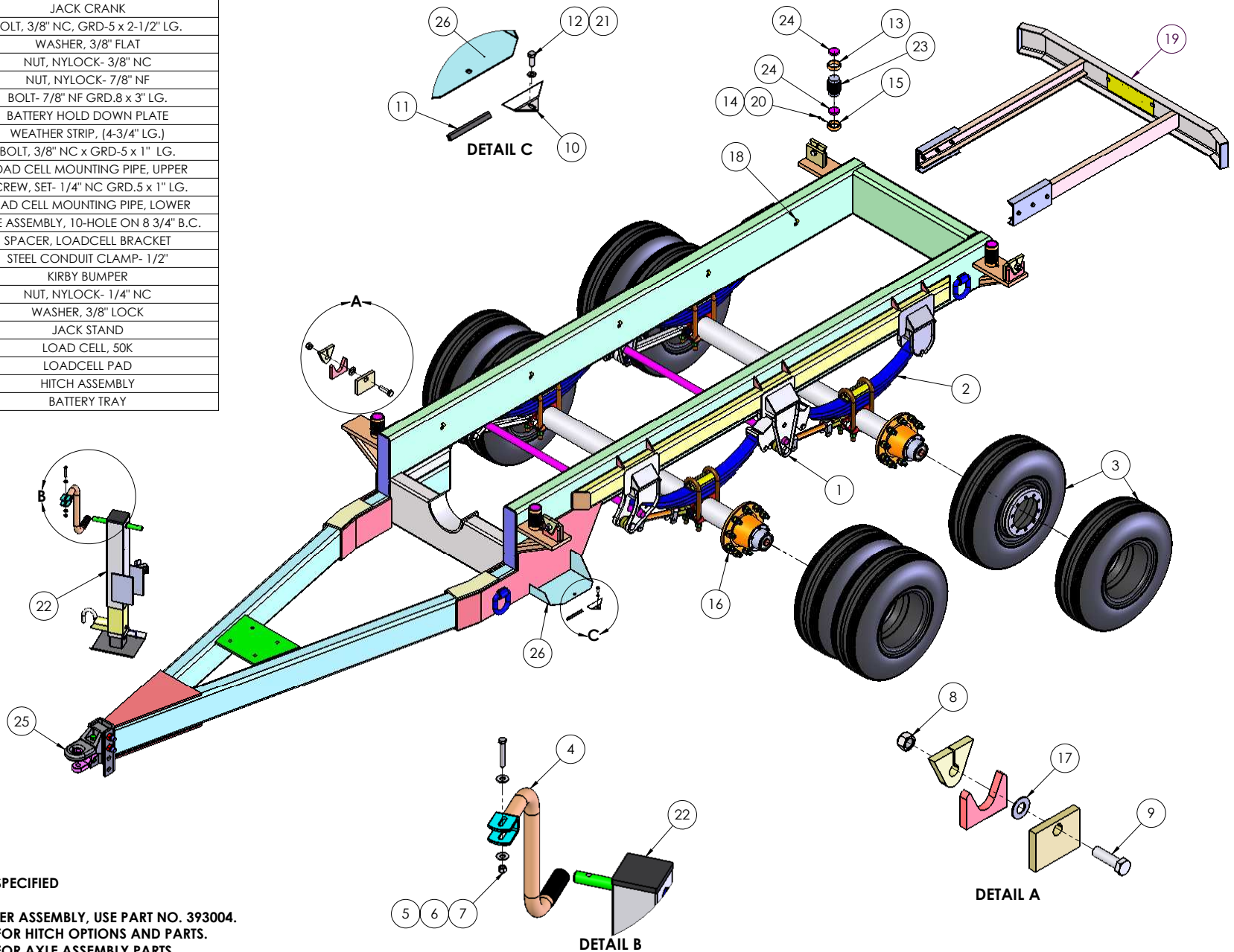
1 - FOR A DUAL DIRECTION CROSSFEED,
TO ORDER COMPLETE CRADLE ASSEMBLY, USE PART NO. LP-6005.

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DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

Notes:		Kirby Mig Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION CRADLE, CROSSFEED
MATERIAL: SEE BOM		FINISH:			
DRAWN BY: 8-10-17	DATE: 8-10-17	NAME: ACCURE	VENDOR:	SIZE: C	PART NUMBER: LP-007
DESIGNED BY:	APPROVED BY:	VENDOR P/N:	SCALE: 1:10	WEIGHT: 266.428 lbs	REV: -
					SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	5863	SUSPENSION, TANDEM AXLE ASSY.
2	4	5864	SPRING, 3-LEAF, 11,000 LBS
3	8	6435	TIRE & WHEEL ASSEMBLY
4	1	5574	JACK CRANK
5	1	10211	BOLT, 3/8" NC, GRD-5 x 2-1/2" LG.
6	2	10179	WASHER, 3/8" FLAT
7	1	10173	NUT, NYLOCK- 3/8" NC
8	4	10742	NUT, NYLOCK- 7/8" NF
9	4	10762	BOLT- 7/8" NF GRD.8 x 3" LG.
10	1	21272	BATTERY HOLD DOWN PLATE
11	1	6530B	WEATHER STRIP, (4-3/4" LG.)
12	1	10181	BOLT, 3/8" NC x GRD-5 x 1" LG.
13	4	21313	LOAD CELL MOUNTING PIPE, UPPER
14	4	10015	SCREW, SET- 1/4" NC GRD.5 x 1" LG.
15	4	021313-2	LOAD CELL MOUNTING PIPE, LOWER
16	2	SEE NOTE-3	AXLE ASSEMBLY, 10-HOLE ON 8 3/4" B.C.
17	4	21257	SPACER, LOADCELL BRACKET
18	13	5496	STEEL CONDUIT CLAMP- 1/2"
19	1	LP-0027	KIRBY BUMPER
20	4	10002	NUT, NYLOCK- 1/4" NC
21	1	10178	WASHER, 3/8" LOCK
22	1	5573	JACK STAND
23	4	5299-50k	LOAD CELL, 50K
24	8	5332	LOADCELL PAD
25	1	SEE NOTE 2	HITCH ASSEMBLY
26	1	22041	BATTERY TRAY



NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER COMPLETE TRAILER ASSEMBLY, USE PART NO. 393004.
- 2 - SEE DRAWING NO. LP-013 FOR HITCH OPTIONS AND PARTS.
- 3 - SEE DRAWING NO. LP-012 FOR AXLE ASSEMBLY PARTS.

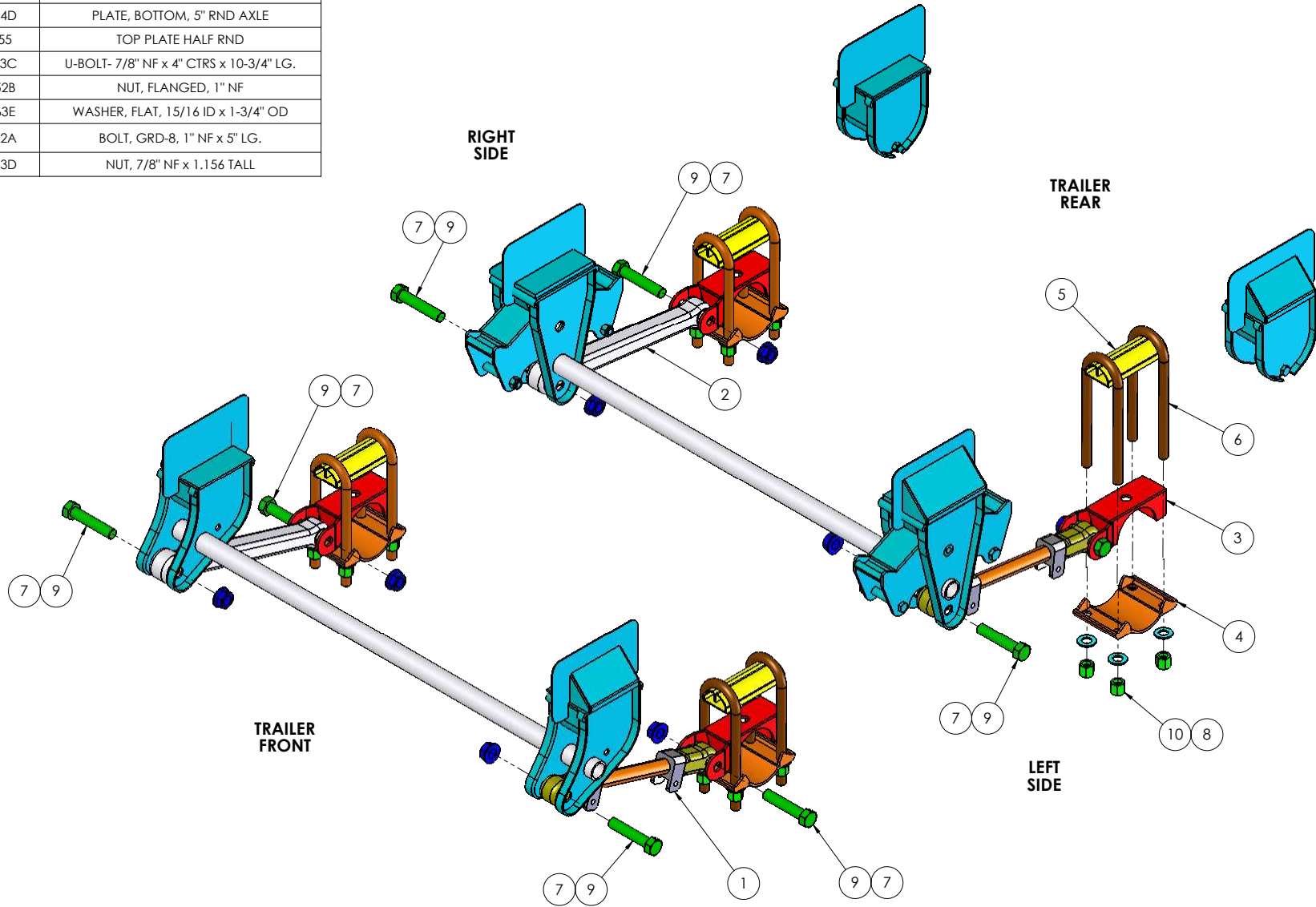
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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 TOLERANCES:
 FRACTIONAL: ±
 ANGULAR: MACH ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-9278 FX (209)723-3941			
		JOB #:			
		MATERIAL:		SIZE	
DRAWN BY: 10/9/2020		NAME: B. SILVA		PART NUMBER: LP-008A	
DESIGNED BY: 10/9/2020		VENDOR:		REV.	
APPROVED BY:		VENDOR P/N:		SCALE: 1:1/4	
				WEIGHT: 4471.714 lbs	
				SHEET 1 OF 1	

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	5852	TORQUE ARM, ADJUSTABLE
2	2	5853	TORQUE ARM, NON-ADJUST
3	4	5864A	SPRING SEAT, 5" RND x 3/4" HT.
4	4	5864D	PLATE, BOTTOM, 5" RND AXLE
5	4	5855	TOP PLATE HALF RND
6	8	5863C	U-BOLT- 7/8" NF x 4" CTRS x 10-3/4" LG.
7	8	5852B	NUT, FLANGED, 1" NF
8	16	5863E	WASHER, FLAT, 15/16 ID x 1-3/4" OD
9	8	5852A	BOLT, GRD-8, 1" NF x 5" LG.
10	16	5863D	NUT, 7/8" NF x 1.156 TALL



NOTES: UNLESS OTHERWISE SPECIFIED

1 - TO ORDER COMPLETE SUSPENSION ASSEMBLY, USE PART NO. 5863.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

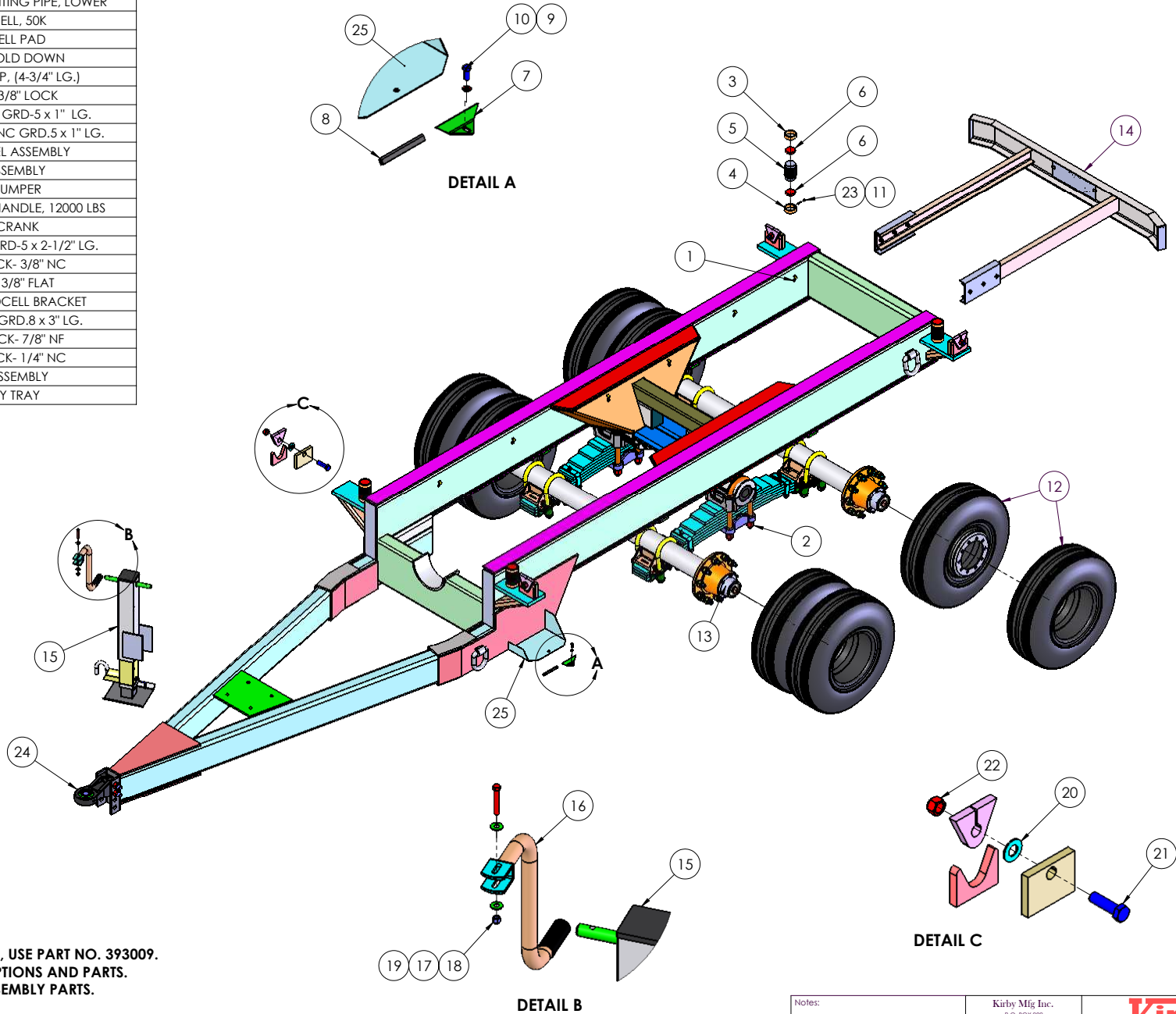
Notes:		DATE		NAME	
DRAWN BY:	8-11-17	ACCLURE	FINISH:		
DESIGNED BY:	8-11-17		VENDOR:		
APPROVED BY:			VENDOR P/N:		

Kirby Mfg Inc.
 P.O. BOX 989
 MERCED CA 95340
 PH (209)723-0778
 FX (209)723-3941

JOB #:
 MATERIAL:
 SEE BOM

		DESCRIPTION	
		SUSPENSION, TANDEM RUNNING GEAR	
SIZE	PART NUMBER	REV.	
C	LP-008B	•	
SCALE: 1:7	WEIGHT: 368.324 lbs	SHEET 1 OF 1	

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	15	5496	CONDUIT CLAMP- 1/2"
2	1	5869	SUSPENSION, SINGLE POINT, 50K
3	4	21313	LOAD CELL MOUNTING PIPE, UPPER
4	4	021313-2	LOAD CELL MOUNTING PIPE, LOWER
5	4	5299-50k	LOAD CELL, 50K
6	8	5332	LOADCELL PAD
7	1	21272	BATTERY HOLD DOWN
8	1	6530B	WEATHER STRIP, (4-3/4" LG.)
9	1	10178	WASHER, 3/8" LOCK
10	1	10181	BOLT, 3/8" NC x GRD-5 x 1" LG.
11	4	10015	SCREW, SET- 1/4" NC GRD.5 x 1" LG.
12	8	6435	TIRE & WHEEL ASSEMBLY
13	2	SEE NOTE-3	AXLE ASSEMBLY
14	1	LP-0027	KIRBY BUMPER
15	1	5573	JACK STAND, W/HANDLE, 12000 LBS
16	1	5574	JACK CRANK
17	1	10211	BOLT, 3/8" NC, GRD-5 x 2-1/2" LG.
18	1	10173	NUT, NYLOCK- 3/8" NC
19	2	10179	WASHER, 3/8" FLAT
20	1	021257	SPACER, LOADCELL BRACKET
21	1	10762	BOLT- 7/8" NF GRD.8 x 3" LG.
22	1	10742	NUT, NYLOCK- 7/8" NF
23	4	10002	NUT, NYLOCK- 1/4" NC
24	1	SEE NOTE 2	HITCH ASSEMBLY
25	1	22041	BATTERY TRAY



NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER COMPLETE TRAILER ASSEMBLY, USE PART NO. 393009.
- 2 - SEE DRAWING NO. LP-013 FOR HITCH OPTIONS AND PARTS.
- 3 - SEE DRAWING NO. LP-012 FOR AXLE ASSEMBLY PARTS.

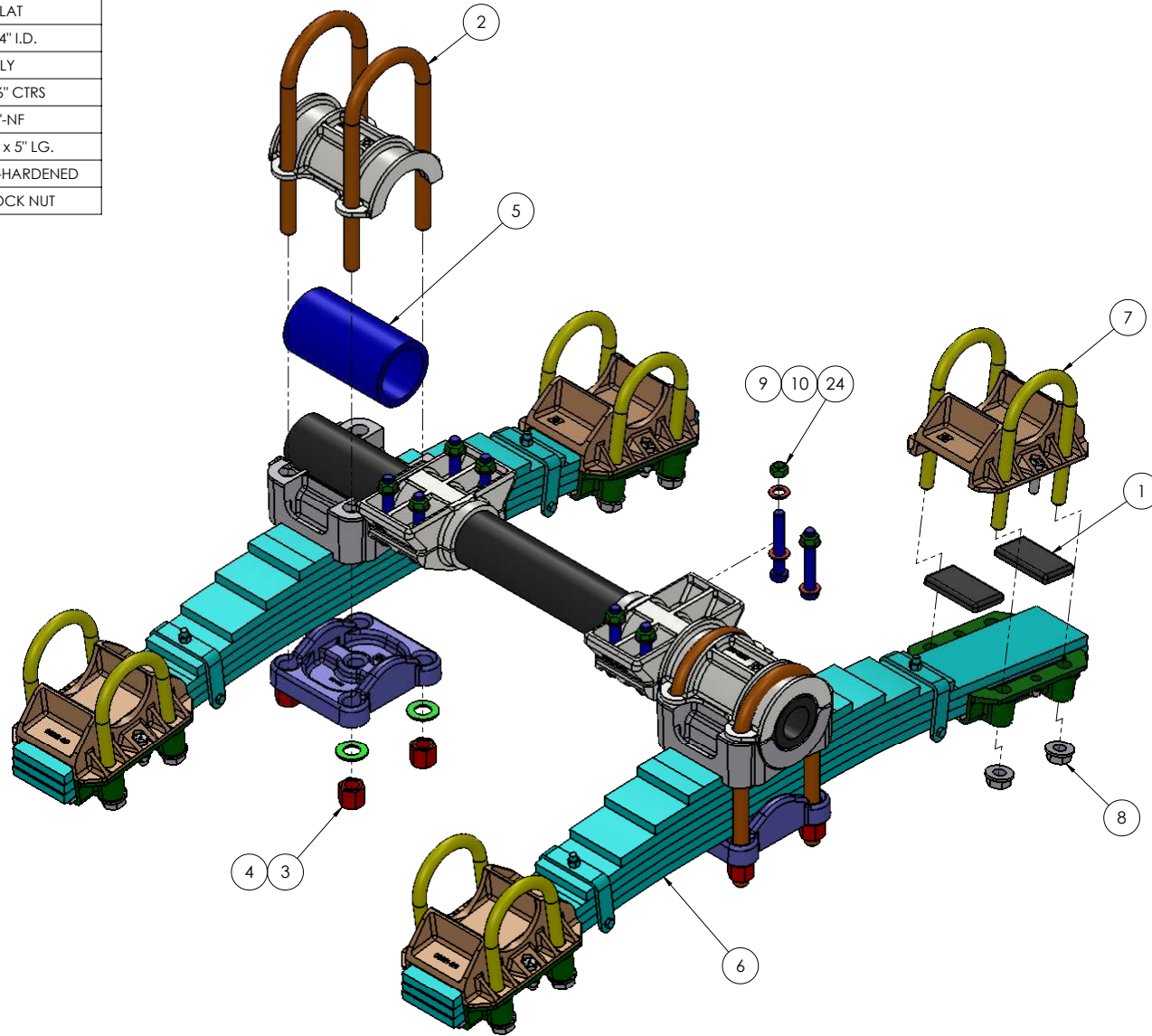
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

PROPRIETARY AND CONFIDENTIAL
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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc.		DESCRIPTION	
		P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		TRAILER, SINGLE POINT TANDEM AXLE	
		JOB #:		MATERIAL:	
		DRAWN BY: 10/12/2020		NAME: B. SILVA	
		DESIGNED BY: 10/12/2020		FINISH:	
		APPROVED BY:		VENDOR:	
				VENDOR P/N:	
				SCALE: 1:16	
				WEIGHT: 6442.266 lbs	
				SHEET 1 OF 1	

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	8	814-00	END PAD, NO HOLE
2	4	835-04	U-BOLT, CENTER, 1-1/8"-NF, 7" CTRS
3	8	836-00	NUT, 1-1/8 - 12NF
4	8	837 00	WASHER, 1-1/8" FLAT
5	2	890-00	BUSHING, CENTER, 4" I.D.
6	2	TRA-2744	SPRING ASSEMBLY
7	8	10064-02	U-BOLT, END, 1"-NF, 6" CTRS
8	16	10562-00	NUT, FLANGED, 1"-NF
9	8	10701	BOLT, 3/4" NC, GRD-8 x 5" LG.
10	16	10400	WASHER, FLAT, 3/4" THRU-HARDENED
24	8	10648	NUT, 3/4" NC STEEL LOCK NUT



NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER COMPLETE SUSPENSION ASSEMBLY, USE PART NO. 5869.
- 2 - ALL PARTS LISTED ARE SPECIAL ORDER, ALLOW 3 TO 5 DAYS TO ORDER.

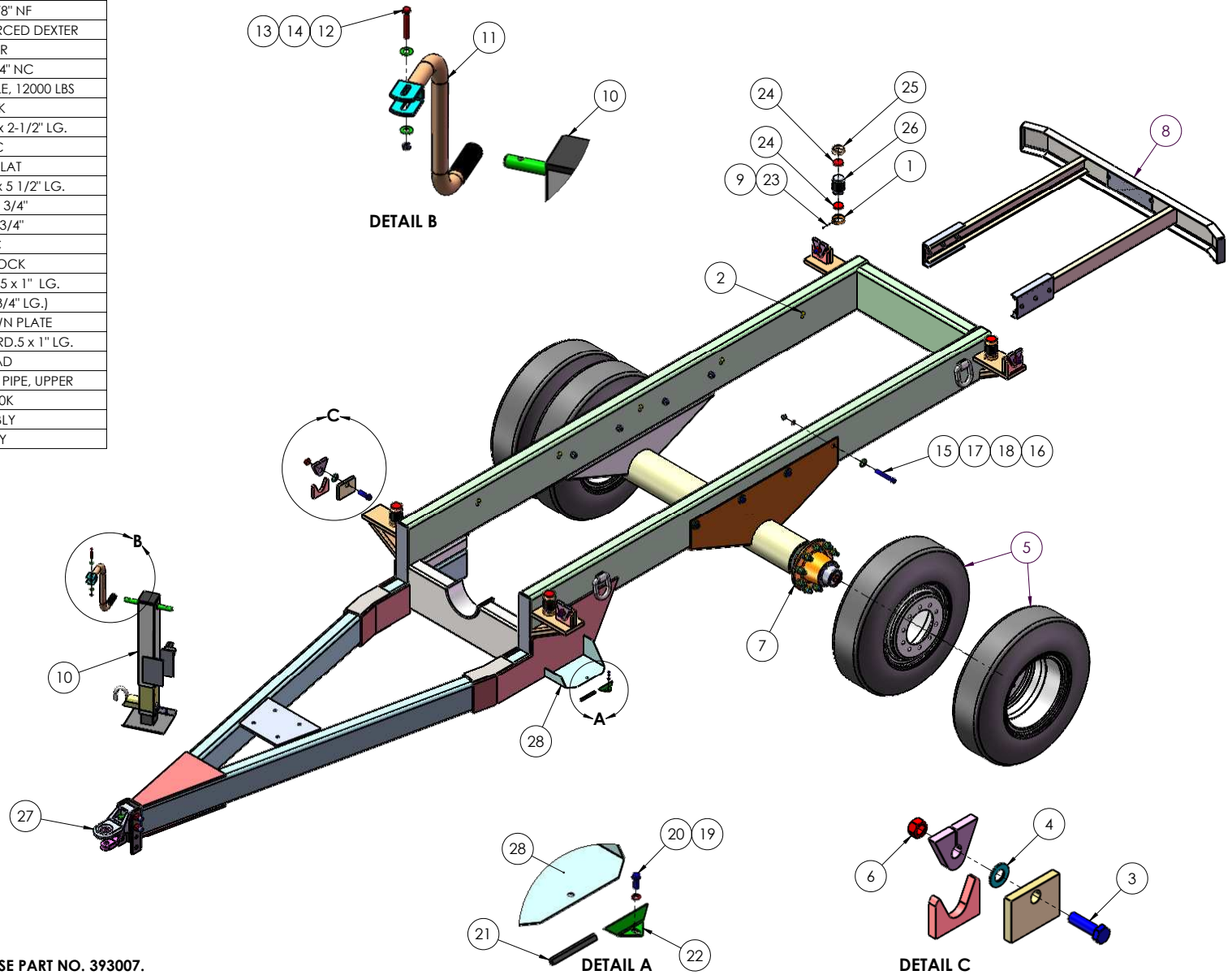
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL: ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL: ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION SUSPENSION, 900 SERIES SINGLE POINT, 50K
MATERIAL: SEE BOM		JOB #:			
DRAWN BY:	DATE:	NAME:	FINISH:	SIZE:	PART NUMBER:
DESIGNED BY:	8-11-17	ACCLURE	VENDOR:	C	LP-009B
APPROVED BY:	8-11-17		VENDOR P/N:	SCALE: 1:4	WEIGHT: 1273.179 lbs
					REV: -
					SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	4	021313-2	LOAD CELL MOUNTING PIPE, LOWER
2	13	5496	CONDUIT CLAMP
3	4	10762	BOLT- 7/8" NF GRD.8 x 3" LG.
4	4	21257	SPACER, LOADCELL BRACKET
5	4	6468	TIRE & WHEEL
6	4	10742	NUT, NYLOCK- 7/8" NF
7	1	392056	AXLE ASSEMBLY, REINFORCED DEXTER
8	1	LP-0027	KIRBY BUMPER
9	4	10002	NUT, NYLOCK- 1/4" NC
10	1	5573	JACK STAND, W/HANDLE, 12000 LBS
11	1	5574	JACK CRANK
12	1	10211	BOLT, 3/8" NC, GRD-5 x 2-1/2" LG.
13	1	10170	NUT- 3/8" NC
14	2	10179	WASHER, 3/8" FLAT
15	8	10698	BOLT, 3/4" NC GRD-5 x 5 1/2" LG.
16	8	10658	WASHER, LOCK- 3/4"
17	8	10659	WASHER, FLAT- 3/4"
18	8	10650	NUT 3/4" NC
19	1	10178	WASHER, 3/8" LOCK
20	1	10181	BOLT, 3/8" NC x GRD-5 x 1" LG.
21	1	6530B	WEATHER STRIP, (4-3/4" LG.)
22	1	021272	BATTERY HOLD DOWN PLATE
23	4	10015	SCREW, SET- 1/4" NC GRD.5 x 1" LG.
24	8	5332	LOADCELL PAD
25	4	21313	LOAD CELL MOUNTING PIPE, UPPER
26	4	5299-50k	LOAD CELL, 50K
27	1	SEE NOTE 2	HITCH ASSEMBLY
28	1	22041	BATTERY TRAY



NOTES: UNLESS OTHERWISE SPECIFIED

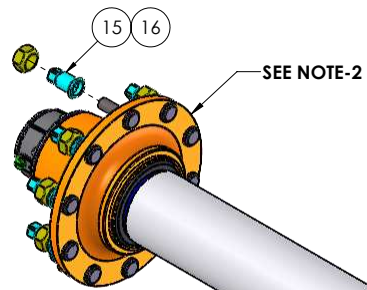
- 1 - TO ORDER COMPLETE TRAILER ASSEMBLY, USE PART NO. 393007.
- 2 - SEE DRAWING NO. LP-013 FOR HITCH OPTIONS AND PARTS.
- 3 - SEE DRAWING NO. LP-010B FOR AXLE ASSEMBLY PARTS.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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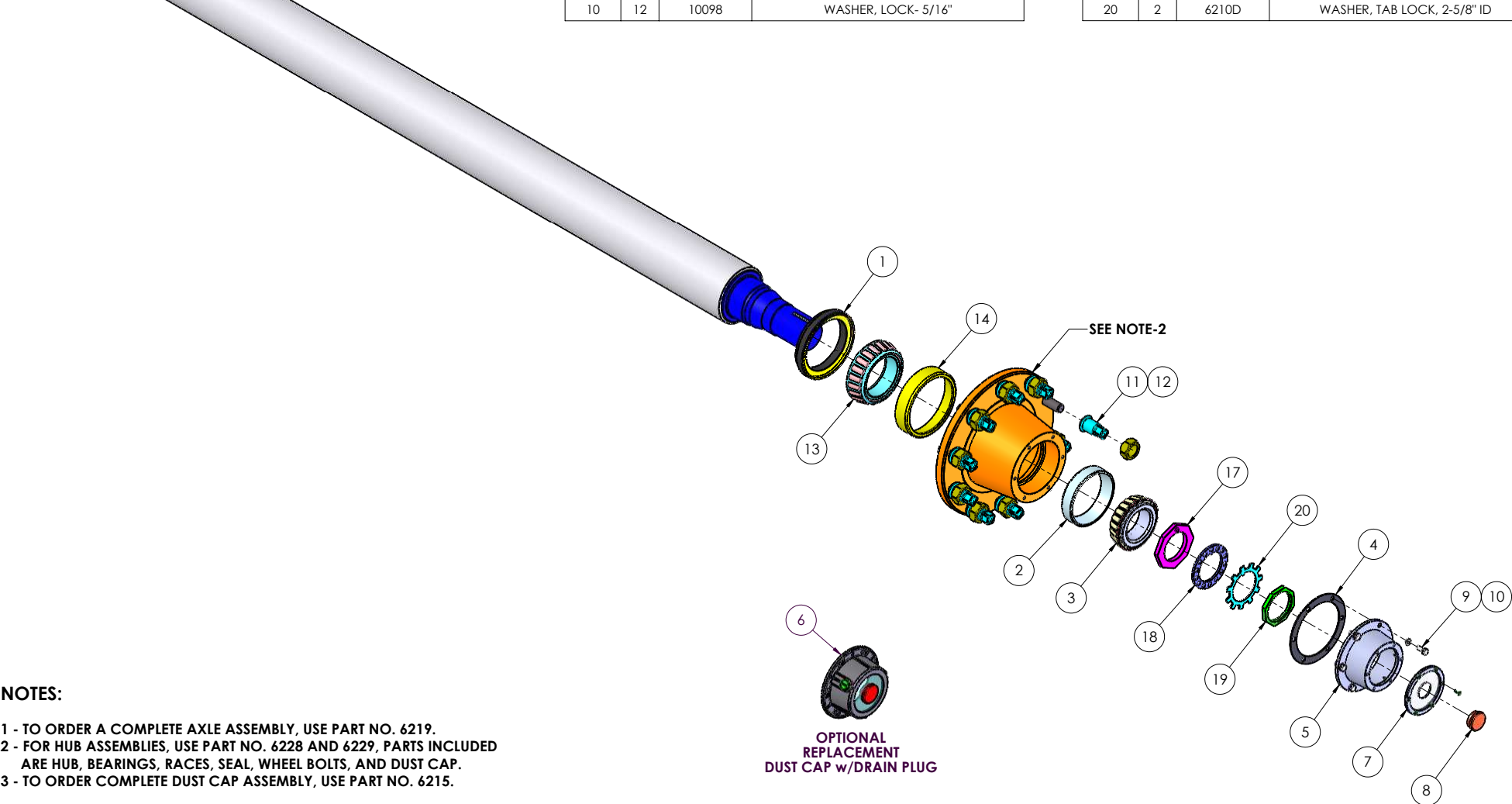
DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-1078 FX (209)723-3941			DESCRIPTION TRAILER, SINGLE AXLE
JOB #:		MATERIAL:			
DRAWN BY:	DATE	NAME	FINISH:	SIZE	
DESIGNED BY:	10/13/2020	B. SILVA	VENDOR:	C	PART NUMBER
APPROVED BY:			VENDOR P/N:	SCALE: 1:16	LP-010A
				WEIGHT: 3501.714 lbs	SHEET 1 OF 1



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	6216	SEAL, 10-BOLT HUB
2	2	6212	RACE, BEARING, 10-HOLE HUB, OUTER
3	2	6211	BEARING, TAPPED, 2-3/4" ID, OUTER
4	2	6215a	GASKET- 10 HOLE HUB OIL CAP
5	2	SEE NOTE-3	DUST CAP, HUB
6	2	6215D	DUST CAP w/ DRAIN PLUG, (OPTIONAL)
7	2	6215B	CAP, OIL WINDOW
8	2	6215C	PLUG, OIL CAP WINDOW
9	12	10102	BOLT- 5/16" NC GRD.5 x 3/4" LG.
10	12	10098	WASHER, LOCK- 5/16"

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
11	10	6069	SPACER NUT, LH DUAL WHEEL - INNER
12	10	6067	NUT, LH DUAL WHEEL - OUTER
13	2	6213	BEARING, TAPPED, 3-1/2" ID - INNER
14	2	6214	RACE, BEARING, INNER, 10 HOLE HUB
15	10	6070	SPACER NUT, RH DUAL WHEEL - INNER
16	10	6068	NUT, RH DUAL WHEEL - OUTER
17	2	6210a	SPINDLE NUT- INNER
18	2	6210b	SPINDLE WASHER
19	2	6210c	SPINDLE NUT- OUTER
20	2	6210D	WASHER, TAB LOCK, 2-5/8" ID



NOTES:

- 1 - TO ORDER A COMPLETE AXLE ASSEMBLY, USE PART NO. 6219.
- 2 - FOR HUB ASSEMBLIES, USE PART NO. 6228 AND 6229, PARTS INCLUDED ARE HUB, BEARINGS, RACES, SEAL, WHEEL BOLTS, AND DUST CAP.
- 3 - TO ORDER COMPLETE DUST CAP ASSEMBLY, USE PART NO. 6215.

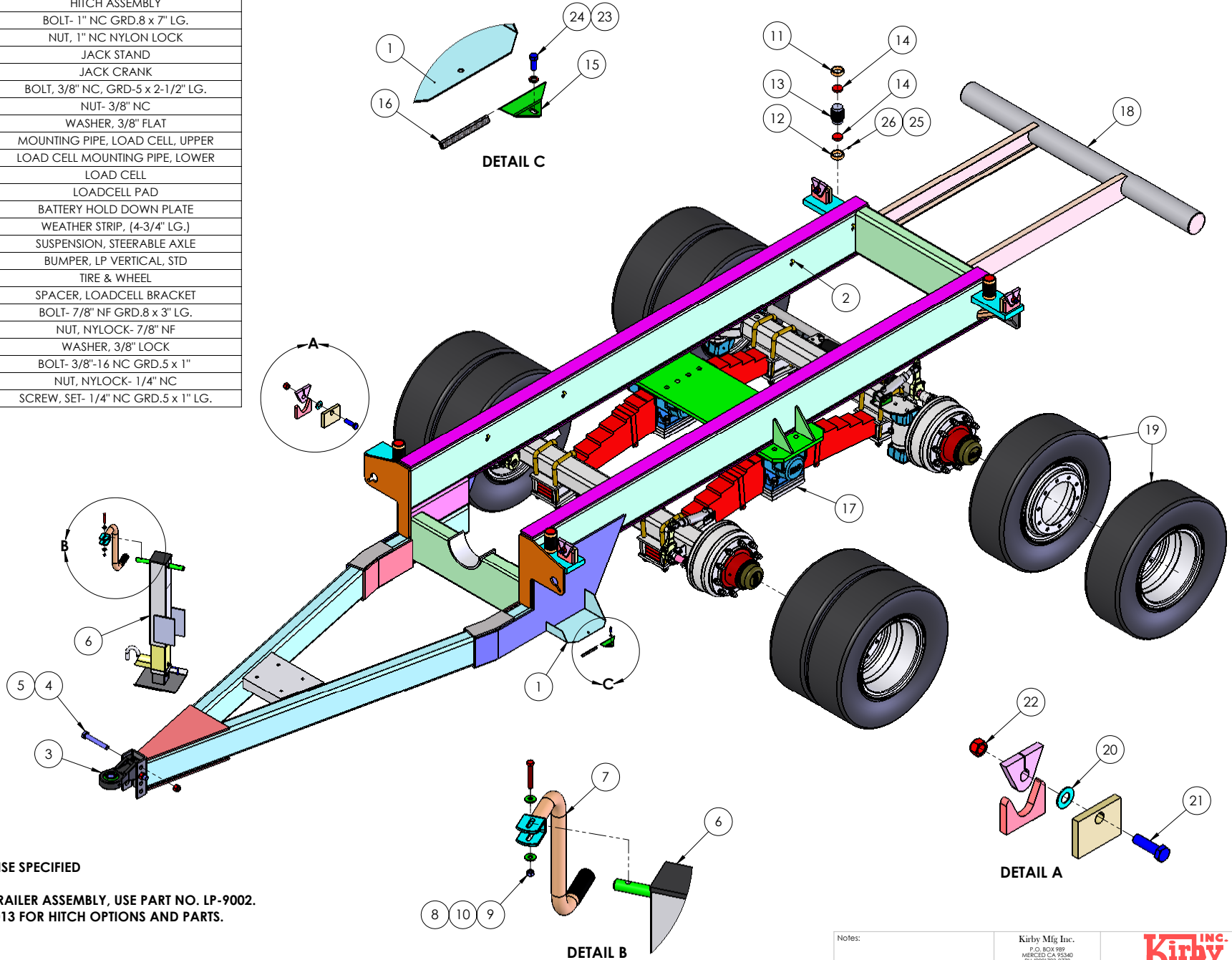
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			
		JOB #: MATERIAL: SEE BOM			
		DATE		DESCRIPTION	
DRAWN BY: 8-3-18		NAME: MCCLEURE		AXLE ASSEMBLY, 10-HOLE ON 1 1/4" B.C.	
DESIGNED BY: 8-3-18		VENDOR:		SIZE: C	
APPROVED BY:		VENDOR P/N:		PART NUMBER: LP-010B	
				SCALE: 1:4	
				WEIGHT: 356.801 lbs	
				SHEET 1 OF 1	

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	22041	BATTERY TRAY
2	11	5496	STEEL CONDUIT CLAMP- 1/2"
3	1	SEE NOTE-2	HITCH ASSEMBLY
4	2	10860	BOLT- 1" NC GRD.8 x 7" LG.
5	2	10802	NUT, 1" NC NYLON LOCK
6	1	5573	JACK STAND
7	1	5574	JACK CRANK
8	1	10211	BOLT, 3/8" NC, GRD-5 x 2-1/2" LG.
9	1	10170	NUT- 3/8" NC
10	2	10179	WASHER, 3/8" FLAT
11	4	021313	MOUNTING PIPE, LOAD CELL, UPPER
12	4	21313-2	LOAD CELL MOUNTING PIPE, LOWER
13	4	5299-50k	LOAD CELL
14	8	5332	LOADCELL PAD
15	1	21272	BATTERY HOLD DOWN PLATE
16	1	6530B	WEATHER STRIP, (4-3/4" LG.)
17	1	5881	SUSPENSION, STEERABLE AXLE
18	1	392017	BUMPER, LP VERTICAL, STD
19	8	6472	TIRE & WHEEL
20	4	21257	SPACER, LOADCELL BRACKET
21	4	10762	BOLT- 7/8" NF GRD.8 x 3" LG.
22	4	10742	NUT, NYLOCK- 7/8" NF
23	1	10178	WASHER, 3/8" LOCK
24	1	10181	BOLT- 3/8"-16 NC GRD.5 x 1"
25	4	10002	NUT, NYLOCK- 1/4" NC
26	4	10015	SCREW, SET- 1/4" NC GRD.5 x 1" LG.



NOTES: UNLESS OTHERWISE SPECIFIED

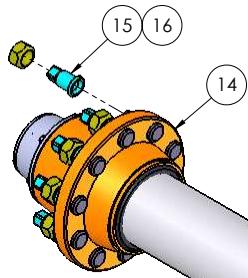
- 1 - TO ORDER COMPLETE TRAILER ASSEMBLY, USE PART NO. LP-9002.
- 2 - SEE DRAWING NO. LP-013 FOR HITCH OPTIONS AND PARTS.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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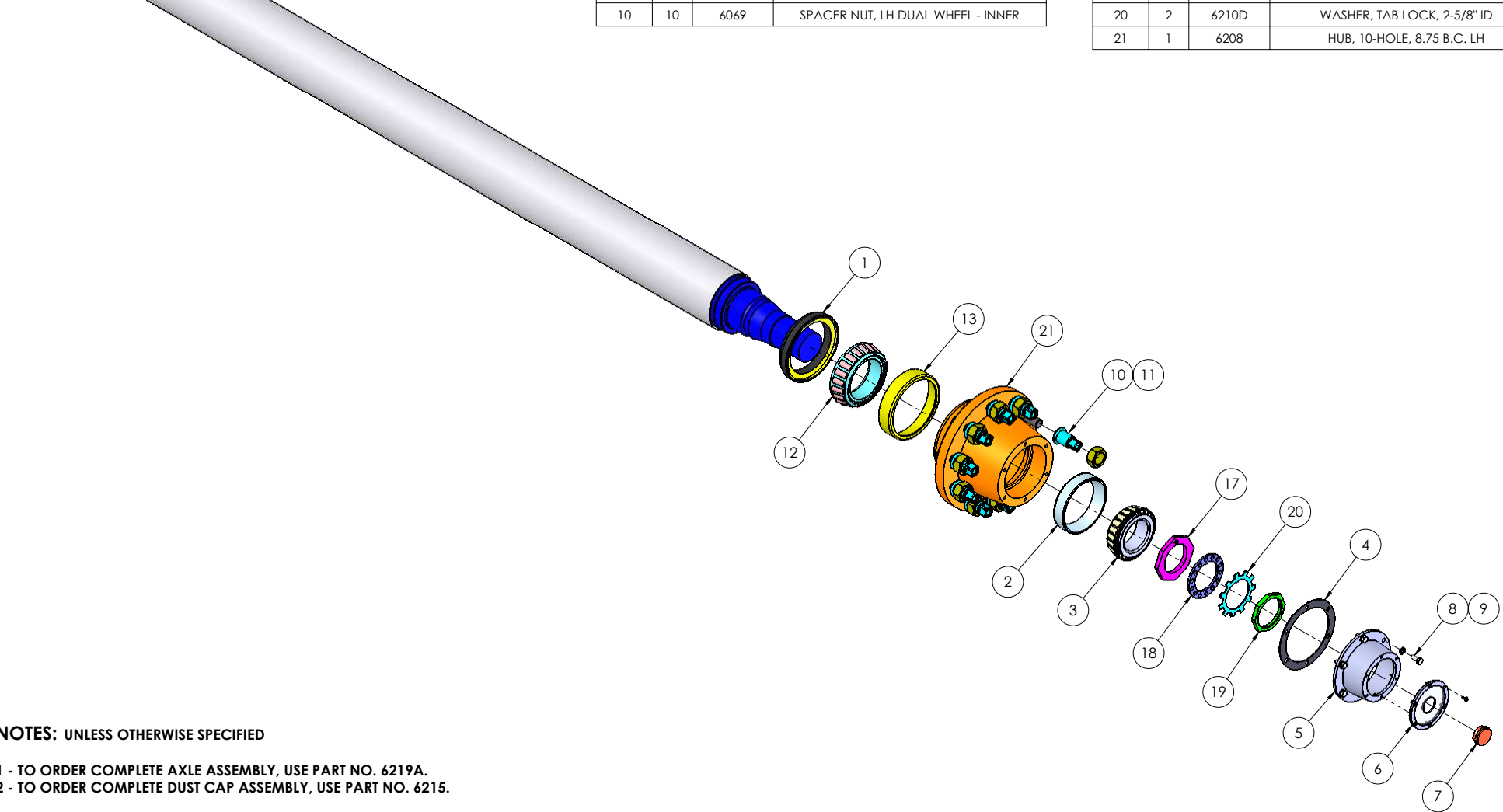
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 FRACTIONAL ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION TRAILER, LP STEERABLE AXLE
MATERIAL P/N:		SEE BOM			
JOB #:		FINISH:		SIZE:	
DRAWN BY:	8-11-17	ACCLURE		PART NUMBER:	LP-011
DESIGNED BY:		VENDOR:		REV.:	
APPROVED BY:		VENDOR P/N:		SCALE:	1:1/4
				WEIGHT:	6107.778 lbs
					SHEET 1 OF 1



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	6216	SEAL, 10-BOLT HUB
2	2	6212	RACE, BEARING, 10-HOLE HUB
3	2	6211	BEARING, TAPERED, 2-3/4" ID, OUTER
4	2	6215a	GASKET- 10 HOLE HUB OIL CAP
5	2	SEE NOTE-2	DUST CAP, HUB 10-HOLE
6	2	6215B	CAP, OIL WINDOW
7	2	6215C	PLUG, OIL CAP WINDOW
8	12	10102	BOLT- 5/16" NC GRD.5 x 3/4" LG.
9	12	10098	WASHER, LOCK- 5/16"
10	10	6069	SPACER NUT, LH DUAL WHEEL - INNER

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
11	10	6067	NUT, LH DUAL WHEEL - OUTER
12	2	6213	BEARING, TAPERED, 3-1/2" ID - INNER
13	2	6214	RACE, BEARING, INNER, 10 HOLE HUB
14	1	6209	HUB, 10-HOLE, 8.75 B.C. RH
15	10	6070	SPACER NUT, RH DUAL WHEEL - INNER
16	10	6068	NUT, RH DUAL WHEEL - OUTER
17	2	6210a	SPINDLE NUT- INNER
18	2	6210b	SPINDLE WASHER
19	2	6210c	SPINDLE NUT- OUTER
20	2	6210D	WASHER, TAB LOCK, 2-5/8" ID
21	1	6208	HUB, 10-HOLE, 8.75 B.C. LH



NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER COMPLETE AXLE ASSEMBLY, USE PART NO. 6219A.
- 2 - TO ORDER COMPLETE DUST CAP ASSEMBLY, USE PART NO. 6215.

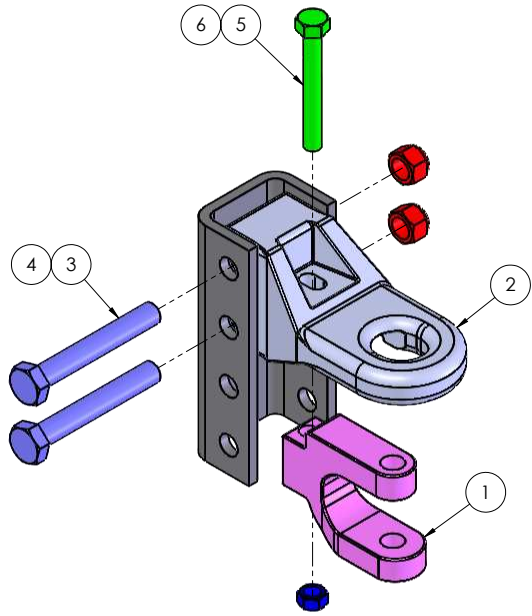
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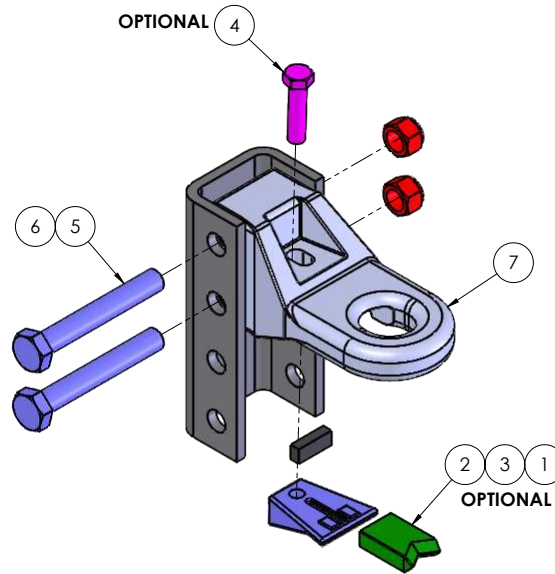
Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION AXLE ASSEMBLY, 10-HOLE ON 8 3/4" B.C.
JOB #:		MATERIAL: SEE BOM			
DRAWN BY:	DATE:	NAME:	FINISH:	SITE:	REV.:
DESIGNED BY:	8-11-17	MCCLURE	VENDOR:	C	•
APPROVED BY:	8-11-17		VENDOR P/N:	SCALE: 1:6	WEIGHT: 334.873 lbs
				PART NUMBER: LP-012	SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	5590B	CLEVIS, HITCH
2	1	5590A	HITCH BASE
3	2	10860	BOLT- 1" NC GRD.8 x 7" LG.
4	2	10802	NUT, 1" NC NYLON LOCK
5	1	5590D	BOLT, 3/4" NC GRD-8 x 6" LG.
6	1	5590E	NUT, LOCK- .750-10UNC HEX GR8



TO ORDER COMPLETE HITCH ASSEMBLY,
USE PART NO. 5590.

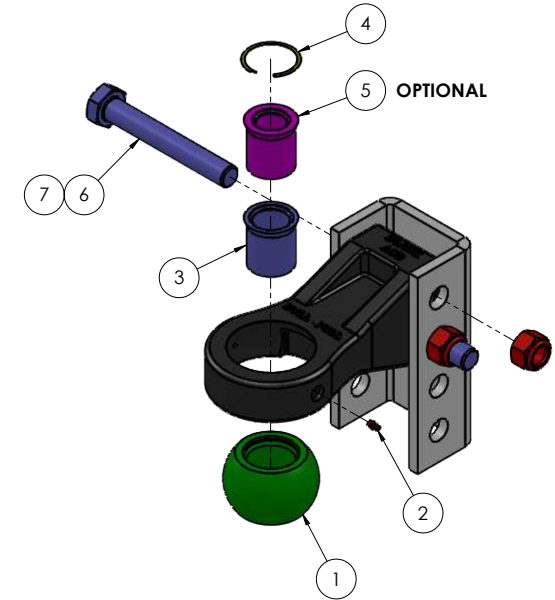
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	5590G	HITCH CUSHION, NEOPRENE
2	1	5590G	HITCH V-BLOCK
3	1	5590G	HITCH, TOP PLATE
4	1	10676	BOLT - 3/4" NC GR-5 x 3" LG.
5	2	10860	BOLT- 1" NC GRD.8 x 7" LG.
6	2	10802	NUT, 1" NC NYLON LOCK
7	1	5590A	HITCH BASE



OPTIONAL

OPTIONAL

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	5591A	HITCH BALL
2	2	11300	ZERK, GREASE- 1/4"-28 NF, STRAIGHT
3	1	5591B	HITCH BUSHING, 1-1/2" Ø PIN
4	1	5591F	SNAP RING, PULL BULL HITCH
5	1	5591E	HITCH BUSHING, 1-1/4" Ø PIN
6	2	10860	BOLT- 1" NC GRD.8 x 7" LG.
7	2	10802	NUT, 1" NC NYLON LOCK



TO ORDER COMPLETE HITCH ASSEMBLY,
USE PART NO. 5591.

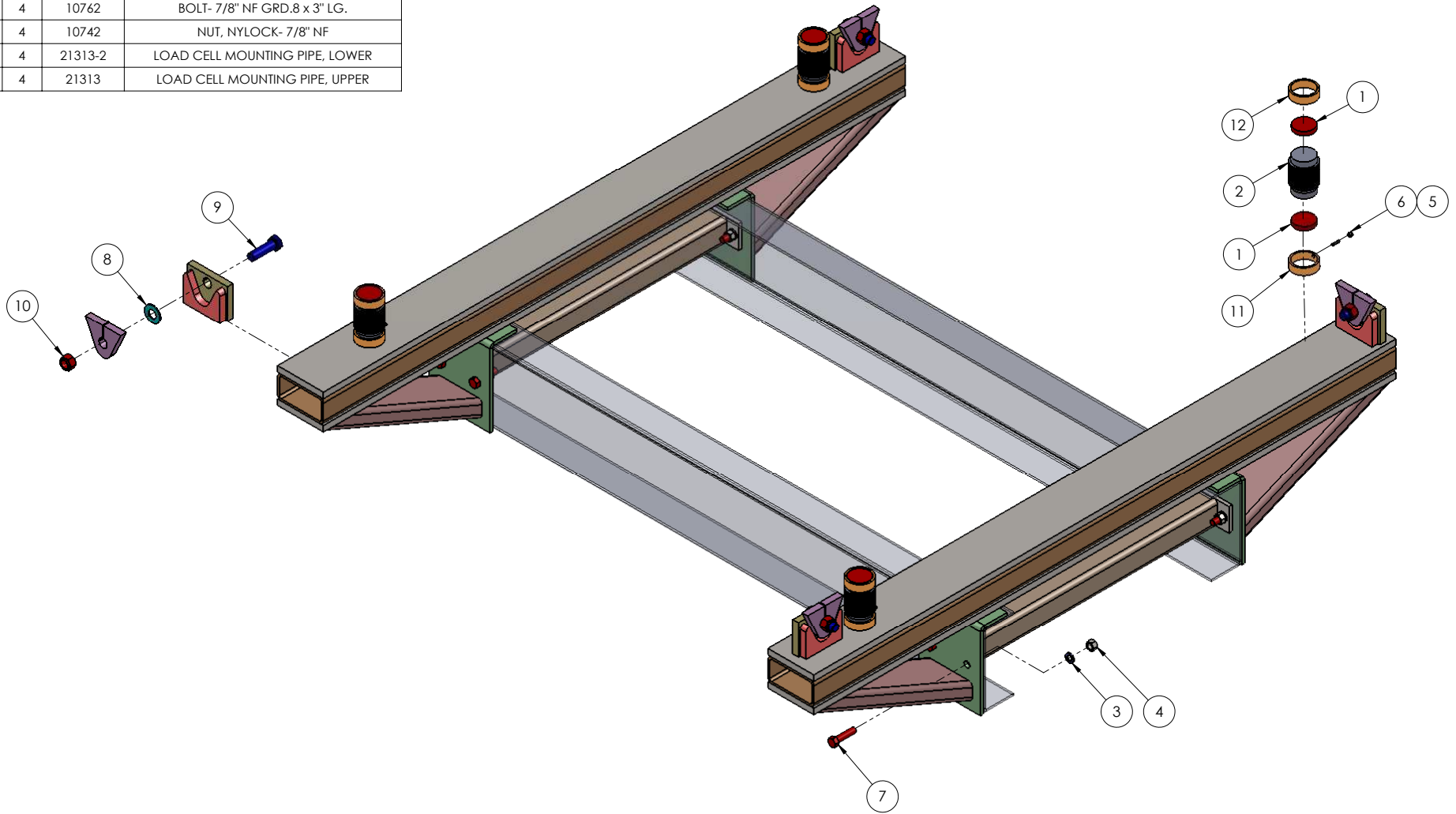
**NOTE: UNIT SERIAL # NEEDED
FOR ALL PART ORDERS**

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FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc.		DESCRIPTION	
		P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		HITCH ASSEMBLY OPTIONS	
		JOB #:		MATERIAL P/N:	
		MATERIAL:		SEE BOM	
DRAWN BY: 8-11-17		ACCLURE		FINISH:	
DESIGNED BY: 8-11-17		-		VENDOR:	
APPROVED BY:		-		VENDOR P/N:	
		SIZE: C		PART NUMBER: LP-013	
		SCALE: 1:4		WEIGHT: 49.284 lbs	
				SHEET 1 OF 1	

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	8	5332	LOADCELL PAD
2	4	5299-50k	LOAD CELL
3	8	10553	WASHER- 5/8" LOCK
4	8	10550	NUT, 5/8" NC
5	4	10015	SCREW, SET- 1/4" NC GRD.5 x 1" LG.
6	4	10002	NUT, NYLOCK- 1/4" NC
7	8	10578	BOLT- 5/8" NC GR5 x 2 1/2" LG.
8	4	21257	MIXER UNIT MNT. BRACKET SPACER
9	4	10762	BOLT- 7/8" NF GRD.8 x 3" LG.
10	4	10742	NUT, NYLOCK- 7/8" NF
11	4	21313-2	LOAD CELL MOUNTING PIPE, LOWER
12	4	21313	LOAD CELL MOUNTING PIPE, UPPER



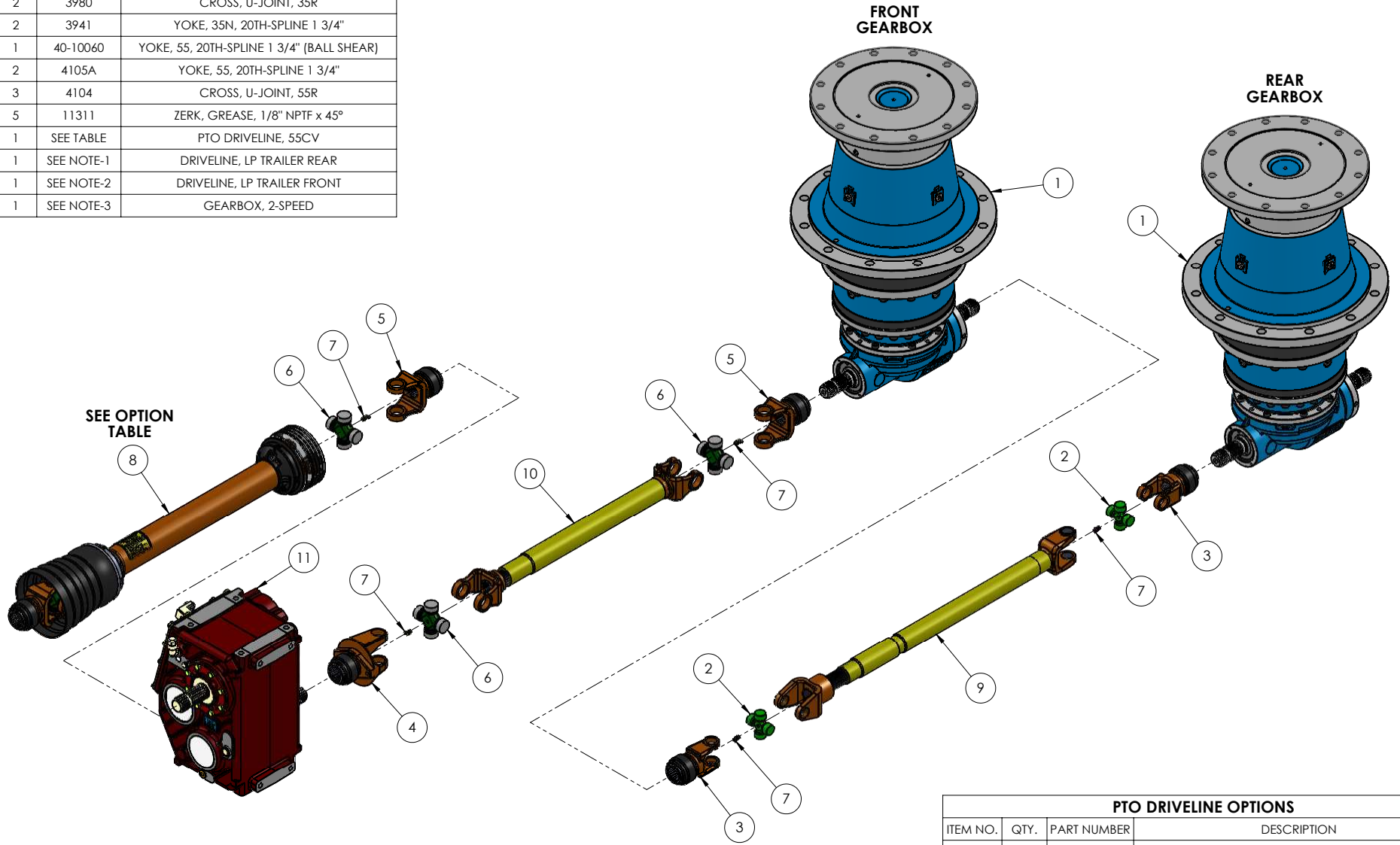
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 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION SUBFRAME, TRUCK MOUNT	
MATERIAL: SEE BOM		JOB #:			
DRAWN BY: 8-11-17	DATE: 8-11-17	NAME: MCCURE	FINISH:	SIZE: C	PART NUMBER: LP-014
DESIGNED BY:	DATE:	VENDOR:	VENDOR P/N:	SCALE: 1:7	WEIGHT: 982.319246 lbs
APPROVED BY:					SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	7429	GEARBOX, PLANETARY, COMER
2	2	3980	CROSS, U-JOINT, 35R
3	2	3941	YOKE, 35N, 20TH-SPLINE 1 3/4"
4	1	40-10060	YOKE, 55, 20TH-SPLINE 1 3/4" (BALL SHEAR)
5	2	4105A	YOKE, 55, 20TH-SPLINE 1 3/4"
6	3	4104	CROSS, U-JOINT, 55R
7	5	11311	ZERK, GREASE, 1/8" NPTF x 45°
8	1	SEE TABLE	PTO DRIVELINE, 55CV
9	1	SEE NOTE-1	DRIVELINE, LP TRAILER REAR
10	1	SEE NOTE-2	DRIVELINE, LP TRAILER FRONT
11	1	SEE NOTE-3	GEARBOX, 2-SPEED



PTO DRIVELINE OPTIONS			
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
8	1	4100	PTO DRIVELINE, 55CV, 1-3/8" x 21 SPLINE, 48" LG.
8	1	4100-58"	PTO DRIVELINE, 55CV, 1-3/8" x 21 SPLINE, 58" LG.
8	1	4100B	PTO DRIVELINE, 55CV, 1-3/4" x 20 SPLINE, 48" LG.
8	1	4100B-58"	PTO DRIVELINE, 55CV, 1-3/4" x 20 SPLINE, 58" LG.
8	1	4100C	PTO DRIVELINE, 55CV, 1-3/8" x 6 SPLINE, 48" LG.
8	1	4100C-58"	PTO DRIVELINE, 55CV, 1-3/8" x 6 SPLINE, 58" LG.

NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER COMPLETE DRIVELINE ASSEMBLY, USE PART NO. 242-24474.
- 2 - TO ORDER COMPLETE DRIVELINE ASSEMBLY, USE PART NO. 262-23261.
- 3 - SEE DRAWING NO. LP-015B AND LP-015C FOR GEARBOX OPTIONS AND PARTS.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

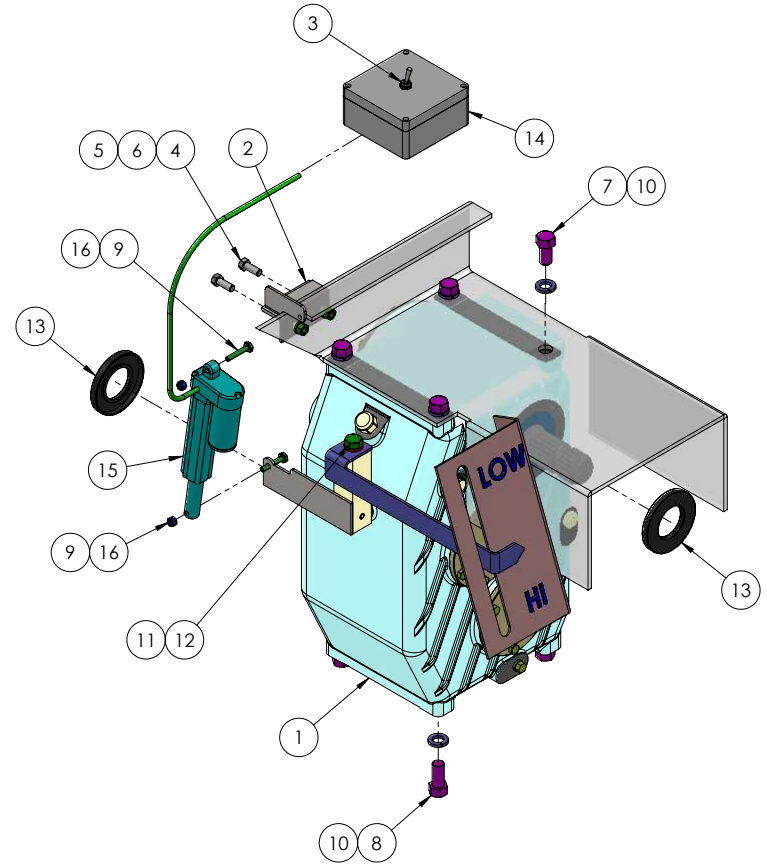
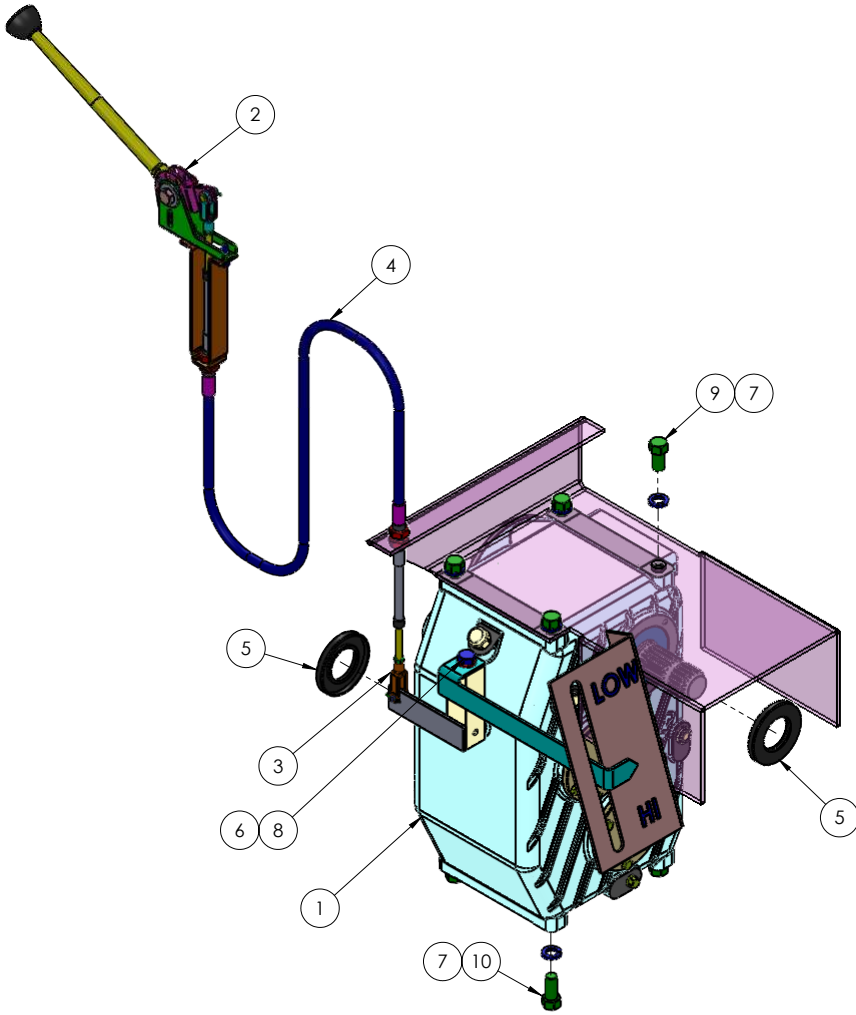
Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION DRIVE ASSEMBLY, 2-SPEED TRAILER
JOB #:		MATERIAL P/N:			
DRAWN BY: 8-11-17		ACCLURE		SCALE: 1:8	
DESIGNED BY: 8-11-17		VENDOR:		WEIGHT: 29.344610 lbs	
APPROVED BY:		VENDOR P/N:		SHEET 1 OF 1	

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DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±
ANGULAR: MACH ±
BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7585	GEARBOX, 2-SPEED
2	1	4169A	HANDLE, SHIFT CONTROL
3	1	4178A	CLEVIS, 5/16" PIN
4	1	4169	CABLE, 14 FT. PUSH PULL, 2-SPEED SHIFT
5	2	7586G	OIL SEAL, SHAFT, 2-SPEED
6	1	10548	WASHER, 9/16" LOCK
7	8	10553	WASHER- 5/8" LOCK
8	1	7585C	BOLT, M14 x 2.0 x 25MM LG.
9	4	7586c	BOLT- 16mm-2.0 x 30mm 8.8
10	4	7586D	BOLT- 16mm-2.0 x 35mm 8.8


ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7585	GEARBOX, 2-SPEED, MECHANICAL
2	1	ELP-172043	SHIFT ACTUATOR MOUNT ASSEMBLY
3	1	4717A	SWITCH, DPDT TOGGLE, MOM/OFF/MOM
4	2	10181	BOLT, 3/8" NC x GRD-5 x 1" LG.
5	2	10178	WASHER, 3/8" LOCK
6	2	10170	NUT- 3/8" NC
7	4	7586c	BOLT- 16mm-2.0 x 30mm 8.8
8	4	7586D	BOLT- 16mm-2.0 x 35mm 8.8
9	2	10031	BOLT- 1/4" NC GRD.5 x 1 1/2" LG.
10	8	10553	WASHER- 5/8" LOCK
11	1	10548	WASHER, 9/16" LOCK
12	1	7585C	BOLT, M14 x 2.0 x 25MM LG.
13	2	7586G	OIL SEAL, SHAFT, 2-SPEED
14	1	70163921	SWITCH BOX
15	1	LACT4-12V-20	LINEAR ACTUATOR, 3.9" STROKE
16	2	10002	NUT, NYLOCK- 1/4" NC



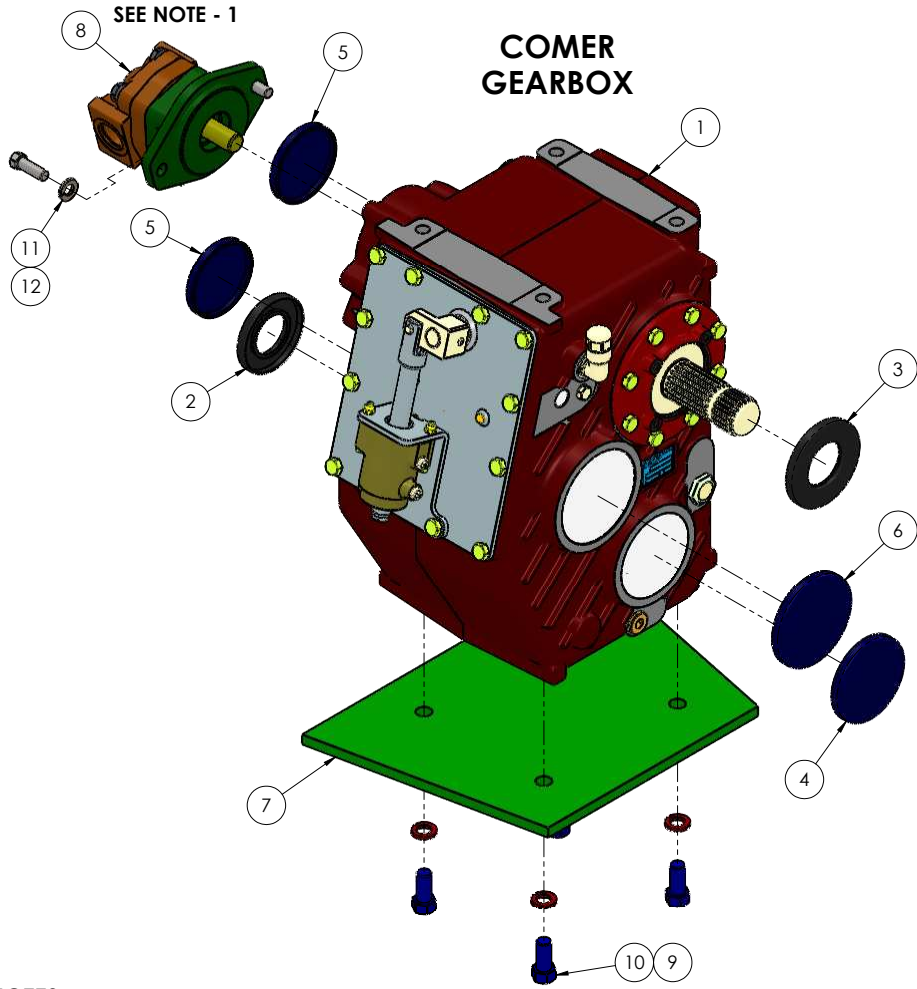
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)233-0778 FX (209)233-3941		 DESCRIPTION GEARBOX 2-SPEED OPTIONS - I	
		JOB #: MATERIAL: SEE BOM			
DATE	NAME	MATERIAL/FIN	FINISH	SIZE	REV.
DESIGNED BY: 2/23/17	ACCLURE		VENDOR	C	
APPROVED BY:		VENDOR P/N:		SCALE: 1:1	
			PART NUMBER LP-015B		
			WEIGHT: 90.611045 lbs		SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7596	GEARBOX, 2-SPEED HYDRAULIC
2	1	7586G	OIL SEAL, SHAFT, 2-SPEED G.B.
3	1	7586M	OIL SEAL, SHAFT, 2-SPEED G.B.
4	1	7596A	OIL CAP, HYD. 2-SPEED G.B.
5	2	7586H	OIL CAP, HYD. 2-SPEED G.B.
6	1	7593B	OIL CAP, HYD. 2-SPEED G.B.
7	1	LP-0057	PLATE, GEARBOX MOUNT
8	1	7596F	PUMP, AUX. COMER 2-SPEED
9	4	10553	WASHER- 5/8" LOCK
10	4	7586D	BOLT- 16mm-2.0 x 35mm 8.8
11	2	10398	WASHER, LOCK- 1/2"
12	2	7586a	BOLT, 12mm x 1.75 x 35mm 8.8



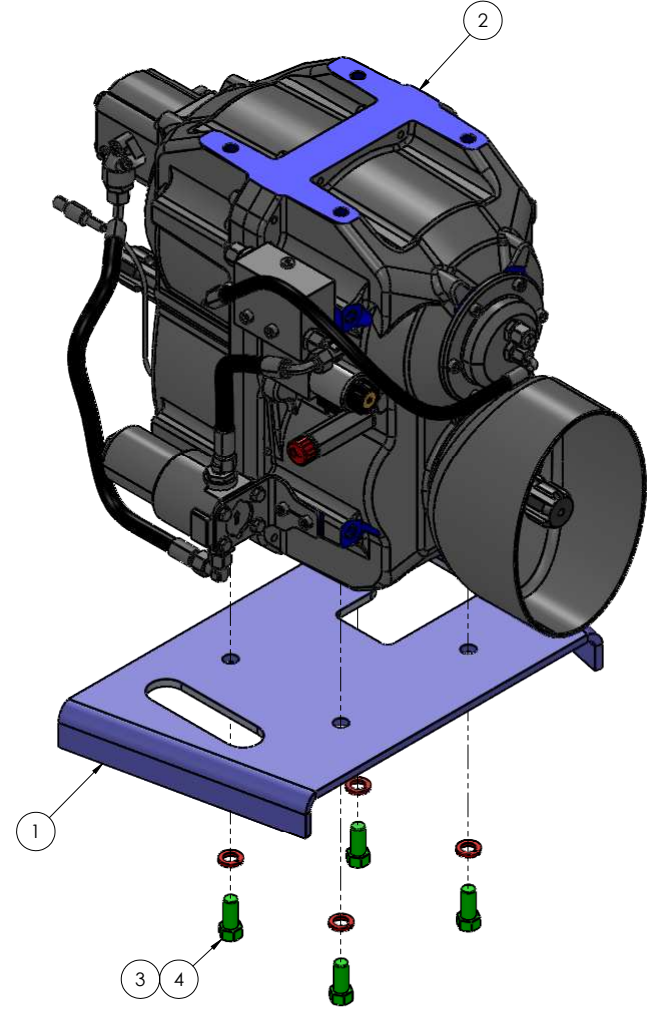
COMER GEARBOX

NOTES: UNLESS OTHERWISE SPECIFIED

1 - AUXILIARY PUMP 7596F IS A GEARBOX COOLING OPTION WITH THE COMER GEARBOX.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

ZUIDBERG GEARBOX



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	LP-0037	MOUNT CHANNEL, ZUIDBERG
2	1	7602	TRANSMISSION GEARBOX, ZUIDBERG
3	4	10553	WASHER- 5/8" LOCK
4	4	7586D	BOLT- 16mm-2.0 x 35mm 8.8

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			
		JOB #:			
		MATERIAL:		GEARBOX, 2-SPEED OPTIONS	
		SEE BOM		SIZE	
				PART NUMBER	
				LP-015C	
				SCALE: 1:8	
				WEIGHT: 197.479 lbs	
				SHEET 1 OF 1	

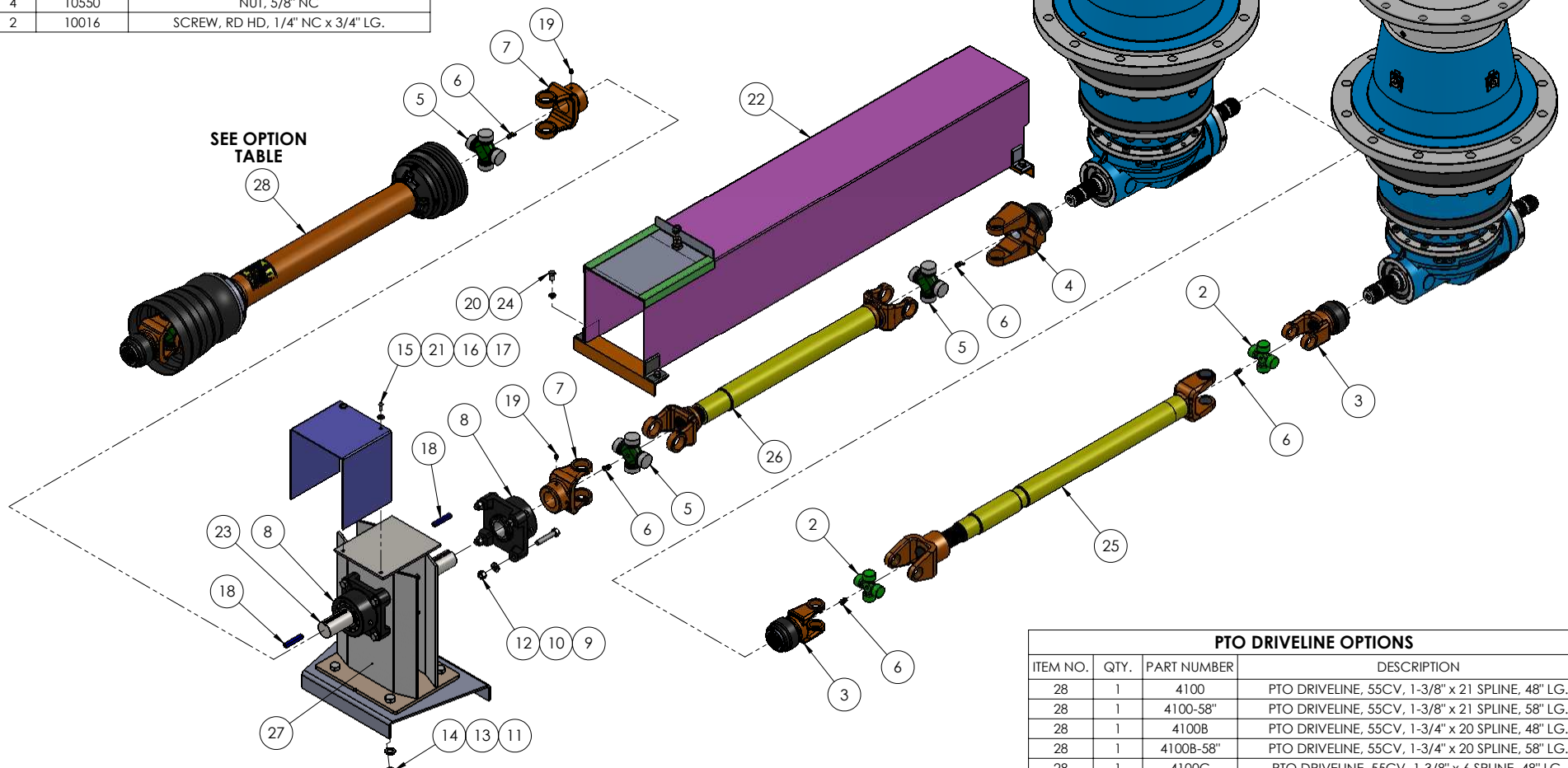
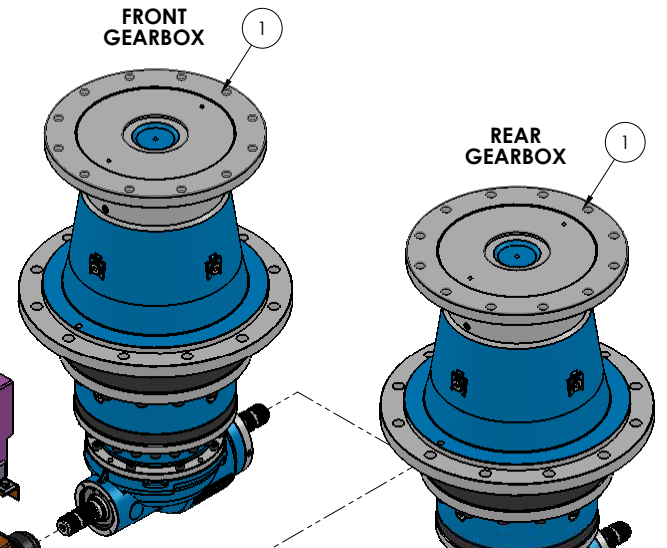
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TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ±
BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

	DATE	NAME	MATERIAL/TYPE
DRAWN BY:	7-14-20	MCCLURE	FINISH:
DESIGNED BY:	7-14-20		VENDOR:
APPROVED BY:			VENDOR P/N:

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	7430	GEARBOX, PLANETARY, COMER
2	2	3980	CROSS, U-JOINT, 35R
3	2	3941	YOKE, 35N, 20TH-SPLINE 1 3/4"
4	1	40-10060	YOKE, 55, 20TH-SPLINE 1 3/4" (BALL SHEAR)
5	3	4104	CROSS, U-JOINT, 55R
6	5	11311	ZERK, GREASE, 1/8" NPTF x 45°
7	2	4113	YOKE, 55R, 1-3/4" BORE
8	2	2161	BEARING, 4-HOLE FLANGE, 1-1/2" BORE
9	8	10430	BOLT- 1/2" NC GR5 x 2 1/2" LG.
10	8	10398	WASHER, LOCK- 1/2"
11	4	10565	BOLT- 5/8" NC GRD.5 x 1 1/2" LG.
12	8	10390	NUT 1/2" NC
13	4	10553	WASHER- 5/8" LOCK
14	4	10550	NUT, 5/8" NC
15	2	10016	SCREW, RD HD, 1/4" NC x 3/4" LG.

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
16	2	10009	WASHER, LOCK- 1/4"
17	2	10001	NUT- 1/4" NC
18	2	3693	KEY, SQ. 3/8" x 2 1/2" LG.
19	4	10183	SET SCREW, 3/8" NC x 3/8" LG.
20	4	10178	WASHER, 3/8" LOCK
21	2	10010	WASHER, FLAT- 1/4"
22	1	392165	GUARD ASSEMBLY, FRONT DRIVELINE
23	1	392060c	SHAFT, THRU SHAFT
24	4	10177	BOLT 3/8 NC GR5 x 3/4"
25	1	SEE NOTE-1	DRIVELINE, LP TRAILER REAR
26	1	SEE NOTE-2	DRIVELINE, LP TRAILER FRONT
27	1	SEE NOTE-3	THRU SHAFT ASSEMBLY
28	1	SEE TABLE	PTO DRIVELINE, 55CV



SEE OPTION TABLE

PTO DRIVELINE OPTIONS			
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
28	1	4100	PTO DRIVELINE, 55CV, 1-3/8" x 21 SPLINE, 48" LG.
28	1	4100-58"	PTO DRIVELINE, 55CV, 1-3/8" x 21 SPLINE, 58" LG.
28	1	4100B	PTO DRIVELINE, 55CV, 1-3/4" x 20 SPLINE, 48" LG.
28	1	4100B-58"	PTO DRIVELINE, 55CV, 1-3/4" x 20 SPLINE, 58" LG.
28	1	4100C	PTO DRIVELINE, 55CV, 1-3/8" x 6 SPLINE, 48" LG.
28	1	4100C-58"	PTO DRIVELINE, 55CV, 1-3/8" x 6 SPLINE, 58" LG.

NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER COMPLETE DRIVELINE ASSEMBLY, USE PART NO. 242-24474.
- 2 - TO ORDER COMPLETE DRIVELINE ASSEMBLY, USE PART NO. 262-23261.
- 3 - TO ORDER COMPLETE THRU SHAFT ASSEMBLY, USE PART NO. 392060-R.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION DIRECT DRIVE ASSEMBLY, TRAILER
JOB #:		MATERIAL P/N:			
DRAWN BY: 8-11-17		NAME: MCCLEURE		FINISH:	SIZE: PART NUMBER
DESIGNED BY: 8-11-17		VENDOR:		VENDOR:	C LP-016
APPROVED BY:		VENDOR P/N:		SCALE: 1:8	WEIGHT: 415.194393 lbs

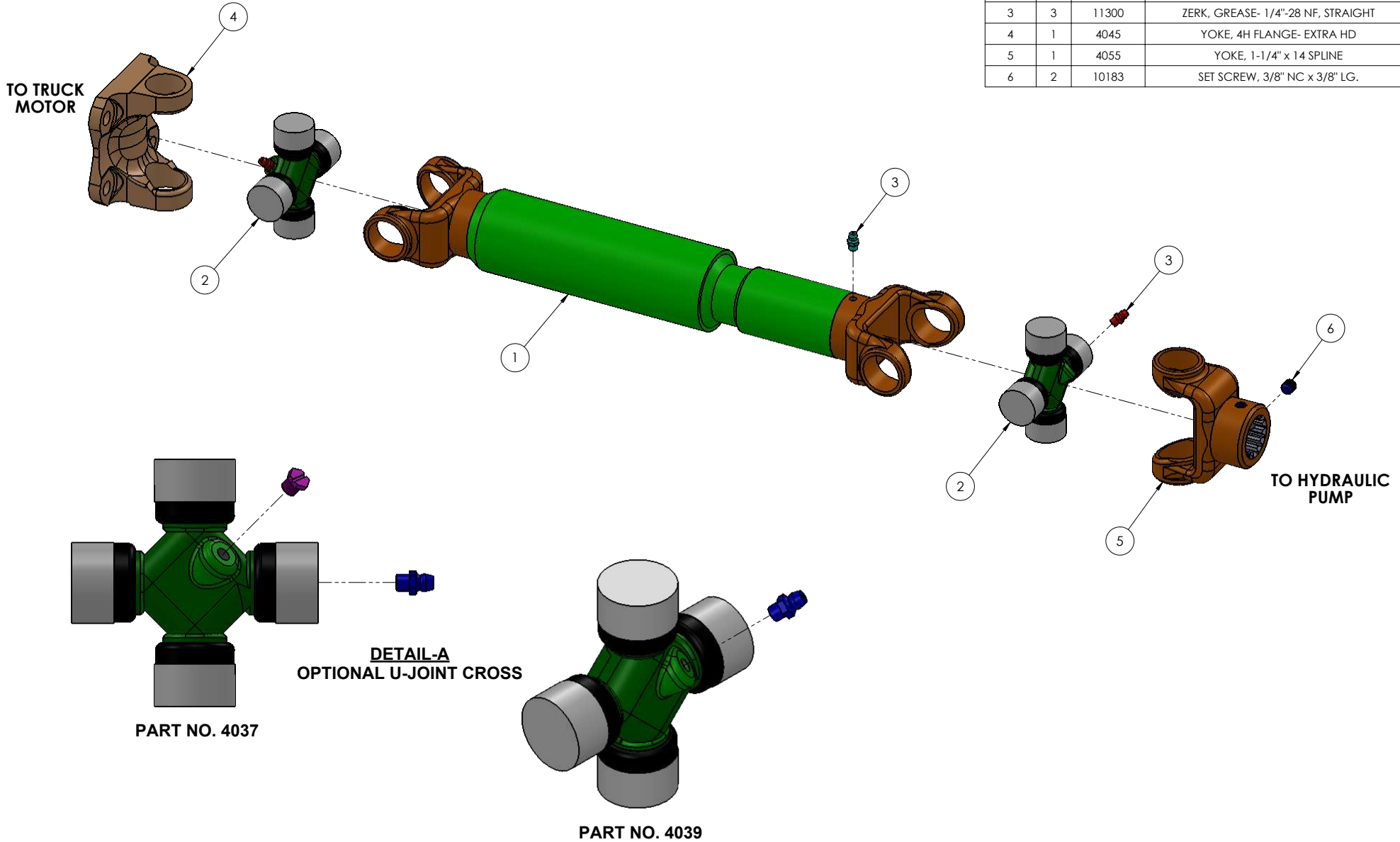
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TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

A

A

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	SEE NOTE-1	DRIVELINE, BALANCED, HEAVY DUTY
2	2	SEE DETAIL-A	CROSS, U-JOINT, 5-178X, HEAVY DUTY
3	3	11300	ZERK, GREASE- 1/4"-28 NF, STRAIGHT
4	1	4045	YOKE, 4H FLANGE- EXTRA HD
5	1	4055	YOKE, 1-1/4" x 14 SPLINE
6	2	10183	SET SCREW, 3/8" NC x 3/8" LG.



NOTES: UNLESS OTHERWISE SPECIFIED

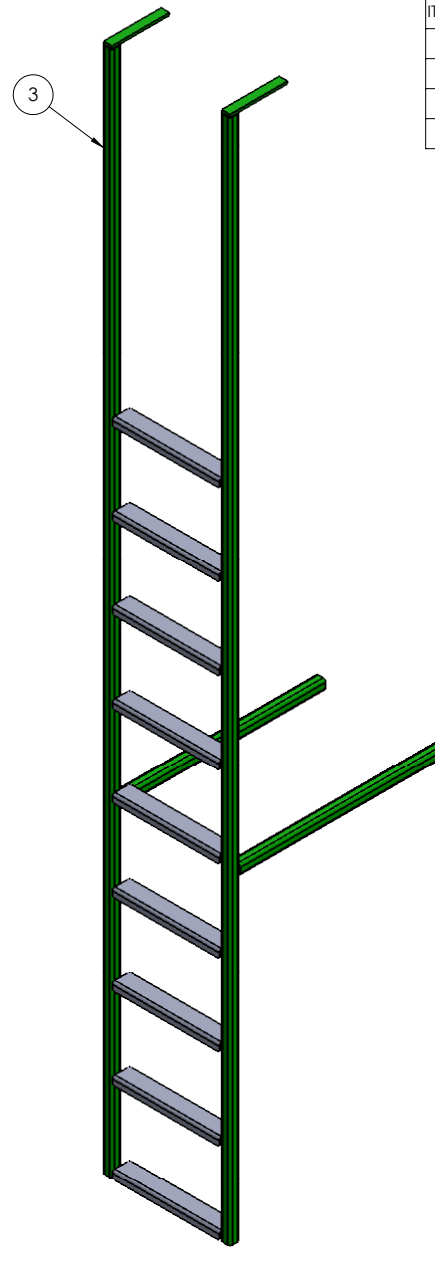
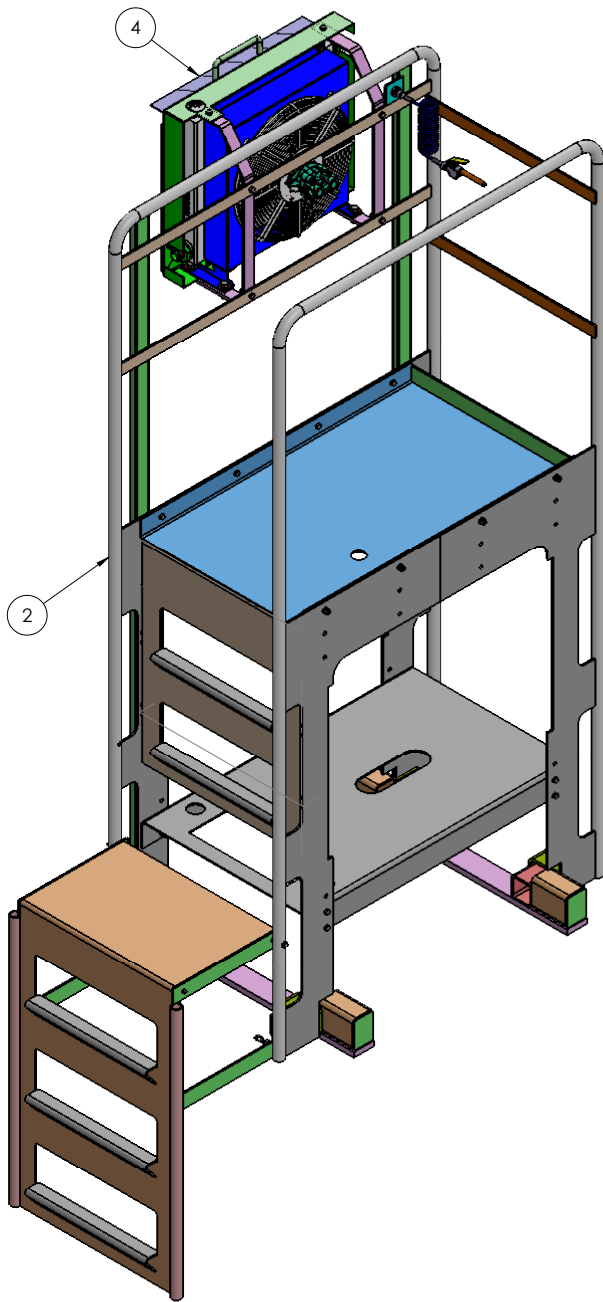
1 - TO ORDER COMPLETE DRIVELINE ASSEMBLY, USE PART NO. 4049.
SPECIAL ORDER BY LENGTH, ALLOW LONGER LEAD TIME FOR ORDER.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941				
		JOB #: MATERIAL: SEE BOM				DESCRIPTION DRIVELINE, HYDRAULIC TRUCK PUMP
DRAWN BY:	DATE	NAME	FINISH:	SIZE	PART NUMBER	REV.
DESIGNED BY:	8-11-17	MCCLURE	VENDOR:	C	LP-017	
APPROVED BY:			VENDOR P/N:	SCALE: 1:2	WEIGHT: 25.528 lbs	SHEET 1 OF 1



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	393200	LADDER ASSEMBLY, VERTICAL TRAILER
2	1	393025	LADDER w/ COOLER, VERTICAL TRUCK
3	1	393201	LADDER ASSEMBLY, VERTICAL TRUCK
4	1	SEE NOTE-1	COOLER ASSEMBLY

NOTES: UNLESS OTHERWISE SPECIFIED

1 - SEE DRAWING NO. LP-018B FOR COOLER COMPONENT PART NUMBERS.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

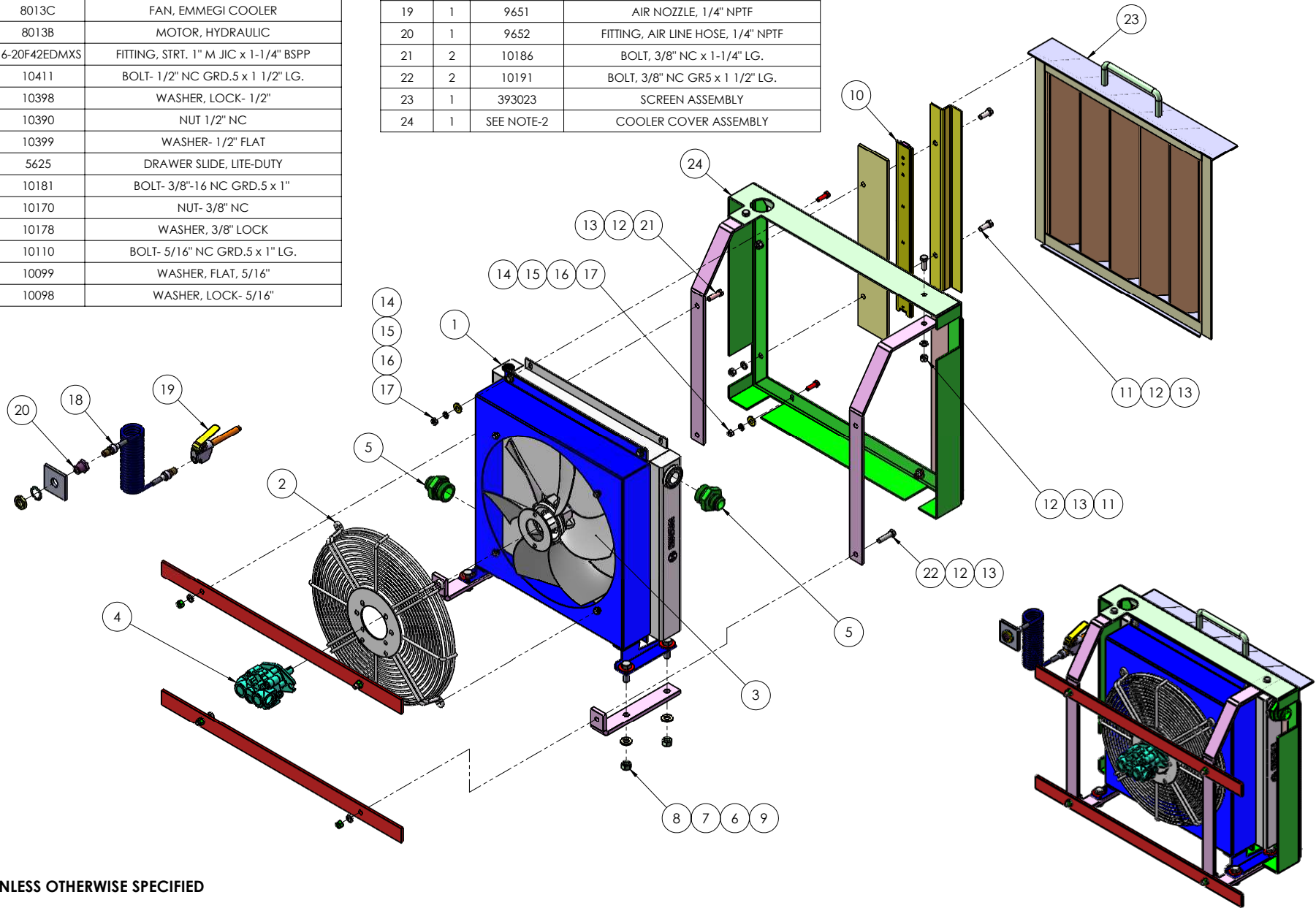
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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION LADDER OPTIONS
JOB #:		MATERIAL P/N:			
DRAWN BY:	DATE	NAME	FINISH:	SIZE	PART NUMBER
DESIGNED BY:	8/11/17	MCCLURE	VENDOR:	C	LP-018A
APPROVED BY:			VENDOR P/N:	SCALE: 1:1Q	WEIGHT: lbs
					SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	SEE NOTE-1	EMMEGI COOLER
2	1	8013A	COOLER FAN, MOTOR & GUARD ASSEMBLY
3	1	8013C	FAN, EMMEGI COOLER
4	1	8013B	MOTOR, HYDRAULIC
5	2	16-20F42EDMXS	FITTING, STRT. 1" M JIC x 1-1/4" BSPP
6	4	10411	BOLT- 1/2" NC GRD.5 x 1 1/2" LG.
7	4	10398	WASHER, LOCK- 1/2"
8	4	10390	NUT 1/2" NC
9	4	10399	WASHER- 1/2" FLAT
10	2	5625	DRAWER SLIDE, LITE-DUTY
11	6	10181	BOLT- 3/8"-16 NC GRD.5 x 1"
12	10	10170	NUT- 3/8" NC
13	10	10178	WASHER, 3/8" LOCK
14	4	10110	BOLT- 5/16" NC GRD.5 x 1" LG.
15	4	10099	WASHER, FLAT, 5/16"
16	4	10098	WASHER, LOCK- 5/16"

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
17	4	10090	NUT, HEX, 5/16" NC
18	1	9650	AIR LINE HOSE, 1/4" NPTF
19	1	9651	AIR NOZZLE, 1/4" NPTF
20	1	9652	FITTING, AIR LINE HOSE, 1/4" NPTF
21	2	10186	BOLT, 3/8" NC x 1-1/4" LG.
22	2	10191	BOLT, 3/8" NC GR5 x 1 1/2" LG.
23	1	393023	SCREEN ASSEMBLY
24	1	SEE NOTE-2	COOLER COVER ASSEMBLY



NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER THE COMPLETE EMMEGI COOLER, USE PART NO. 8013.
- 2 - TO ORDER THE COMPLETE COOLER COVER ASSEMBLY, USE PART NO. 393021.

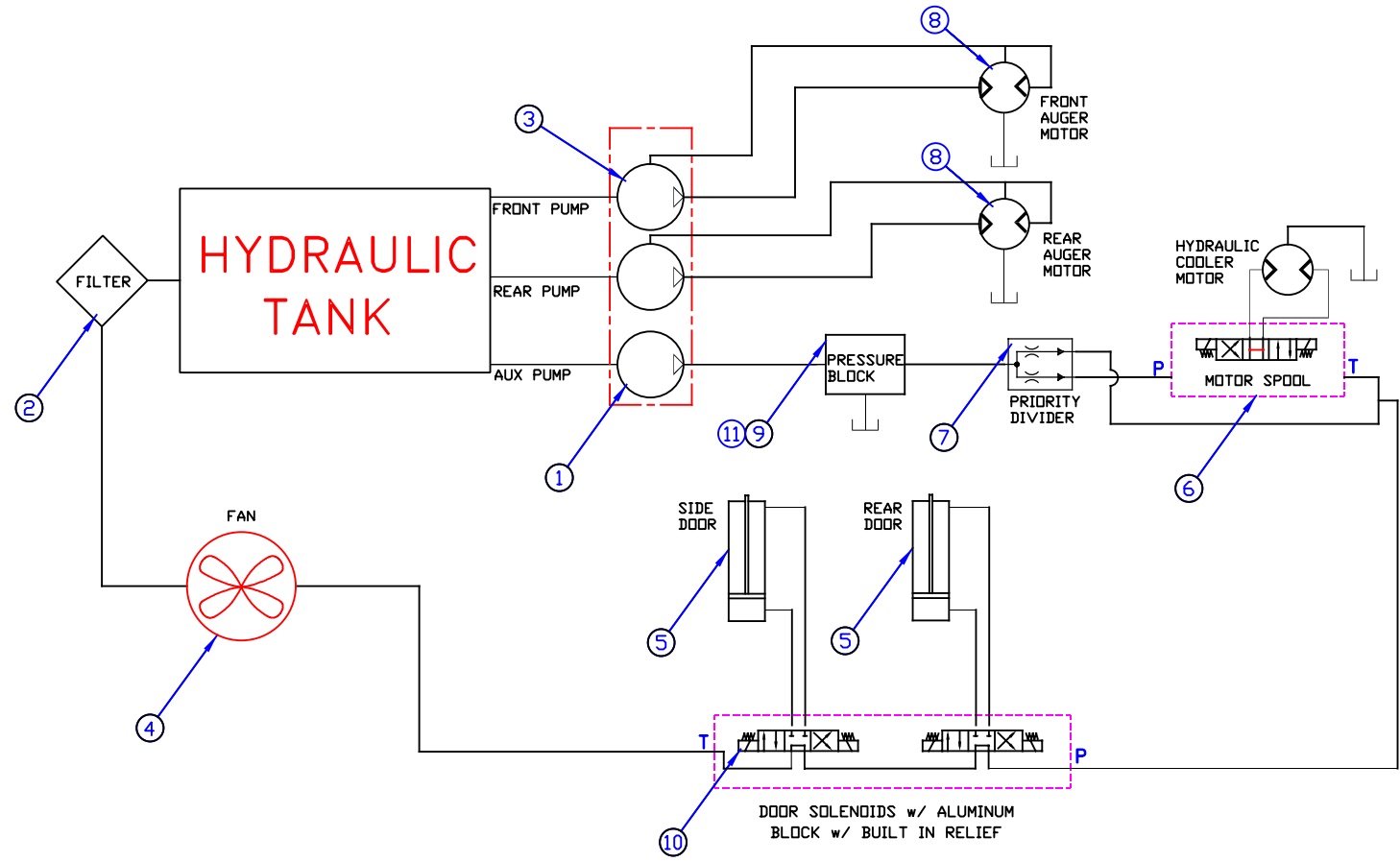
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION COOLER ASSEMBLY	
MATERIAL:		SEE BOM			
DRAWN BY:	DATE:	NAME:	FINISH:	SIZE:	PART NUMBER:
DESIGNED BY:	10-4-17	MCCLURE	VENDOR:	C	LP-0188
APPROVED BY:			VENDOR P/N:	SCALE: 1:1	WEIGHT: lbs
					SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7917	MOTOR, HYDRAULIC PUMP
2	1	7963	FILTER, INLINE
3	1	8011/8012	PUMP, HYDRAULIC
4	1	8013	COOLER, HYDRAULIC
5	2	8267	CYLINDER, 3" x 30"
6	1	8004	SOLENOID, 4-WAY SPOOL
7	1	8061	VALVE, PRIORITY DIVIDER
8	2	7907	MOTOR, HYDRAULIC
9	1	8048	VALVE, 3/4" CED BLOCK
10	2	7894	VALVE, 4-WAY SOLENOID
11	1	8049	VALVE, RPGC - JAN 3/4" & 1"



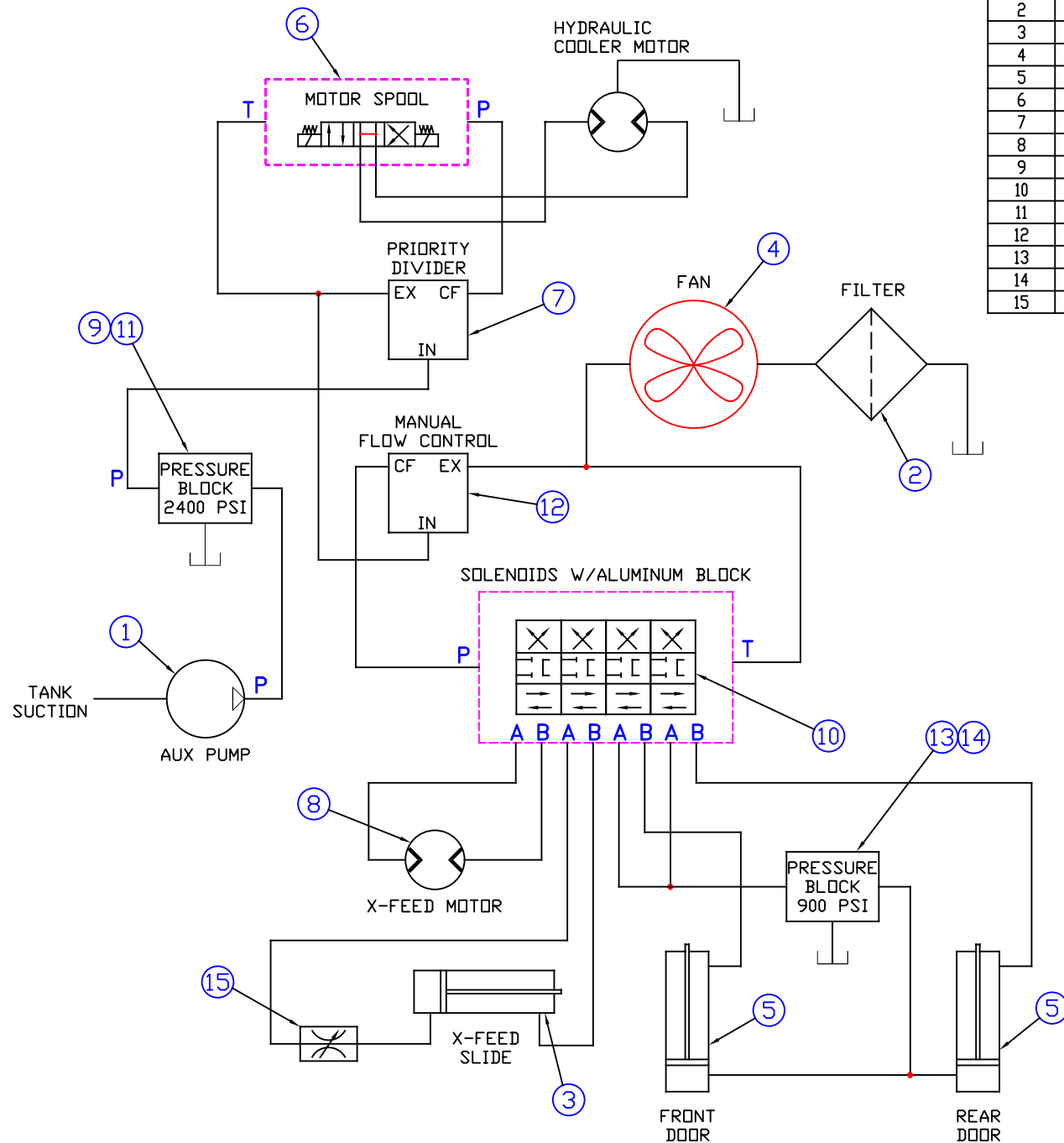
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ± .005
 ANGULAR .001 ± BEND ±
 TWO PLACE DECIMAL ± .005
 THREE PLACE DECIMAL ± .001

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCER, PA 15440 PA 622/253-3743 PA 622/253-3943			
		JOB #			
		MATERIAL:		HYDRAULIC CIRCUIT	
		WATER/SAFETY P/N		TRUCK SIDE DOOR	
DRAWN BY:		DATE: 8-11-17		SIZE: C	
		NAME:		PART NUMBER: LP-019A	
DESIGNED BY:		INCLUDE:		REV:	
		VENDOR:		SCALE: 1:1	
APPROVED BY:		VENDOR P/N:		WEIGHT: lbs	
				SHEET 1 OF 1	

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7917	MOTOR, HYDRAULIC PUMP
2	1	7963	FILTER, INLINE
3	1	8245	CYLINDER, 2" x 18"
4	1	8013	COOLER, HYDRAULIC
5	2	8267	CYLINDER, 3" x 30"
6	1	8004	SOLENOID, 4-WAY SPOOL
7	1	8061	VALVE, PRIORITY DIVIDER
8	1	7965	MOTOR, HYDRAULIC
9	1	8048	VALVE, 3/4" CED BLOCK
10	4	7894	VALVE, 4-WAY SOLENOID
11	1	8049	VALVE, RPGC - JAN 3/4" & 1"
12	1	8055	VALVE, FLOW CONTROL
13	1	8074	VALVE, 1/2" CED BLOCK
14	1	7892	VALVE, RPEG - JAN 1/2"
15	1	7896	NEEDLE VALVE, 3/8"

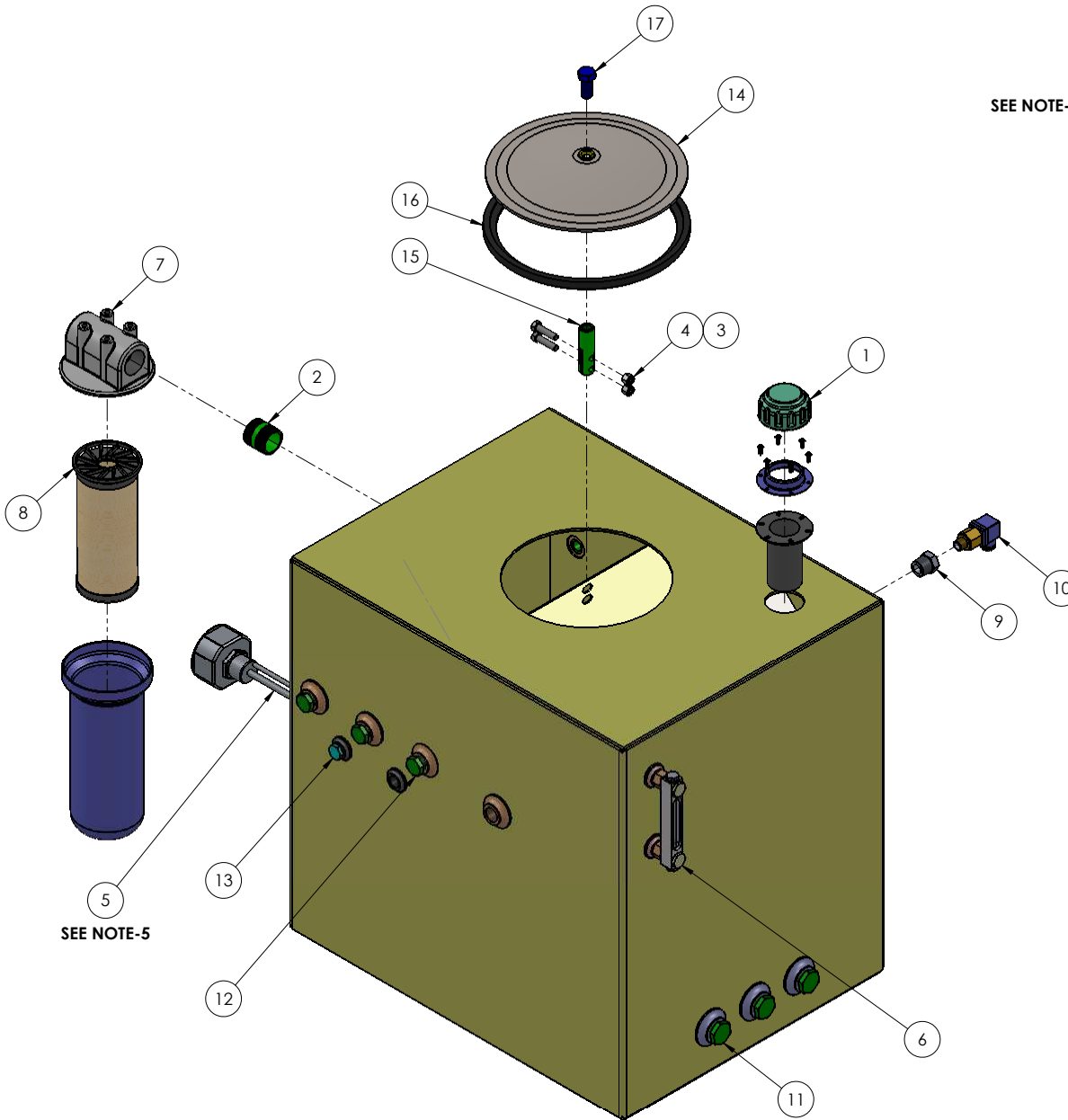


NOTE: UNIT SERIAL # NEEDED
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DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±
ANGULAR MATCH: ± BEND ±
TWO PLACE DECIMAL: ±
THREE PLACE DECIMAL: ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MCKENZIE CA 95340 PH (925)723-0778 FX (925)723-3941			
JOB #		MATERIAL #		DESCRIPTION HYDRAULIC CIRCUIT TRUCK CROSSFEED	
DATE		MATERIAL P/N		SIZE PART NUMBER LP-019B REV.	
DESIGNED BY		VENDOR		SCALE: 1:1 WEIGHT: lbs SHEET 1 OF 1	
APPROVED BY		VENDOR P/N			



SEE NOTE-5

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7947	CAP FILLER/BREATHER ASSEMBLY
2	1	9286	FITTING, NIPPLE, 1-1/4" NPTF
3	2	10191	BOLT, 3/8" NC GR5 x 1 1/2" LG.
4	2	10173	NUT, NYLOCK- 3/8" NC
5	1	5501	SCREW PLUG HEATER- 120v, 1 1/4" NPTF
6	1	7951B	GAUGE, FLUID LEVEL, 5" TUBE
7	1	SEE NOTE-2	FILTER, CORELESS SPIN-ON
8	1	7963A	FILTER ELEMENT, HYDRAULIC
9	1	3_4 X 3_8 PTR-S	FITTING, 3/4" M NPTF x 3/8" FM NPTF
10	1	7969	TEMP. SWITCH, OIL, 190°
11	3	1 HP-S	FITTING, PLUG, HEX HEAD, 1" NPTF
12	5	3_4 HP-S	FITTING, PLUG, HEX HEAD, 3/4" NPTF
13	2	1_2 HP-S	FITTING, PLUG, HEX HEAD, 1/2" NPTF
14	1	SEE NOTE-3	TANK LID, 12" HYDRAULIC ASSEMBLY
15	1	7961C	ADAPTER, HYD. COVER & BAFFLE
16	1	7961D	GASKET, 12" HYD. END COVER
17	1	7961B	BOLT, HEX, 5/8" NC x 1 3/8" LG.

NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER COMPLETE TANK ASSEMBLY, USE PART NO. 193003.
- 2 - TO ORDER FILTER ASSEMBLY, USE PART NO. 7963.
- 3 - TO ORDER TANK LID ASSEMBLY, USE PART NO. 7961.
- 4 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON TRUCK CONFIGURATION.
- 5 - HEATER IS OPTIONAL PER CUSTOMER ORDER.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

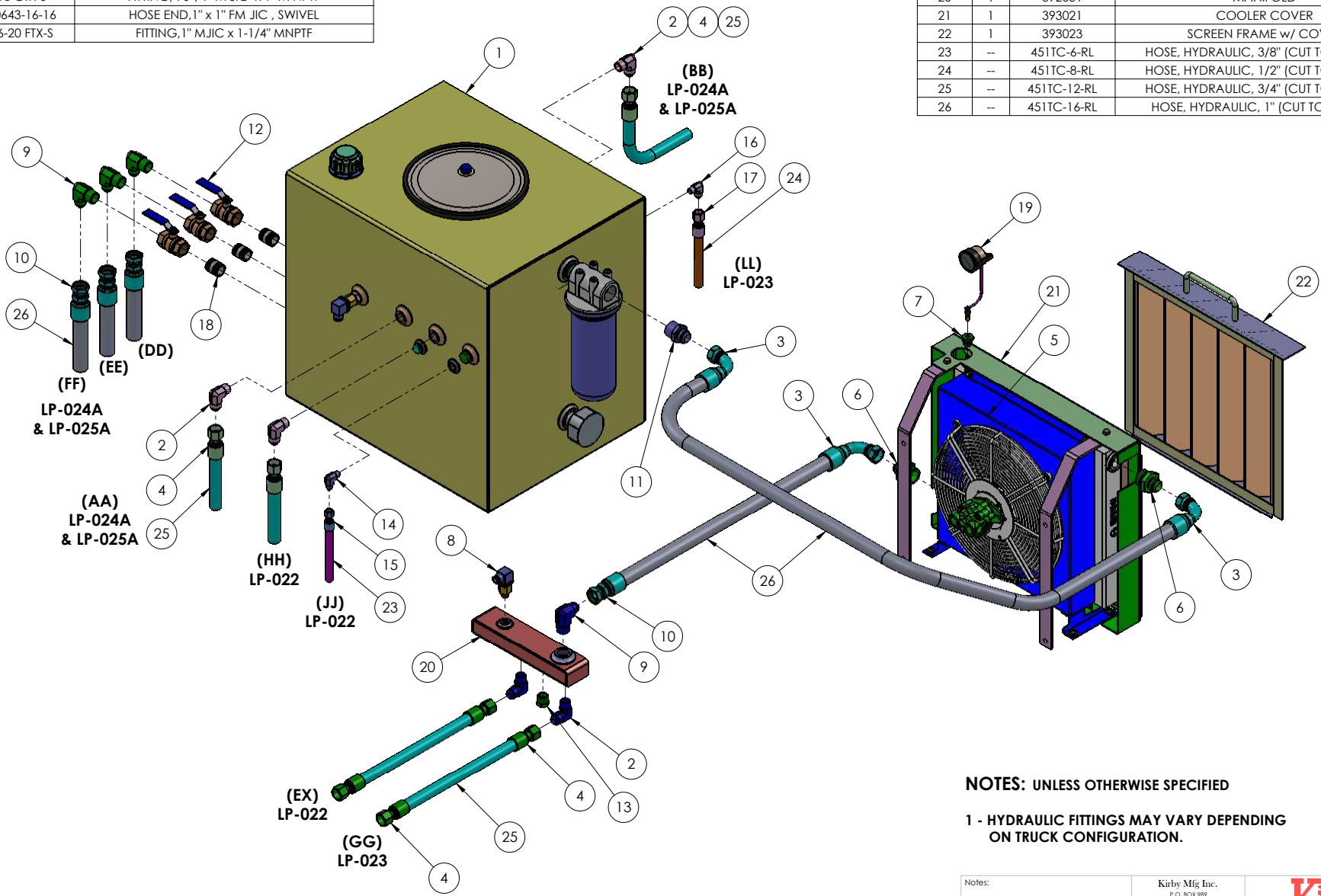
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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION TANK, HYDRAULIC, 65 GALLON
		JOB #: MATERIAL: SEE BOM			
DRAWN BY:	DATE	NAME	FINISH:	SIZE	PART NUMBER
DESIGNED BY:	8-11-17	ACCLURE	VENDOR:	C	LP-020
APPROVED BY:	8-11-17		VENDOR P/N:	SCALE: 1:5	WEIGHT: lbs
					SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	193003	TANK, HYDRAULIC, 65 GALLON
2	5	12 CTX-S	FITTING, 90°, 3/4" M JIC x 3/4" M NPTF
3	3	13943-16-16	HOSE END, 90°, 1" x 1" FM JIC, SWVL
4	7	10643-12-12	HOSE END, 3/4" x 3/4" FM JIC, SWIVEL
5	1	8013	EMMEGI COOLER
6	2	16-20F42EDMXS	FITTING, 1" M JIC x 1-1/4" BSPP
7	1	RI1_2EDX1_8CF	FITTING, 1/2" M BSPP x 1/8" FM NPTF
8	1	7968	TEMP. SWITCH, OIL, 120°
9	4	16 CTX-S	FITTING, 90°, 1" M JIC x 1" M NPTF
10	4	10643-16-16	HOSE END, 1" x 1" FM JIC, SWIVEL
11	1	16-20 FTX-S	FITTING, 1" M JIC x 1-1/4" MNPTF

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
12	3	9527	VALVE, GATE, 1" BALL, 1" F/F NPTF
13	1	3_4 HP-S	FITTING, PLUG, HEX HEAD, 3/4" NPTF
14	1	6-8 CTX-S	FITTING, 90°, 3/8" M JIC x 1/2" M NPTF
15	1	10643-6-6	HOSE END, 3/8" x 3/8" FM JIC SWIVEL
16	1	8-8 CTX-S	FITTING, 90°, 1/2" M JIC x 1/2" M NPTF
17	1	10643-8-8	HOSE END, 1/2" FM JIC, SWIVEL
18	3	9284	FITTING, NIPPLE, 1" NPTF
19	1	ATM2542	GAUGE, OIL TEMP. W/SENDER
20	1	392031	MANIFOLD
21	1	393021	COOLER COVER
22	1	393023	SCREEN FRAME w/ COVER
23	--	451TC-6-RL	HOSE, HYDRAULIC, 3/8" (CUT TO LENGTH)
24	--	451TC-8-RL	HOSE, HYDRAULIC, 1/2" (CUT TO LENGTH)
25	--	451TC-12-RL	HOSE, HYDRAULIC, 3/4" (CUT TO LENGTH)
26	--	451TC-16-RL	HOSE, HYDRAULIC, 1" (CUT TO LENGTH)



NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

NOTES: UNLESS OTHERWISE SPECIFIED
1 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON TRUCK CONFIGURATION.

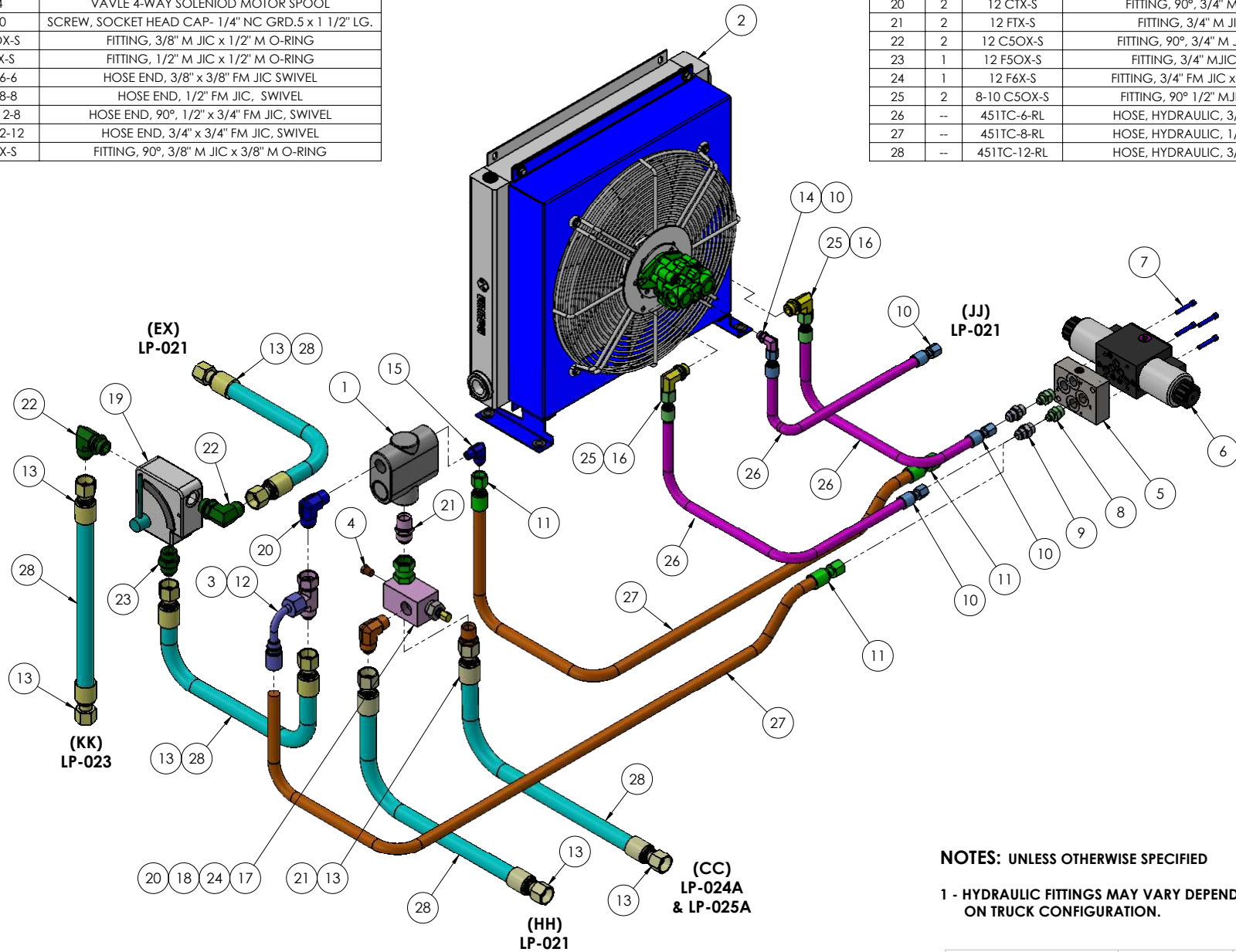
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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION COOLER AND TANK ASSEMBLY	
DRAWN BY: 8-11-17		MATERIAL P/N: SEE BOM			SIZE: C	PART NUMBER: LP-021
DATE: 8-11-17		ACCLURE:		SCALE: 1:7		WEIGHT: 552.531962 lbs
DESIGNED BY:		VENDOR:		SHEET 1 OF 1		
APPROVED BY:		VENDOR P/N:				

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	8061	VALVE PRIORITY DIVIDER
2	1	8013	EMMEGI COOLER
3	1	12 R6X-S	FITTING, TEE, 3/4" M JIC x 3/4" M JIC x 3/4" FM JIC SWIVEL
4	2	1_4 HP-S	FITTING, PLUG, HEX HEAD, 1/4" NPTF
5	1	8071	SOLENOID BLOCK
6	1	8004	VAVLE 4-WAY SOLENIOD MOTOR SPOOL
7	4	10030	SCREW, SOCKET HEAD CAP- 1/4" NC GRD.5 x 1 1/2" LG.
8	2	6-8 F5OX-S	FITTING, 3/8" M JIC x 1/2" M O-RING
9	2	8 F5OX-S	FITTING, 1/2" M JIC x 1/2" M O-RING
10	4	10643-6-6	HOSE END, 3/8" x 3/8" FM JIC SWIVEL
11	3	10643-8-8	HOSE END, 1/2" FM JIC, SWIVEL
12	1	13943-12-8	HOSE END, 90°, 1/2" x 3/4" FM JIC, SWIVEL
13	10	10643-12-12	HOSE END, 3/4" x 3/4" FM JIC, SWIVEL
14	1	6 C5OX-S	FITTING, 90°, 3/8" M JIC x 3/8" M O-RING

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
15	1	8-8 CTX-S	FITTING, 90°, 1/2" M JIC x 1/2" M NPTF
16	2	10643-8-6	HOSE END, 3/8" x 1/2" FM JIC
17	1	8048	VALVE 3/4" CED BLOCK
18	1	8049	VALVE RPGC-JAN 3/4" & 1"
19	1	8055	VALVE, FLOW CONTROL WITHOUT RELIEF, 5/8"
20	2	12 CTX-S	FITTING, 90°, 3/4" M JIC x 3/4" M NPTF
21	2	12 FTX-S	FITTING, 3/4" M JIC x 3/4" M NPTF
22	2	12 C5OX-S	FITTING, 90°, 3/4" M JIC x 3/4" M O-RING
23	1	12 F5OX-S	FITTING, 3/4" M JIC x 3/4" M O-RING
24	1	12 F6X-S	FITTING, 3/4" FM JIC x 3/4" M NPTF, SWIVEL
25	2	8-10 C5OX-S	FITTING, 90° 1/2" M JIC x 5/8" M O-RING
26	--	451TC-6-RL	HOSE, HYDRAULIC, 3/8" [CUT TO LENGTH]
27	--	451TC-8-RL	HOSE, HYDRAULIC, 1/2" [CUT TO LENGTH]
28	--	451TC-12-RL	HOSE, HYDRAULIC, 3/4" [CUT TO LENGTH]



NOTES: UNLESS OTHERWISE SPECIFIED

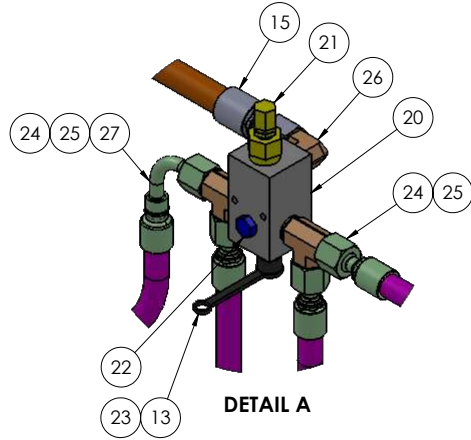
1 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON TRUCK CONFIGURATION.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

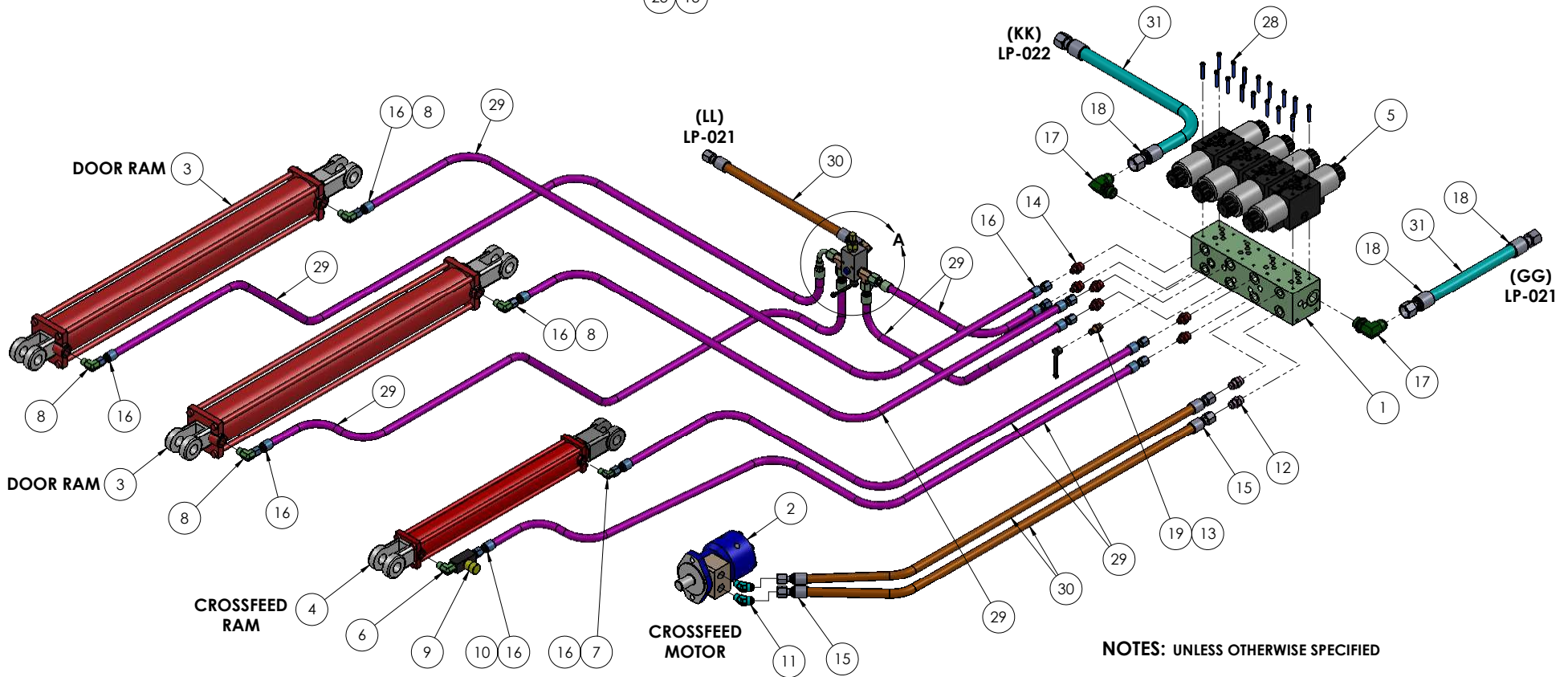
Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION COOLER MOTOR ASSEMBLY
JOB #:		MATERIAL:			
DRAWN BY: 8-11-17		ACCLURE		FINISH:	SIZE: PART NUMBER
DESIGNED BY: 8-11-17		VENDOR:		VENDOR P/N:	C LP-022
APPROVED BY:		VENDOR P/N:		WEIGHT: lbs	REV: *
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL: ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL: ±		SCALE: 1:5		WEIGHT: lbs	SHEET 1 OF 1

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ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7943-07	MANIFOLD, HYDRAULIC
2	1	7965	MOTOR, HYDRAULIC
3	2	8267	CYLINDER, 3" x 30"
4	1	8245	CYLINDER, 2" x 18"
5	4	7894	VALVE 4-WAY SOLENIOD
6	1	3-8 CR-S	FITTING, 90°, 3/8" M NPTF x 3/8" M NPTF
7	1	6-6 CTX-S	FITTING, 90°, 3/8" M JIC x 3/8" M NPTF
8	4	6-8 CTX-S	FITTING, 90°, 3/8" M JIC x 1/2" M NPTF
9	1	7896	NEEDLE VALVE, 3/8" NPTF
10	1	6-6 FTX-S	FITTING, 3/8" MNPTF x 3/8" MJIC
11	2	8-8 VTX-S	FITTING, 45° ELBOW, 1/2" M JIC x 1/2" M NPTF
12	2	8 F5OX-S	FITTING, 1/2" M JIC x 1/2" M O-RING
13	2	PD6-285	DUST CAP
14	6	6-8 F5OX-S	FITTING, 3/8" M JIC x 1/2" M O-RING
15	6	10643-8-8	HOSE END, 1/2" FM JIC, SWIVEL



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
16	12	10643-6-6	HOSE END, 3/8" x 3/8" FM JIC SWIVEL
17	2	12 C5OX-S	FITTING, 90°, 3/4" M JIC x 3/4" M O-RING
18	4	10643-12-12	HOSE END, 3/4" x 3/4" FM JIC, SWIVEL
19	1	PD361	TEST PORT, 3/8" M O-RING
20	1	8074	RELIEF VALVE BODY, FEC HYD.
21	1	7892	RELIEF VALVE, 1/2"
22	1	1_4 HP-S	FITTING, PLUG, HEX HEAD, 1/4" NPTF
23	1	PD343	TEST PORT, 1/4" NPTF
24	3	10643-8-6	HOSE END, 3/8" x 1/2" FM JIC
25	2	8-8-8 RTX-S	FITTING, TEE, 1/2" M JIC x 1/2" M JIC x 1/2" M NPTF
26	1	8-8 CTX-S	FITTING, 90°, 1/2" M JIC x 1/2" M NPTF
27	1	13943-8-6	HOSE END, 90°, 3/8" x 1/2" FM JIC, SWIVEL
28	16	10030	SCREW, SOCKET HEAD CAP- 1/4" NC GRD.5 x 1 1/2" LG.
29	--	451TC-6-RL	HOSE, HYDRAULIC, 3/8" (CUT TO LENGTH)
30	--	451TC-8-RL	HOSE, HYDRAULIC, 1/2" (CUT TO LENGTH)
31	--	451TC-12-RL	HOSE, HYDRAULIC, 3/4" (CUT TO LENGTH)



NOTES: UNLESS OTHERWISE SPECIFIED

1 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON DOOR CONFIGURATION.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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 FRACTIONAL ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941				
		JOB #: MATERIAL: SEE BOM			DESCRIPTION SOLENOID MANIFOLD ASSEMBLY, TRUCK	
DRAWN BY:	DATE	NAME	FINISH:	SIZE	PART NUMBER	REV.
DESIGNED BY:	8-11-17	MCCLURE	VENDOR:	C	LP-023A	-
APPROVED BY:	8-11-17		VENDOR P/N:	SCALE: 1:17	WEIGHT: lbs	SHEET 1 OF 1

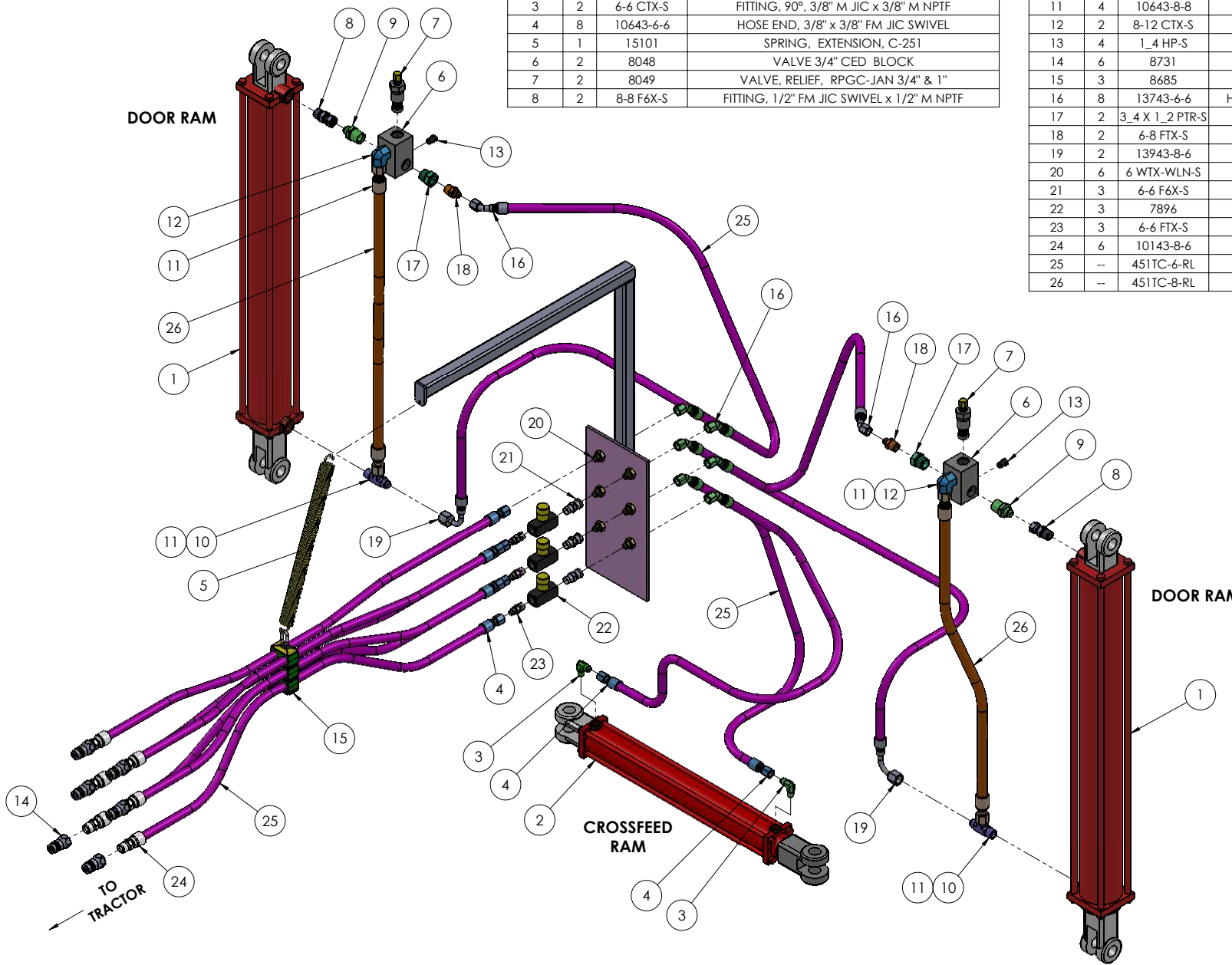
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	8267	CYLINDER, 3" x 30"
2	1	8245	CYLINDER, 2" x 18"
3	2	6-6 CTX-S	FITTING, 90°, 3/8" M JIC x 3/8" M NPTF
4	8	10643-6-6	HOSE END, 3/8" x 3/8" FM JIC SWIVEL
5	1	15101	SPRING, EXTENSION, C-251
6	2	8048	VALVE 3/4" CED BLOCK
7	2	8049	VALVE, RELIEF, RPGC-JAN 3/4" & 1"
8	2	8-8 F6X-S	FITTING, 1/2" FM JIC SWIVEL x 1/2" M NPTF

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
9	2	8-12 FTX-S	FITTING, 1/2" MJIC X 3/4" MNPTF
10	2	8-8-8 RTX-S	FITTING, TEE, 1/2" M JIC x 1/2" M JIC x 1/2" M NPTF
11	4	10643-8-8	HOSE END, STRT. 1/2" FM JIC, SWIVEL
12	2	8-12 CTX-S	FITTING, 90°, 1/2" M JIC x 3/4" M NPTF
13	4	1_4 HP-S	FITTING, PLUG, HEX HEAD, 1/4" NPTF
14	6	8731	FITTING, COUPLER TIP, 1/2" F NPTF
15	3	8685	HOSE CLAMP, 3/8" DOUBLE
16	8	13743-6-6	HOSE END, 45°, 3/8" FM JIC x 3/8" HOSE, SWIVEL
17	2	3_4 X 1_2 PTR-S	FITTING, REDUCER, 3/4" M NPTF x 1/2" M NPTF
18	2	6-8 FTX-S	FITTING, 3/8" MJIC x 1/2" MNPTF
19	2	13943-8-6	HOSE END, 90°, 3/8" x 1/2" FM JIC, SWIVEL
20	6	6 WTX-WLN-S	FITTING, UNION W/NUT, 3/8" MJIC x 3/8" MJIC
21	3	6-6 F6X-S	FITTING, 3/8" FM JIC SWIVEL x 3/8" M NPTF
22	3	7896	NEEDLE VALVE, 3/8" NPTF
23	3	6-6 FTX-S	FITTING, 3/8" MNPTF x 3/8" MJIC
24	6	10143-8-6	HOSE END, 3/8" x 1/2" M NPTF
25	-	451TC-6-RL	HOSE, HYDRAULIC, 3/8" (CUT TO LENGTH)
26	-	451TC-8-RL	HOSE, HYDRAULIC, 1/2" (CUT TO LENGTH)

DOOR RAM

DOOR RAM

CROSSFEED RAM



NOTES: UNLESS OTHERWISE SPECIFIED

1 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON DOOR CONFIGURATION.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

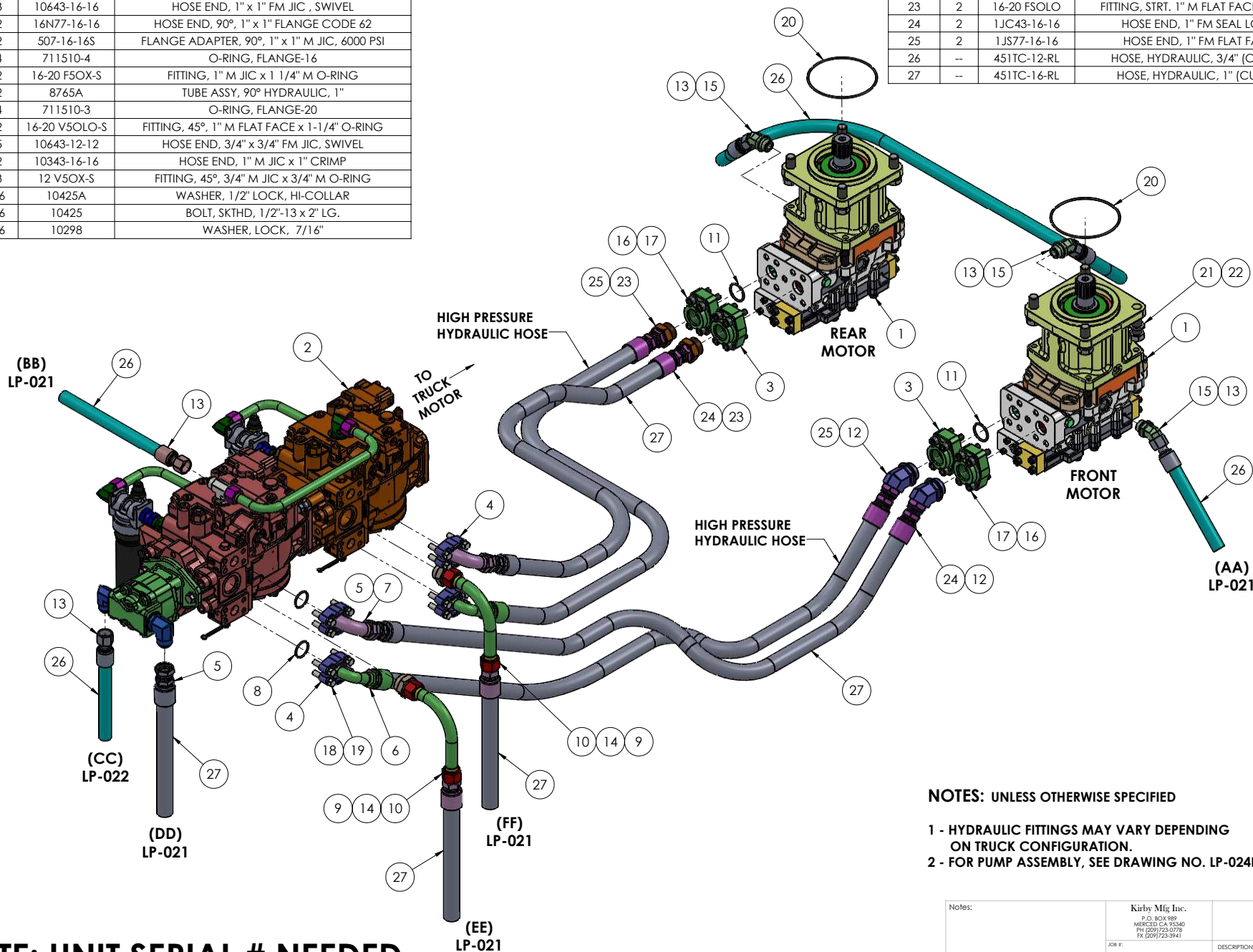
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DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION HYDRAULIC SET-UP, TRAILER
		MATERIAL P/N: SEE BOM			
DRAWN BY:	DATE	NAME	FINISH:	SITE:	PART NUMBER
DESIGNED BY:	10-17-17	ACCLURE	VENDOR:	C	LP-023B
APPROVED BY:	10-17-17		VENDOR P/N:	SCALE: 1:4	WEIGHT: lbs
					REV: -
					SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	7907	MOTOR, HYDRAULIC
2	1	SEE NOTE-2	PUMP ASSEMBLY, FRONT MOUNT
3	4	20G5Q2BSX	BLOCK ADAPTER, 1-1/4"
4	4	SFH-16HK	FLANGE, 1" SPLIT, CODE 62
5	3	10643-16-16	HOSE END, 1" x 1" FM JIC , SWIVEL
6	2	16N77-16-16	HOSE END, 90°, 1" x 1" FLANGE CODE 62
7	2	507-16-16S	FLANGE ADAPTER, 90°, 1" x 1" M JIC, 6000 PSI
8	4	711510-4	O-RING, FLANGE-16
9	2	16-20 F5OX-S	FITTING, 1" M JIC x 1 1/4" M O-RING
10	2	8765A	TUBE ASSY, 90° HYDRAULIC, 1"
11	4	711510-3	O-RING, FLANGE-20
12	2	16-20 V5OLO-S	FITTING, 45°, 1" M FLAT FACE x 1-1/4" O-RING
13	5	10643-12-12	HOSE END, 3/4" x 3/4" FM JIC, SWIVEL
14	2	10343-16-16	HOSE END, 1" M JIC x 1" CRIMP
15	3	12 V5OX-S	FITTING, 45°, 3/4" M JIC x 3/4" M O-RING
16	16	10425A	WASHER, 1/2" LOCK, HI-COLLAR
17	16	10425	BOLT, SKTHD, 1/2"-13 x 2" LG.
18	16	10298	WASHER, LOCK, 7/16"

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
19	16	10325	BOLT- 7/16" NC x 2" LG.
20	2	7417A	O-RING, GEARBOX ADAPTER
21	8	7433A	WASHER, M20 LOCK
22	8	7433B	BOLT, M20-2.5 x 55 MM LG.
23	2	16-20 FSOLO	FITTING, STRT. 1" M FLAT FACE x 1 1/4" O-RING
24	2	1JC43-16-16	HOSE END, 1" FM SEAL LOCK , SWIVEL
25	2	1JS77-16-16	HOSE END, 1" FM FLAT FACE , SWIVEL
26	--	451TC-12-RL	HOSE, HYDRAULIC, 3/4" (CUT TO LENGTH)
27	--	451TC-16-RL	HOSE, HYDRAULIC, 1" (CUT TO LENGTH)



NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

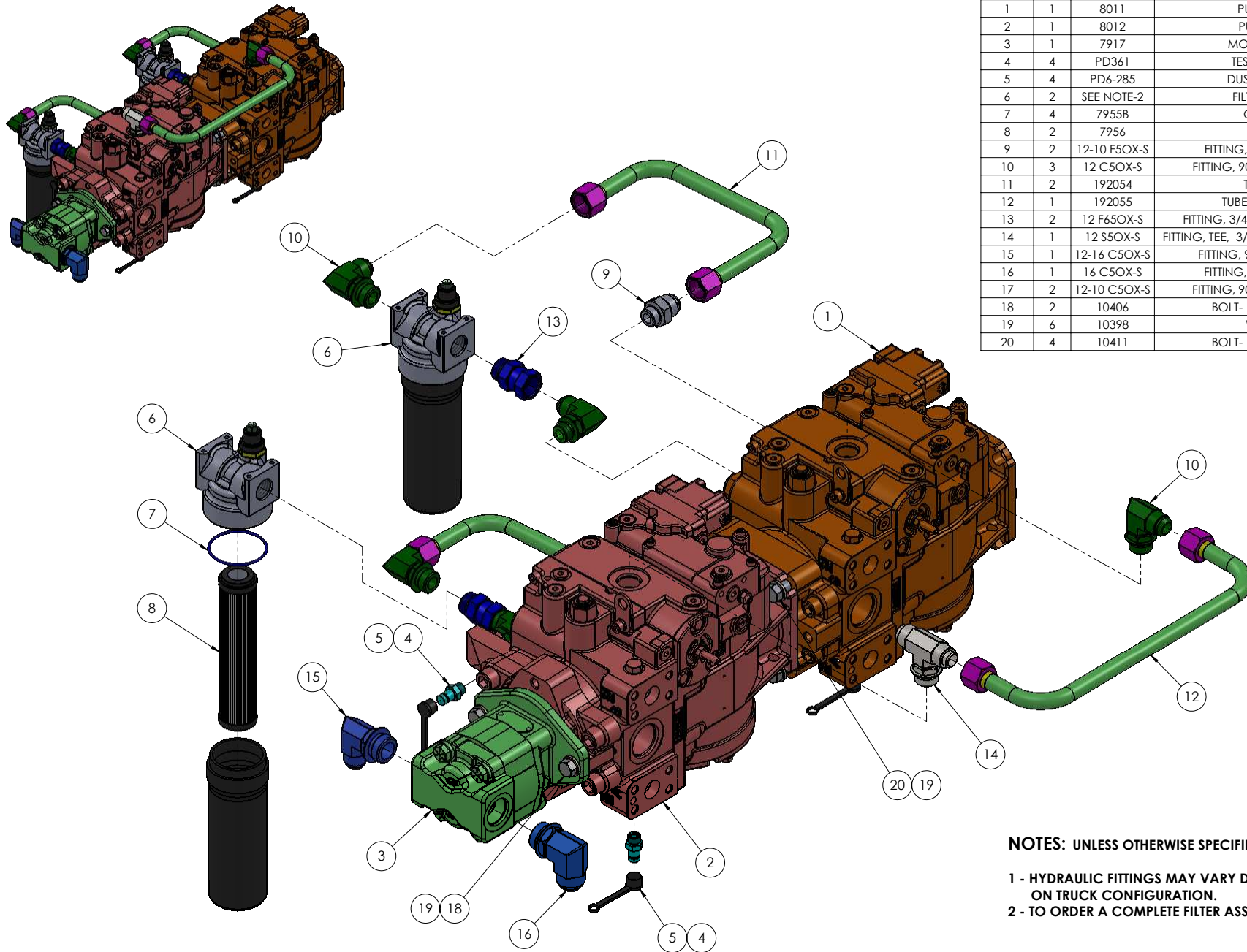
NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON TRUCK CONFIGURATION.
- 2 - FOR PUMP ASSEMBLY, SEE DRAWING NO. LP-024B.

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION PUMP & MOTOR ASSEMBLY, FRONT MOUNT
		JOB #: MATERIAL: SEE BOM			
DRAWN BY:	DATE:	NAME:	FINISH:	SITE:	PART NUMBER:
DESIGNED BY:	8-11-17	ACCLURE	VENDOR:	C	LP-024A
APPROVED BY:			VENDOR P/N:	SCALE: 1:4	WEIGHT: 541.486449 lbs

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TOLERANCES:
FRACTIONAL: ±
ANGULAR: MACH ±
BEND: ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL: ±



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	8011	PUMP, 90L100KP-CDSPL
2	1	8012	PUMP, 90L100KP-BCSPL
3	1	7917	MOTOR, HYDRAULIC PUMP
4	4	PD361	TEST PORT, 3/8" M O-RING
5	4	PD6-285	DUST CAP FOR PARKER TIPS
6	2	SEE NOTE-2	FILTER, HYDRAULIC INLINE
7	4	7955B	O-RING, INLINE FILTER
8	2	7956	FILTER ELEMENT
9	2	12-10 F5OX-S	FITTING, 3/4" M JIC x 5/8" M O-RING
10	3	12 C5OX-S	FITTING, 90°, 3/4" M JIC x 3/4" M O-RING
11	2	192054	TUBE, 3/4" FILTER TUBE
12	1	192055	TUBE, 3/4" PUMP CASE DRAIN
13	2	12 F65OX-S	FITTING, 3/4" FM JIC SWVL. x 3/4" M O-RING
14	1	12 S5OX-S	FITTING, TEE, 3/4" M JIC x 3/4" M JIC x 3/4" O-RING
15	1	12-16 C5OX-S	FITTING, 90°, 3/4" M JIC x 1" M O-RING
16	1	16 C5OX-S	FITTING, 90°, 1" M JIC x 1" M O-RING
17	2	12-10 C5OX-S	FITTING, 90°, 3/4" M JIC x 5/8" M O-RING
18	2	10406	BOLT- 1/2" NC GRD.5 x 1 1/4" LG.
19	6	10398	WASHER, LOCK- 1/2"
20	4	10411	BOLT- 1/2" NC GRD.5 x 1 1/2" LG.


NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON TRUCK CONFIGURATION.
- 2 - TO ORDER A COMPLETE FILTER ASSEMBLY, USE PART NO. 7955.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

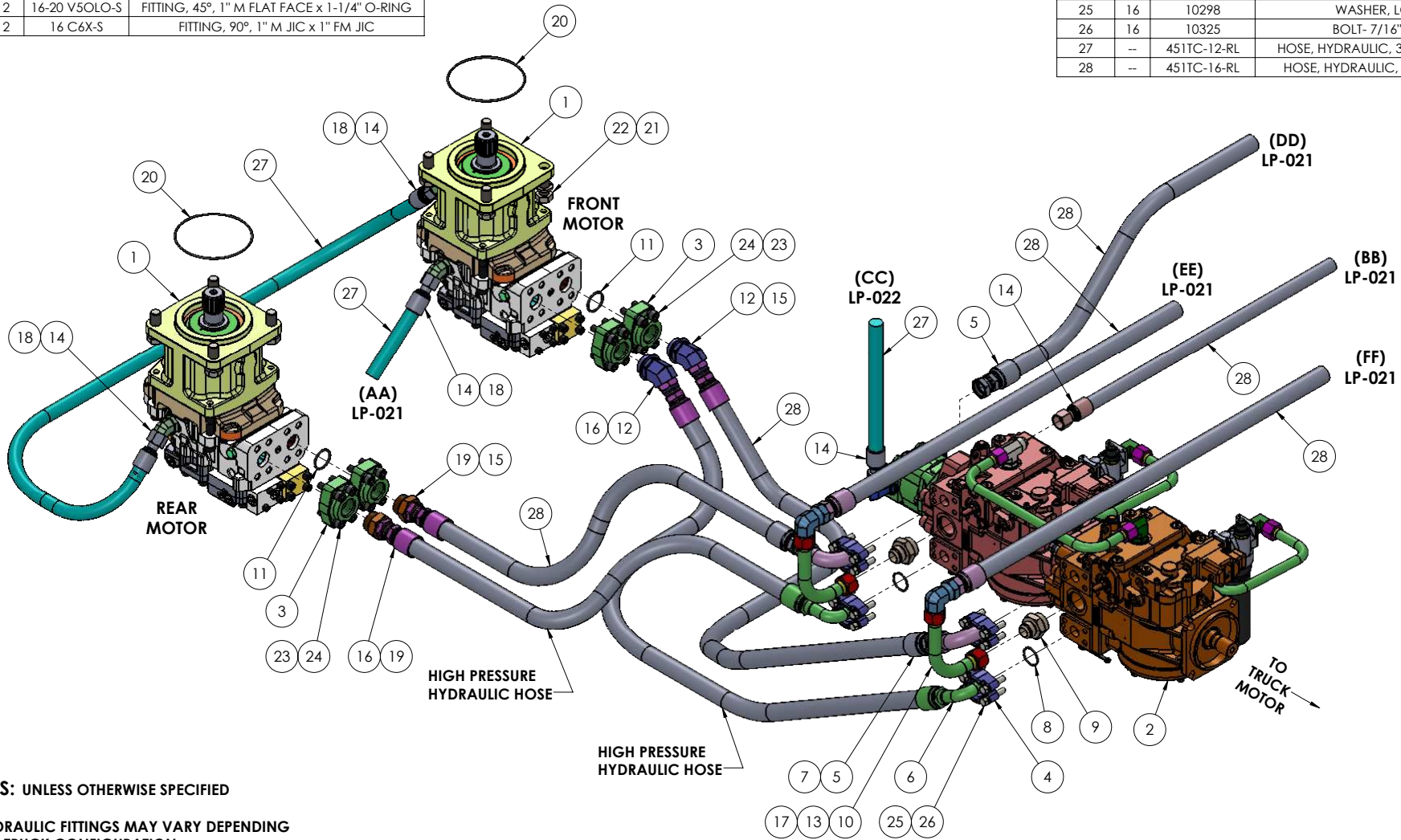
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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR ±
 DECIMAL ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION PUMP ASSEMBLY, FRONT MOUNT
		JOB #: MATERIAL: SEE BOM		
DRAWN BY:	DATE:	NAME:	MATERIAL P/N:	SIZE:
DESIGNED BY:	8-11-17	ACCLURE	FINISH:	C
APPROVED BY:	8-11-17		VENDOR:	LP-024B
			VENDOR P/N:	SCALE: 3/8" WEIGHT: 219.913184 lbs SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	7907	MOTOR, HYDRAULIC
2	1	SEE NOTE-2	PUMP ASSEMBLY, REAR MOUNT
3	4	20G5Q2BSX	BLOCK, ADAPTER, 1-1/4"
4	4	SFH-16HK	FLANGE, 1" SPLIT, CODE 62
5	3	10643-16-16	HOSE END, 1" x 1" FM JIC, SWIVEL
6	2	16N77-16-16	HOSE END, 90°, 1" x 1" FLANGE CODE 62
7	2	507-16-16S	FLANGE ADAPTER, 90°, 1" x 1" M JIC, 6000 PSI
8	4	711510-4	O-RING, FLANGE-16
9	2	16-20 FSOX-S	FITTING, 1" M JIC x 1 1/4" M O-RING
10	2	8765A	TUBE, 90° HYDRAULIC, 1"
11	4	711510-3	O-RING, FLANGE-20
12	2	16-20 V5OLO-S	FITTING, 45°, 1" M FLAT FACE x 1-1/4" O-RING
13	2	16 C6X-S	FITTING, 90°, 1" M JIC x 1" FM JIC

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
14	5	10643-12-12	HOSE END, 3/4" x 3/4" FM JIC, SWIVEL
15	2	1JC43-16-16	HOSE END, 1" FM SEAL LOCK, SWIVEL
16	2	1JS77-16-16	HOSE END, 1" FM FLAT FACE, SWIVEL
17	2	10343-16-16	HOSE END, 1" M JIC x 1" CRIMP
18	3	12 V5OX-S	FITTING, 45°, 3/4" M JIC x 3/4" M O-RING
19	2	16-20 FSOLO	FITTING, 1" M FLAT FACE x 1 1/4" O-RING
20	2	7417A	O-RING, GEARBOX ADAPTER
21	8	7433A	WASHER, M20 LOCK
22	8	7433B	BOLT, M20-2.5 x 55 MM LG.
23	16	10425A	WASHER, 1/2" LOCK, HI-COLLAR
24	16	10425	BOLT, SKTHD, 1/2"-13 x 2" LG.
25	16	10298	WASHER, LOCK, 7/16"
26	16	10325	BOLT- 7/16" NC x 2" LG.
27	--	451TC-12-RL	HOSE, HYDRAULIC, 3/4" (CUT TO LENGTH)
28	--	451TC-16-RL	HOSE, HYDRAULIC, 1" (CUT TO LENGTH)



NOTES: UNLESS OTHERWISE SPECIFIED

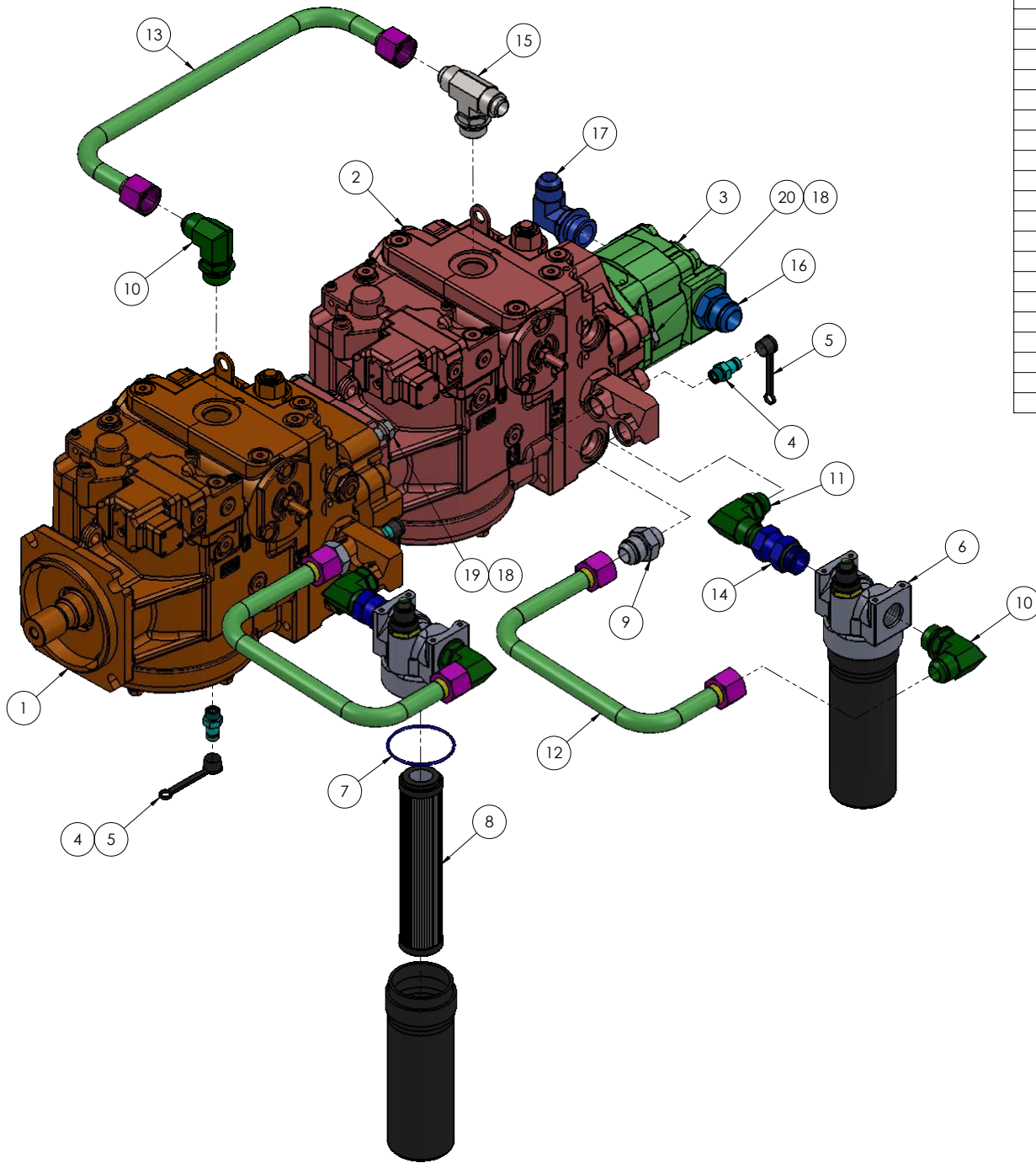
- 1 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON TRUCK CONFIGURATION.
- 2 - FOR PUMP ASSEMBLY, SEE DRAWING NO. LP-025B.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

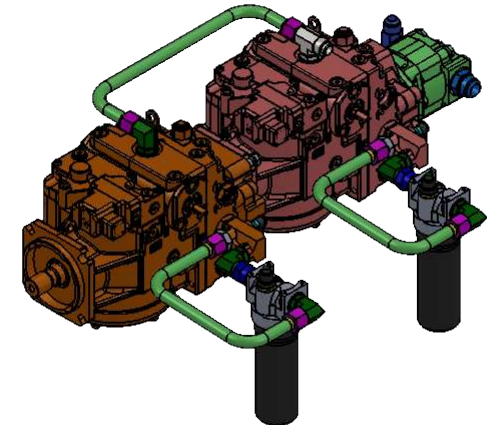
Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		
		JOB #: MATERIAL: SEE BOM		
DRAWN BY:	8-11-17	ACCLURE	FINISH:	SIZE:
DESIGNED BY:	8-11-17		VENDOR:	C
APPROVED BY:			VENDOR P/N:	LP-025A
				SCALE: 1:16
				WEIGHT: 544.126053 lbs
				SHEET 1 OF 1

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DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	8009	PUMP, 90R100KP-CDSPL
2	1	8010	PUMP, 90R100KP-BCSPL
3	1	7917	MOTOR, HYDRAULIC PUMP
4	4	PD361	TEST PORT, 3/8" M O-RING
5	4	PD6-285	DUST CAP FOR PARKER TIPS
6	2	SEE NOTE-2	FILTER, HYDRAULIC INLINE
7	4	7955B	O-RING, INLINE FILTER
8	2	7956	FILTER ELEMENT
9	2	12-10 F5OX-S	FITTING, 3/4" M JIC x 5/8" M O-RING
10	3	12 C5OX-S	FITTING, 90°, 3/4" M JIC x 3/4" M O-RING
11	2	12-10 C5OX-S	FITTING, 90°, 3/4" M JIC x 5/8" M O-RING
12	2	192054	TUBE, 3/4" FILTER TUBE
13	1	192055	TUBE, 3/4" PUMP CASE DRAIN
14	2	12 F65OX-S	FITTING, 3/4" FM JIC SWVL. x 3/4" M O-RING
15	1	12 S5OX-S	FITTING, TEE, 3/4" M JIC x 3/4" M JIC x 3/4" O-RING
16	1	16 F5OX-S	FITTING, 1" M JIC x 1" M O-RING
17	1	12-16 C5OX-S	FITTING, 90°, 3/4" M JIC x 1" M O-RING
18	6	10398	WASHER, LOCK- 1/2"
19	4	10411	BOLT- 1/2" NC GRD.5 x 1 1/2" LG.
20	2	10406	BOLT- 1/2" NC GRD.5 x 1 1/4" LG.



NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON TRUCK CONFIGURATION.**
- 2 - TO ORDER A COMPLETE FILTER ASSEMBLY, USE PART NO. 7955.**

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

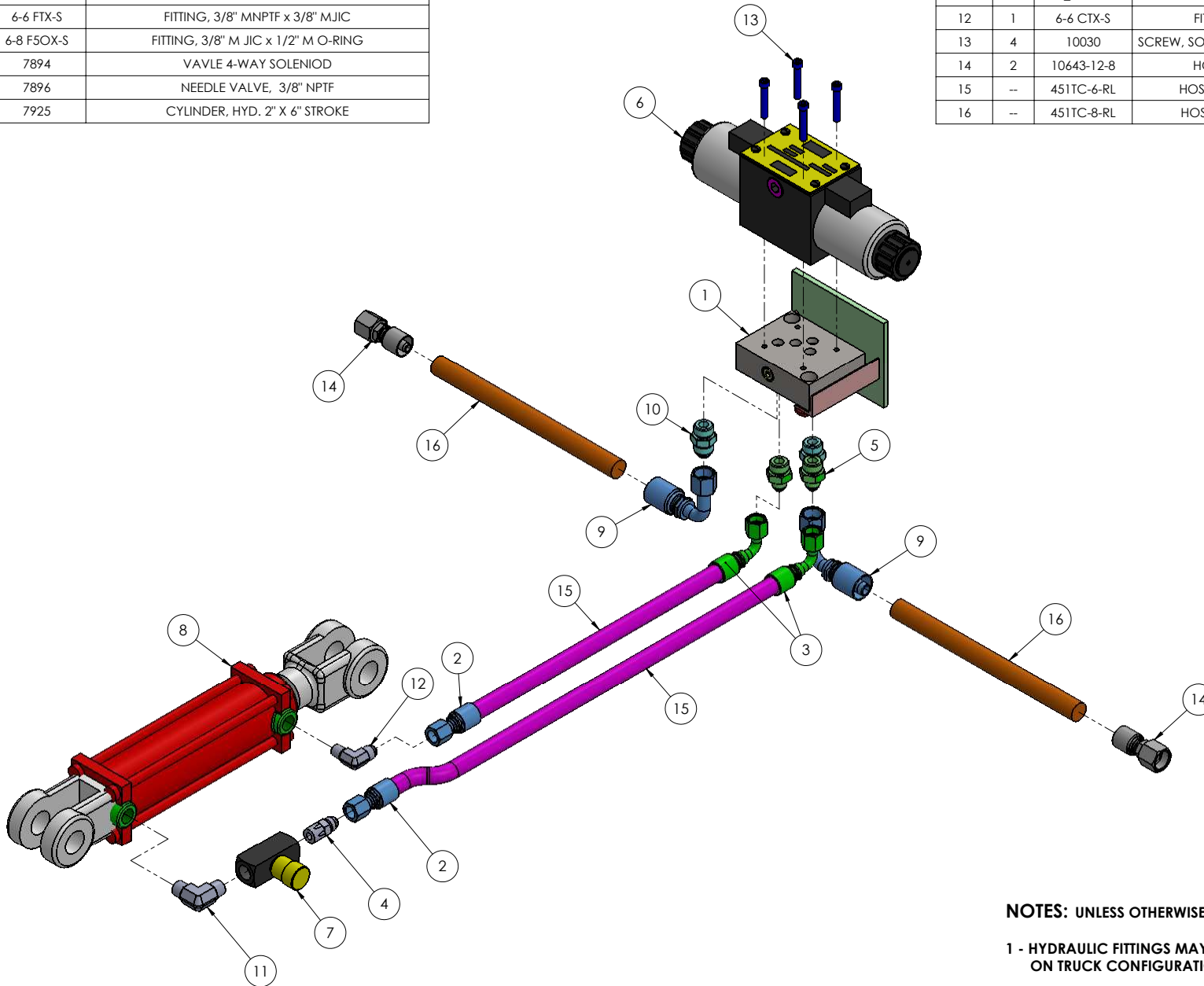
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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL: ±
 ANGULAR: MACH ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			DESCRIPTION PUMP ASSEMBLY, REAR MOUNT
		JOB #: MATERIAL: SEE BOM			
DRAWN BY:	DATE	NAME	FINISH:	SIZE	PART NUMBER
DESIGNED BY:	8-11-17	MCCLURE	VENDOR:	C	LP-025B
APPROVED BY:			VENDOR P/N:	SCALE: 5:14	WEIGHT: 219.847063 lbs
					SHEET 1 OF 1

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	8071	SOLENOID BLOCK
2	2	10643-6-6	HOSE END, 3/8" x 3/8" FM JIC SWIVEL
3	2	13943-6-6	HOSE END, 90°, 3/8" x 3/8" FM JIC, SWIVEL
4	1	6-6 FTX-S	FITTING, 3/8" MNPTF x 3/8" MJIC
5	2	6-8 F5OX-S	FITTING, 3/8" M JIC x 1/2" M O-RING
6	1	7894	VAVLE 4-WAY SOLENIOD
7	1	7896	NEEDLE VALVE, 3/8" NPTF
8	1	7925	CYLINDER, HYD. 2" X 6" STROKE

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
9	2	13943-8-8	HOSE END, 90°, 1/2", x 1/2" FM JIC, SWIVEL
10	2	8 F5OX-S	FITTING, 1/2" M JIC x 1/2" M O-RING
11	1	3_8 CR-S	FITTING, 90°, 3/8" M NPTF x 3/8" M NPTF
12	1	6-6 CTX-S	FITTING, 90°, 3/8" M JIC x 3/8" M NPTF
13	4	10030	SCREW, SOCKET HEAD CAP- 1/4" NC GRD.5 x 1 1/2" LG.
14	2	10643-12-8	HOSE END, 1/2" x 3/4" FM JIC, SWIVEL
15	--	451TC-6-RL	HOSE, HYDRAULIC, 3/8" (CUT TO LENGTH)
16	--	451TC-8-RL	HOSE, HYDRAULIC, 1/2" (CUT TO LENGTH)



NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

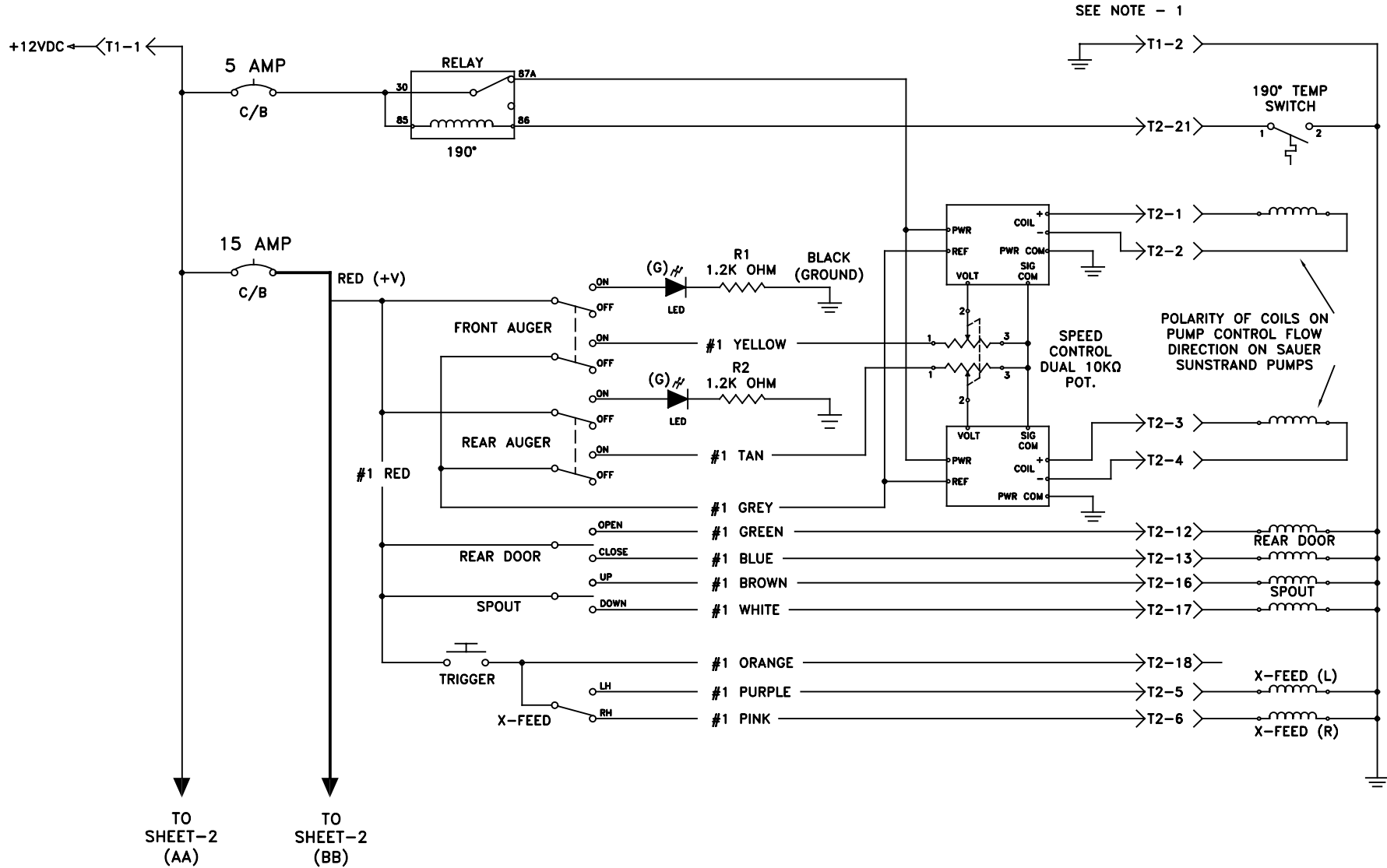
NOTES: UNLESS OTHERWISE SPECIFIED

1 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON TRUCK CONFIGURATION.

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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			
		JOB #: MATERIAL: SEE BOM			DESCRIPTION FOLDING SPOUT, HYDRAULICS
DRAWN BY:	DATE	NAME	FINISH:	SIZE	
DESIGNED BY:	8-11-17	MCCLURE	VENDOR:	C	
APPROVED BY:	8-11-17		VENDOR P/N:	LP-026	
				SCALE: 11:30	WEIGHT: lbs
				SHEET 1 OF 1	



Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)252-0718 FX (209)252-3941		
JOB #		MATERIAL		
DATE		MATERIAL P/W		ELECTRICAL SCHEMATIC VERTICAL TRUCK - I
DRAWN BY: 2-17-17		FINISH		
DESIGNED BY:		VENDOR:		SIZE
APPROVED BY:		VENDOR P/W		PART NUMBER
				LP-027A
				SCALE: 1:1
				WEIGHT: lbs
				SHEET 1 OF 3

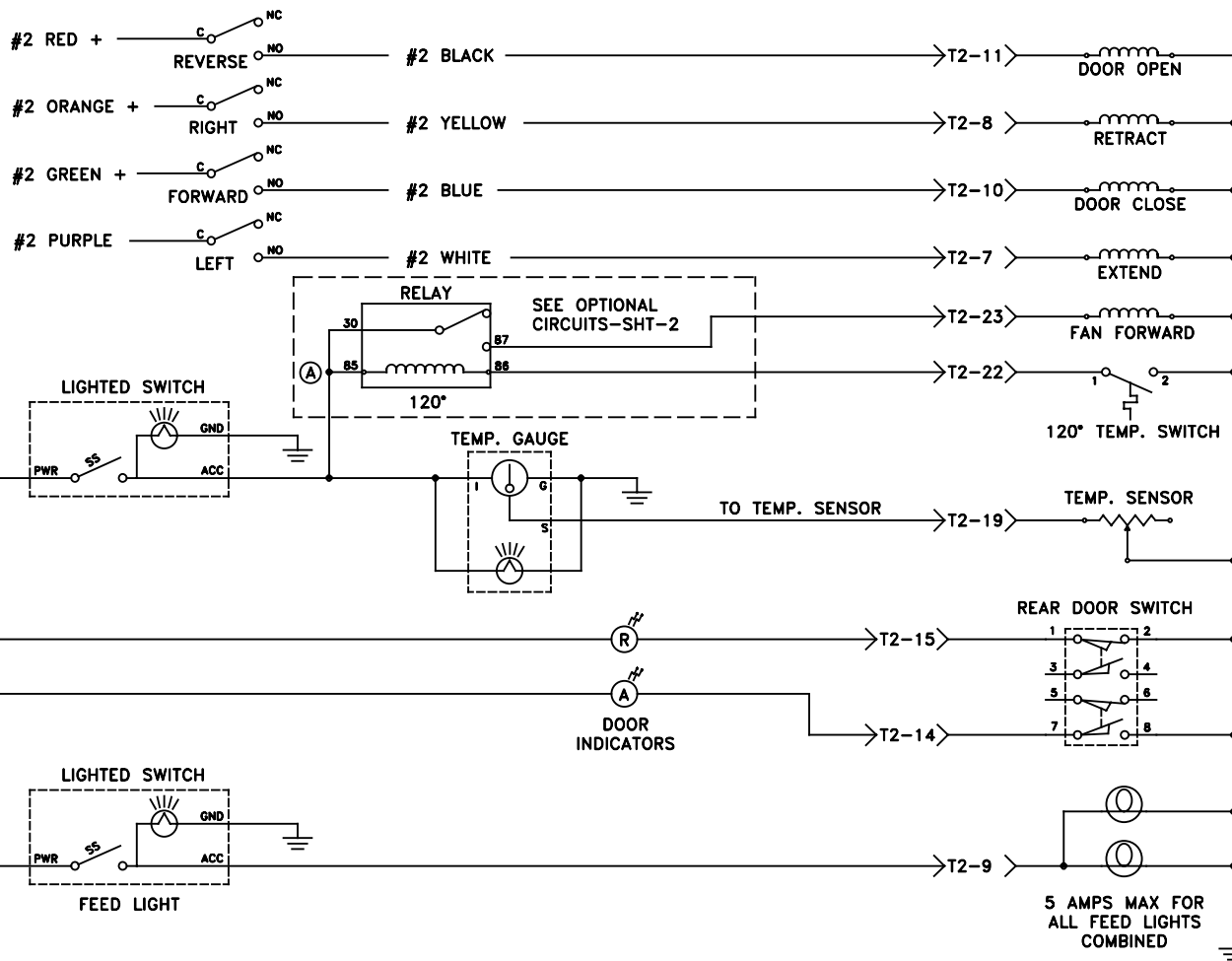
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DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR INCH ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

FROM SHEET-1 (AA)

FROM SHEET-1 (BB)

+12VDC



Notes:		Kirby Mfg Inc. P.O. BOX 389 MURFREESBORO, TN 38554 PH (615) 723-3778 FX (615) 723-3941		
		LEAD # MATERIAL # MATERIAL P/N		
DATE	2-17-17	NAME	MCCLELL	FINISH
DESIGNED BY:		VENDOR:		
APPROVED BY:		VENDOR P/N		
DESCRIPTION		ELECTRICAL SCHEMATIC VERTICAL TRUCK - II		
SIZE	C	PART NUMBER	LP-027B	REV.
SCALE	1:1	WEIGHT	lbs	SHEET 2 OF 3

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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

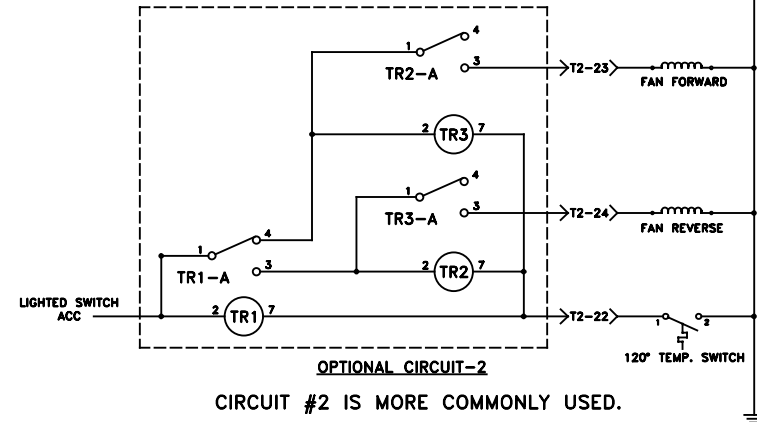
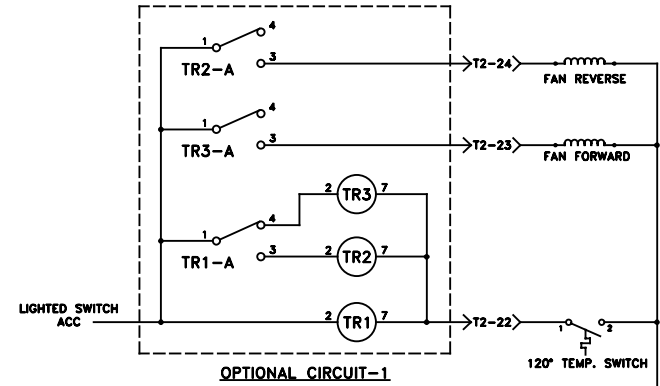
NOTES: UNLESS OTHERWISE SPECIFIED

1. SYMBOLS TO LEFT OF TERMINAL → CONNECT TO GROUND TERMINAL INSIDE JOYSTICK.
2. COLORS ON TABLE REFER TO CONTROL CABLE ON UNIT SIDE TO SOLENOIDS & SWITCHES.

3.

ROTATION /MOUNT	CURRENT SETTINGS	LINDE PUMP HAUXSF100(5484)	CURRENT SETTINGS	SAUER PUMP HAUXSF200(5484A)
CW REAR	400-800ma	COIL + PIN-1	0-80ma	COIL + PIN-C
CCW FRONT		COIL - PIN-2		COIL - PIN-D
	COIL + PIN-1	COIL + PIN-D		
	COIL - PIN-2	COIL - PIN-C		
CONNECTOR ON PUMP		(HIRSCHMANN)		(4-FLAT WEATHERPACK)

PIN #	COLOR	BASIC LAYOUT	SIDE DOOR LAYOUT
1	BLK	FRONT AUGER COIL +	
2	RED	FRONT AUGER COIL -	
3	BLU	REAR AUGER COIL +	
4	ORG	REAR AUGER COIL -	
5	YEL	X-FEED MOTOR LEFT	RIGHT SIDE FRONT DOOR UP
6	BRN	X-FEED MOTOR RIGHT	RIGHT SIDE FRONT DOOR DOWN
7	RED/BLK	X-FEED RAM EXTEND	RIGHT SIDE REAR DOOR UP
8	BLU/BLK	X-FEED RAM RETRACT	RIGHT SIDE REAR DOOR DOWN
9	ORG/BLK	FEED LIGHT	
10	YEL/BLK	FRONT DOOR UP	LEFT SIDE FRONT DOOR UP
11	BRN/BLK	FRONT DOOR DOWN	LEFT SIDE FRONT DOOR DOWN
12	BLK/RED	REAR DOOR UP	
13	BLU/RED	REAR DOOR DOWN	
14	ORG/RED	BACK DOOR LIGHT OPEN GREEN	
15	YEL/RED	BACK DOOR LIGHT CLOSE RED	
16	BRN/RED	SPOUT UP	LEFT SIDE REAR DOOR UP
17	BLK/BLU	SPOUT DOWN	LEFT SIDE REAR DOOR DOWN
18	RED/BLU	TRIGGER OPTION	
19	ORG/BLU	TEMP GAUGE / SENSOR	
20	YEL/BLU		
21	BRN/BLU	190° OVER TEMP. RELAY GROUND SIGNAL	
22	BLK/ORG	120° FAN RELAY GROUND SIGNAL	
23	RED/ORG	FAN FORWARD	
24	BLU/ORG	FAN REVERSE	



TIMER RELAY DIP SWITCH SETTING

SWITCH NO.	1	2	3	4	5	6	7	8	9	10	11	12
TR1	ON	X		X	X	X						X
	OFF	X		X	X	X					X	
TR2&3				X								X

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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 NEWTON, MA 02459 TEL: (617) 552-0778 FX: (617) 552-3941			
DRAWN BY: 2-17-17		DATE: 2-17-17			
DESIGNED BY:		NAME:		FINISH:	
APPROVED BY:		NOCURE:		VENDOR:	
				SCALE: 1:1	
				WEIGHT: lbs	
				SHEET 3 OF 3	



REMOTE DISPLAY
SEE NOTE-1 AND 2



JOYSTICK CONTROLLER
SEE NOTE-3

COMMON SPARE PARTS FOR JOYSTICK CONTROLLER


ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	5306	LED, RED, 12V
2	1	5307	LED, AMBER, 12V
3	1	4750	CIRCUIT BREAKER, 5-AMP
4	1	4745	CIRCUIT BREAKER, 10-AMP
5	1	4748	CIRCUIT BREAKER, 15-AMP
6	1	4746	SWITCH, RED, DUCK BILL
7	1	4747	SWITCH, AMBER, DUCK BILL
8	2	5484A	PUMP DRIVER CARD
9	1	5485A	JOYSTICK
10	2	73980	RELAY, 12V
11	1	ATM4347	GAUGE, OIL TEMP

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
12	1	22102F	ARMREST, JOYSTICK BOX
13	1	5485A1	MICRO SWITCH
14	1	676-3000	SWITCH, SPDT, ON/NONE/ON
15	1	676-3010	SWITCH, SPDT, MOM/OFF/MOM
16	1	676-3025	SWITCH, DPDT, ON/OFF
17	3	70185514	RELAY SOCKET, 8-PIN
18	1	70089073	TIMER, CYCLE REPEAT
19	2	70089081	TIMER, ON DELAY
20	1	226-1034-ND	KNOB, POTENTIOMETER
21	1	D381N10K-ND	POTENTIOMETER, DUAL 10K OHM

NOTES: UNLESS OTHERWISE SPECIFIED

- 1 - TO ORDER COMPLETE ASSEMBLY WITH DISPLAY AND CABLE, USE PART NO. 5204.
- 2 - TO ORDER COMPLETE ASSEMBLY WITH DISPLAY, CABLE, XMTR AND RCVR, USE PART NO. 5205.
- 3 - TO ORDER COMPLETE JOYSTICK CONTROLLER ASSEMBLY, USE PART NO. 22078V. FOR INDIVIDUAL COMPONENTS, USE SPARE PARTS LIST SHOWN ON DRAWING..

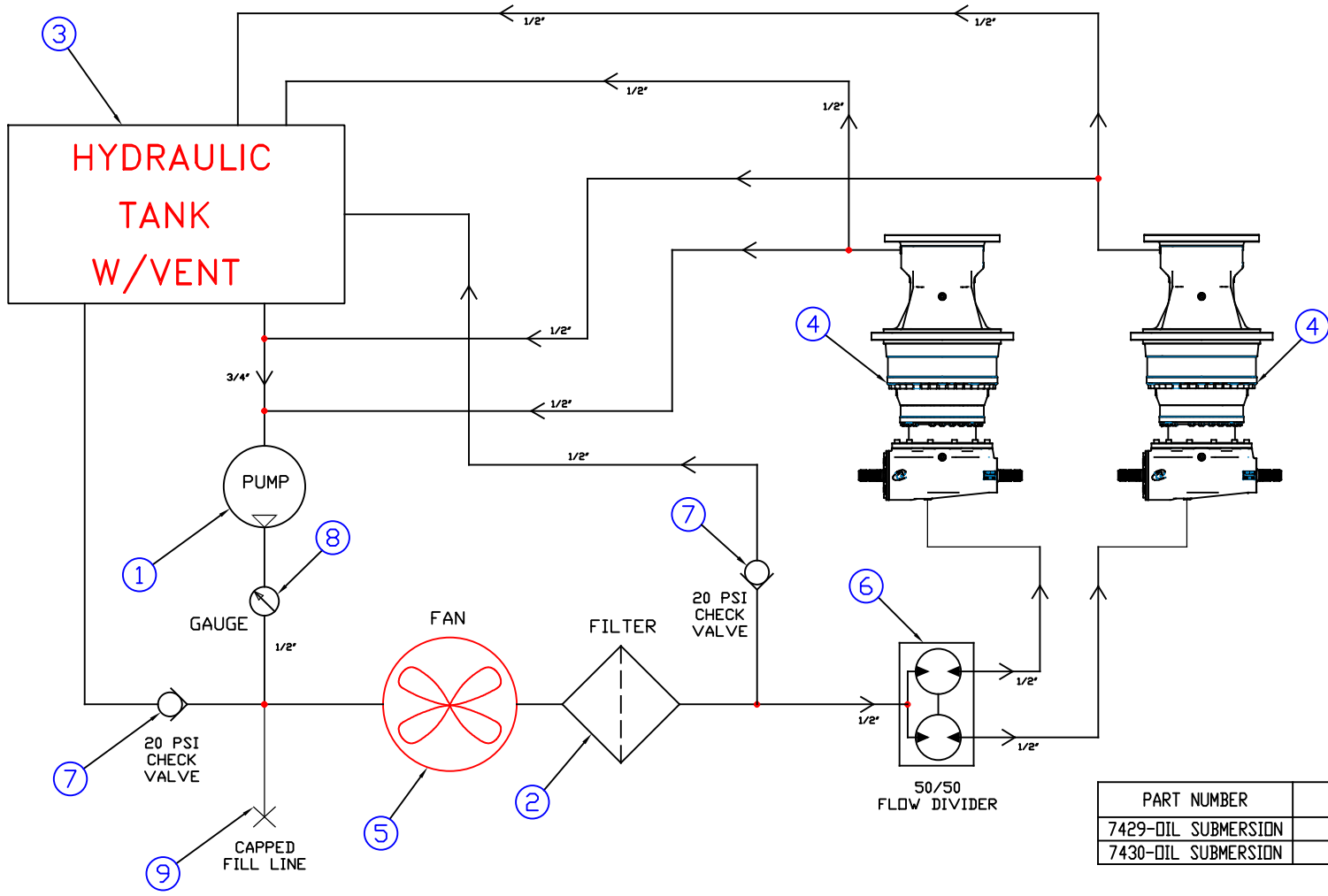
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION TRUCK CAB COMPONENTS	
JOB #:		MATERIAL:			
DRAWN BY: S-11-17		DATE: 11-17		FINISH:	
DESIGNED BY:		NAME: MCCLEURE		VENDOR:	
APPROVED BY:		MATERIAL P/N:		VENDOR P/N:	
SCALE: 1:2		WEIGHT: lbs		SHEET 1 OF 1	
SIZE: C		PART NUMBER: LP-028		REV:	

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DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7438	GEAR PUMP
2	1	7893 / 7903	FILTER ELEMENT
3	1	1600-0025	TANK, GEAR OIL
4	2	SEE NOTE BELOW	GEARBOX, COMER
5	1	7923-E	COOLER, HYDRAULIC
6	1	8059	DIVIDER COMBINER, 50/50
7	2	8999 / 8990A	CHECK VALVE, 20 PSI
8	1	4066K41	PRESSURE GAUGE, 0-200 PSI
9	1	8 FNTX-S	END CAP, 1/2" FLARE TUBE



PART NUMBER	DESCRIPTION
7429-OIL SUBMERSION	WITH TWO SPEED
7430-OIL SUBMERSION	DIRECT DRIVE

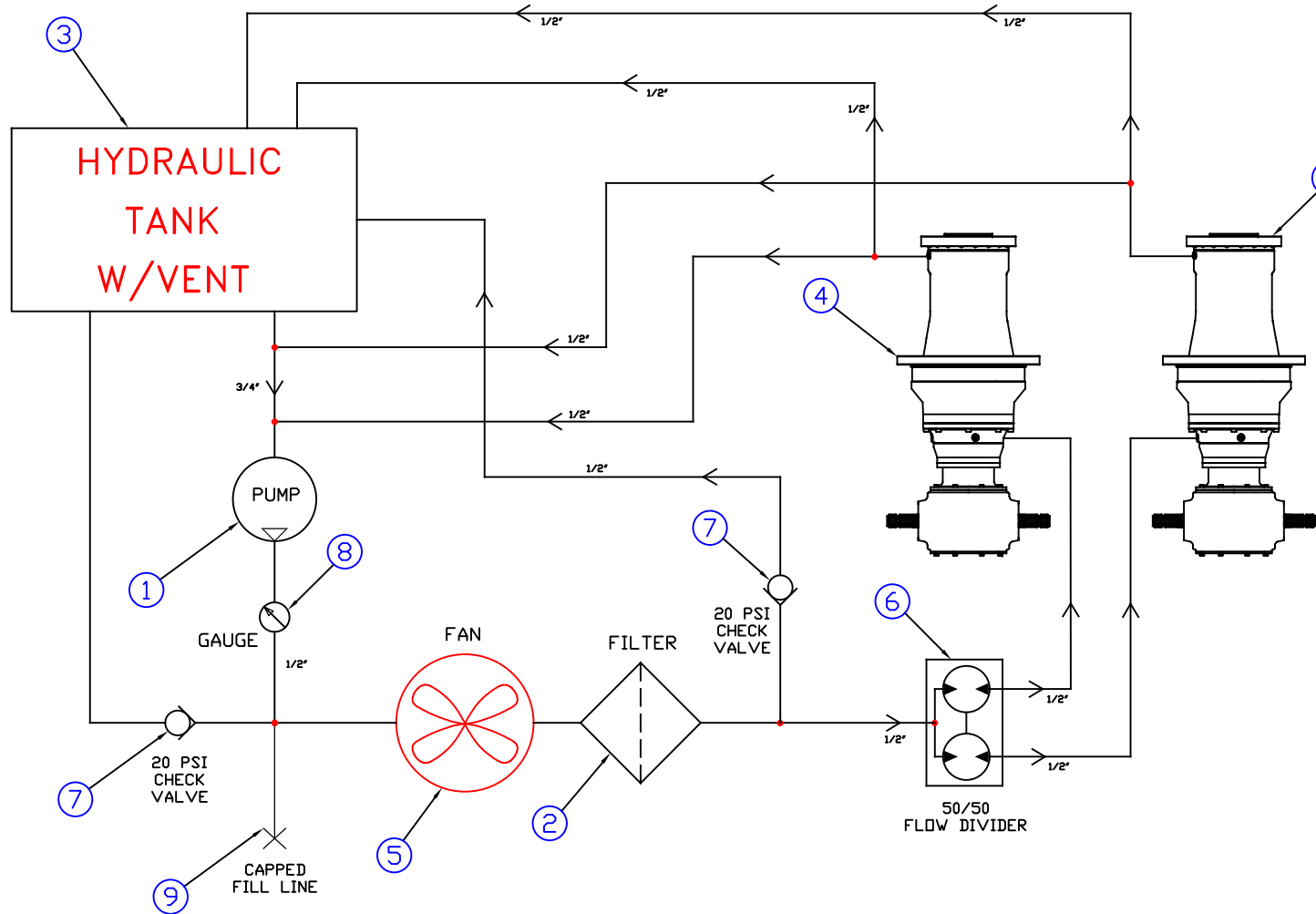
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL: ±
 ANGULAR: MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED, CA 95340 PH 209/785-0778 FX 209/785-3941			
		JOB #		DESCRIPTION	
		MATERIAL P/N		HYDRAULIC CIRCUIT COOLING SYSTEM, COMER	
		FINISH		SIZE PART NUMBER LP-029 REV.	
		VENDOR		C	
		VENDOR P/N		SCALE: 1/1 WEIGHT: lbs SHEET 1 OF 1	
DESIGNED BY:	DATE: 4-24-20	NAME: MCCLURE	APPROVED BY:		

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7439	GEAR PUMP
2	1	7893 / 7903	FILTER ELEMENT
3	1	1600-0025	TANK, GEAR OIL
4	2	7436	GEARBOX, RR3200
5	1	8016	COOLER, HYDRAULIC
6	1	8059	DIVIDER COMBINER, 50/50
7	2	8999 / 8990A	CHECK VALVE, 20 PSI
8	1	4066K41	PRESSURE GAUGE, 0-200 PSI
9	1	8 FNTX-S	END CAP, 1/2" FLARE TUBE



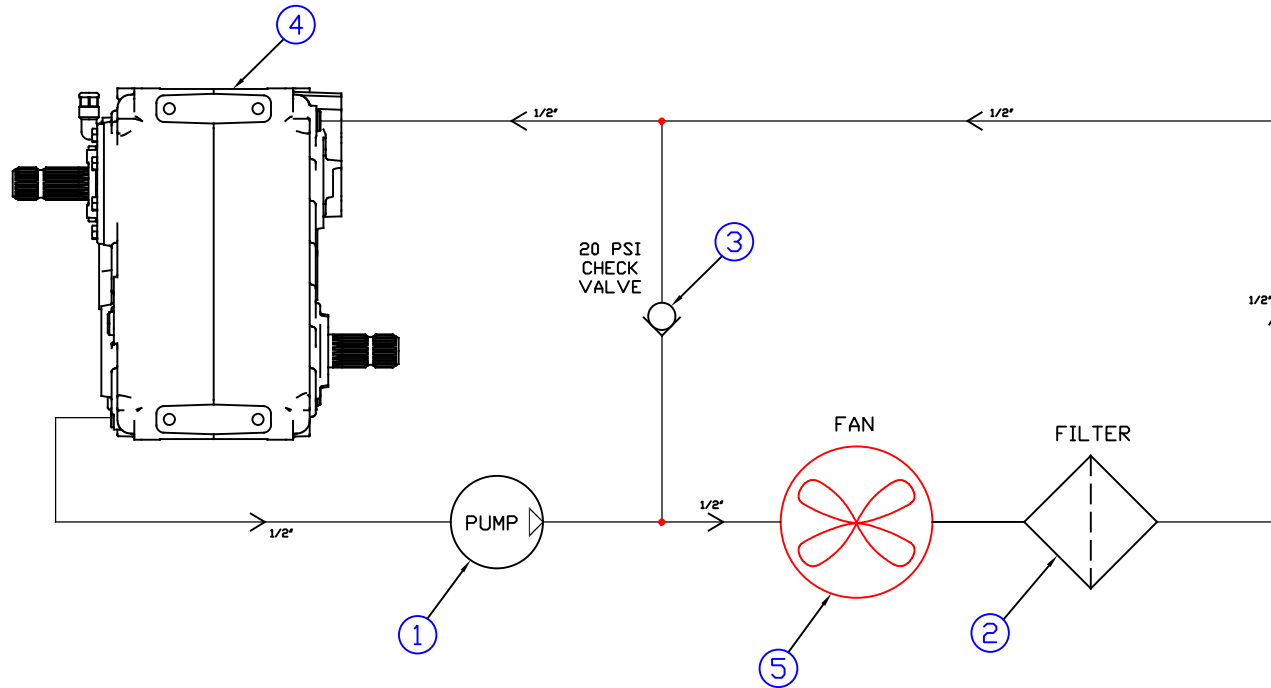
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL ±
 ANGULAR MM ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:			Kirby Mfg Inc.		DESCRIPTION	
			P.O. BOX 999 MERRIDEN LA 70540 PH (504)723-9778 FX (504)723-9941		HYDRAULIC CIRCUIT COOLING SYSTEM, REGGIANA	
			MATERIAL P/N		SIZE PART NUMBER LP-030 REV.	
			FINISH		SCALE: 1:1 WEIGHT: lbs SHEET 1 OF 1	
			VENDOR			
			VENDOR P/N			
			DATE 4-24-20			
			NAME MCCLURE			
			DRAWN BY:			
			DESIGNED BY:			
			APPROVED BY:			


ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7596F	GEAR PUMP
2	1	7893 / 7903	FILTER ELEMENT
3	1	8999 / 8990A	CHECK VALVE, 20 PSI
4	1	7596	GEARBOX, 2-SPEED COMER
5	1	7923-E	COOLER, HYDRAULIC



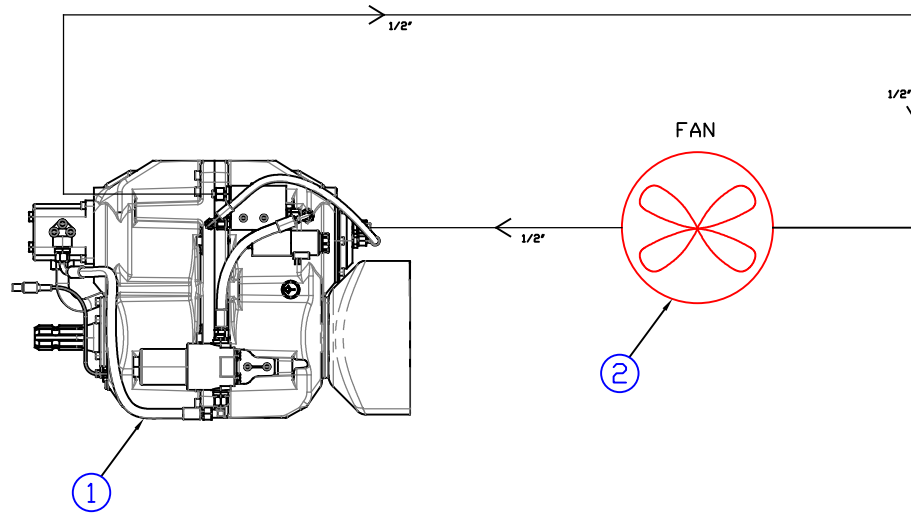
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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 TOLERANCES:
 FRACTIONAL ±
 ANGULAR MACH ± BEND ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:			Kirby Mfg Inc. P.O. BOX 889 MCKEE, LA 98340 PH (206)723-0778 FX (206)723-3941		 DESCRIPTION COOLING SYSTEM, COMER 2-SPEED GEARBOX	
JOB #			MATERIAL		SIZE PART NUMBER LP-031 REV.	
DRAWN BY: 9-2-20			MATERIAL P/N		SCALE: 1:1 WEIGHT: lbs SHEET 1 OF 1	
DESIGNED BY:			FINISH			
APPROVED BY:			VENDOR			
			VENDOR P/N			


ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7602	GEARBOX, 2-SPEED ZUIDBERG
2	1	7923-E	COOLER, HYDRAULIC



**NOTE: UNIT SERIAL # NEEDED
FOR ALL PART ORDERS**

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TOLERANCES:
FRACTIONAL ±
ANGULAR MATCH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

Notes:		Kirby Mfg. Inc. P.O. BOX 889 MERRILL, IA 52540 PH (319)723-0778 FX (319)723-3941			
JOB #:		MATERIAL:		DESCRIPTION COOLING SYSTEM, ZUIDBERG 2-SPEED GEARBOX	
DRAWN BY:		DATE:		SIZE: PART NUMBER	
DESIGNED BY:		NAME:		C 1 LP-032	
APPROVED BY:		MODULE:		SCALE: 1:1 WEIGHT: lbs SHEET 1 OF 1	
		FINISH:		REV.	
		VENDOR:			
		VENDOR P/N:			

⚠ DANGER



ROTATING PARTS
 Disengage PTO before servicing, cleaning, or clearing a clogged machine.
 Stay off machine when it's running.
 Machine can be hazardous in the hands of an **UNFAMILIAR, UNTRAINED, or COMPLACENT** operator.
 Don't risk **INJURY** or **DEATH**.

KM09

P/N KM09

⚠ WARNING

To prevent serious injury or death:

- Read and understand owner's manual before using. Review safety precautions annually.
- No riders allowed when transporting.
- Securely attach to towing unit. Use a high strength appropriately sized hitch pin with a mechanical retainer and attach safety chain.
- Do not exceed 20 mph (33 kph). Slow down for corners and rough terrain.
- Do not drink and drive.
- Before moving running gear, be sure required lights and reflectors are installed and working.
- Before maintenance or repair, stop vehicle, set parking brake, and remove ignition key.
- Place safety stands under frame and chock wheels before working on tires or running gear.
- Maintain wheel bolts at torque as recommended in the manual.
- If equipped with brakes, maintain proper adjustment.

4613

P/N 4613

GEARBOX RESERVOIR

**PRIOR TO STARTING UP
 CHECK OIL LEVEL DAILY
 (PARK ON LEVEL GROUND)**

CAUTION

**OIL MUST BE VISIBLE
 IN SIGHT GLASS PRIOR
 TO OPERATING EQUIPMENT**

FILL LEVEL



TYPE OF LUBRICANT

**SYNTHETIC GEAR OIL WITH
 EP ADDITIVE ISO 220**

KM 46

P/N KM46

⚠ WARNING



Moving parts can crush and cut.
 Keep hands clear.
 Do not operate with guard removed.

P/N KM62

⚠ WARNING




Pinch point.
 Keep hands clear during operation.

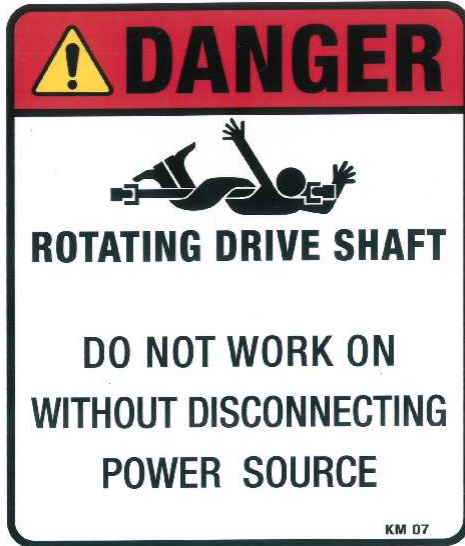
P/N KM63

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

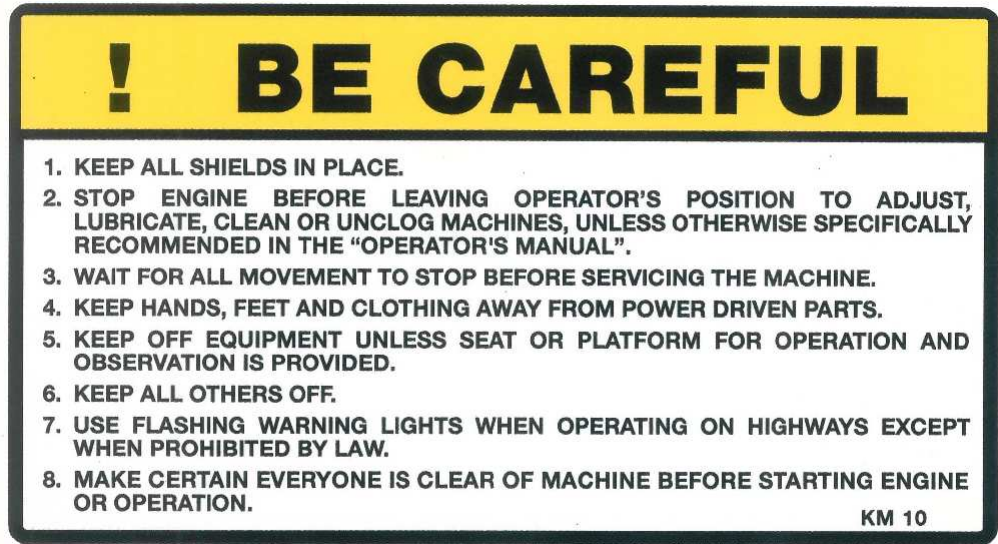
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 TOLERANCES:
 FRACTIONAL ±
 ANGULAR: MACH ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-3978 FX (209)723-3941			
		JOB #: MATERIAL:			
DRAWN BY:		FINISH:		DESCRIPTION DECALS - I	
DESIGNED BY:		VENDOR:		SIZE C	PART NUMBER LP-033
APPROVED BY:		VENDOR P/N:		SCALE: 3/2	WEIGHT: lbs
				SHEET 1 OF 1	



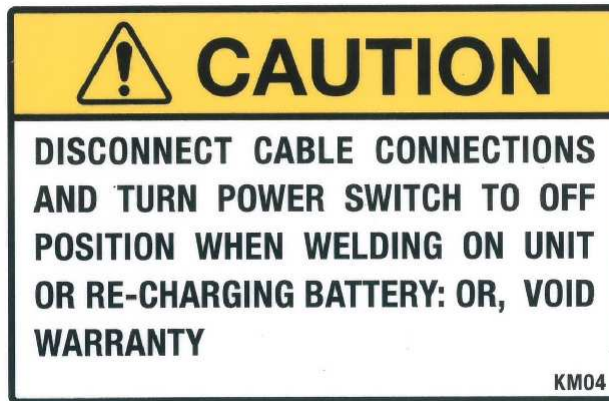
P/N KM07



P/N KM10



P/N KM35



P/N KM04



P/N KM02

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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 TOLERANCES:
 FRACTIONAL: ±
 ANGULAR: MACH ±
 BEND: ±
 TWO PLACE DECIMAL ±
 THREE PLACE DECIMAL: ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		 DESCRIPTION DECALS - II		
JOB #:		MATERIAL:				
DRAWN BY:	DATE:	NAME:	FINISH:	SIZE: C	PART NUMBER: LP-034	REV:
DESIGNED BY:			VENDOR:	SCALE: 3/2	WEIGHT: lbs	SHEET 1 OF 1
APPROVED BY:			VENDOR P/N:			

WARNING



RUN-AWAY HAZARD
To prevent serious injury or death:

- Shift to lower gear before going down steep grades.
- Keep towing vehicle in gear at all times.
- Never exceed a safe travel speed.

4615

P/N 4615

WARNING



SERVICE AND ADJUSTMENT OF HYDRAULIC SYSTEM SHOULD ONLY BE PERFORMED BY QUALIFIED PERSONNEL. IMPROPER ADJUSTMENT COULD CAUSE SERIOUS INJURY, DAMAGE TO SYSTEM, AND VOID WARRANTY.

KM49

P/N KM49

IMPORTANT!

**AUGER BOLTS MUST BE KEPT TIGHT!
CHECK MONTHLY FOR LOOSE, DAMAGED
OR MISSING BOLTS.
USE ONLY KIRBY AUGER BOLTS FOR
REPLACEMENT.**

P/N KM42

IMPORTANT!

**KEEP AREA BETWEEN TRUCK CAB
AND EQUIPMENT CLEAN AND CLEAR
OF DEBRIS. TRANSMISSION AND EXHAUST
SYSTEM ARE HOT. FAILURE TO DO
SO CAN RESULT IN FIRE.**

P/N KM43

**NOTE: UNIT SERIAL # NEEDED
FOR ALL PART ORDERS**

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TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±

Notes:		Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-9278 FX (209)723-3941		Kirby INC.	
JOB #:		MATERIAL:		DESCRIPTION	
DRAWN BY:		FINISH:		DECALS - III	
DESIGNED BY:		VENDOR:		SIZE	PART NUMBER
APPROVED BY:		VENDOR P/N:		C	LP-035
				SCALE: 3:2	WEIGHT: lbs
				SHEET 1 OF 1	

APPENDIX **(Vendor Literature)**

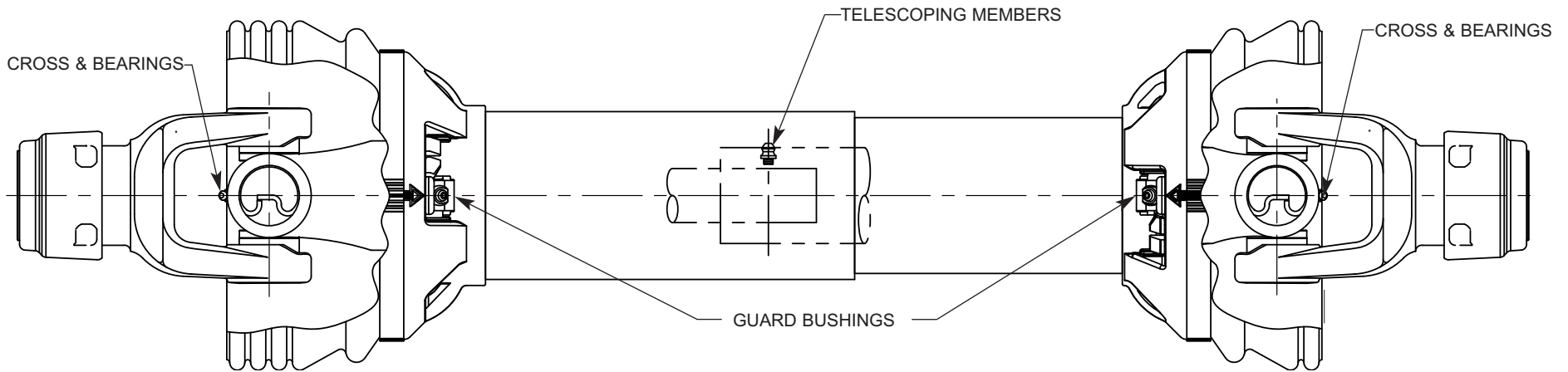
SECTION	TABLE OF CONTENTS
1	DRIVESHAFT LUBRICATING PROCEDURE
2	STUDHUB TORQUE SPECIFICATION GUIDELINES



Weasler®

DRIVE SHAFT LUBRICATING PROCEDURE

SERVICE INSTRUCTIONS



LUBRICATE ALL FITTINGS WITH A GOOD QUALITY LITHIUM SOAP COMPATIBLE E.P. GREASE MEETING THE N.L.G.I. #2 SPECIFICATIONS AND CONTAINING NO MORE THAN 1% MOLYBDENUM DISULFIDE.

AN E.P. GREASE MEETING THE N.L.G.I. #2 SPECIFICATIONS AND CONTAINING 3% MOLYBDENUM DISULFIDE MAY BE SUBSTITUTED IN THE TELESCOPING MEMBERS ONLY.

LOCATION	STANDARD INTERVAL	EXTENDED LUBE INTERVAL	LEVER ACTION PUMPS
CROSS & BEARINGS	*8 HRS.	50 HRS.	5
TELESCOPING MEMBERS	8 HRS.	50 HRS.	8-10
CE & NON-ROTATING GUARD BUSHINGS (1000 RPM MAX.)	8 HRS.	50 HRS.	5

**CONSTANT ANGLE APPLICATIONS MAY REQUIRE A LUBE INTERVAL OF 4 HOURS*

ROTATING GUARD BUSHINGS SHOULD BE LUBRICATED UPON REPLACEMENT

CAUTION!! REPLACEMENT PARTS ARE NOT LUBRICATED

REPLACEMENT PARTS MUST BE LUBRICATED AT TIME OF ASSEMBLY AND DURING USE PER THE LUBE RECOMMENDATIONS

UNCONTROLLED DOCUMENT 56-15144-06

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web site: www.weasler.com

Webb Torque Specification Guidelines

The purpose of this publication is to assist users with safe installation and maintenance practices while maintaining optimum performance of their wheel-end equipment. If additional information is required, please refer to TMC Recommended Practices: 217D, 222C, 237A, 656, and 662.

Hub Piloted with Flange Nut (8 & 10 Stud Hubs)

Applied to M22 x 1.5 studs with two-piece flange nuts • Recommended torque oiled: 450 to 500 ft-lbs

Step 1. Place a drum pilot pad at the 12:00 o'clock position. Apply two drops of 30 weight oil between the nut and the nut flange, and two drops to the outermost 2 or 3 threads of the wheel stud. For corrosive environments, apply a light coating of anti-seize to the mounting pads of the hub as well as the pilot diameter of the brake drum to ease installation and removal.

Note: Avoid getting any lubricant on the mating surfaces of the hub flange, drum flange, or disc wheel mounting flange areas.

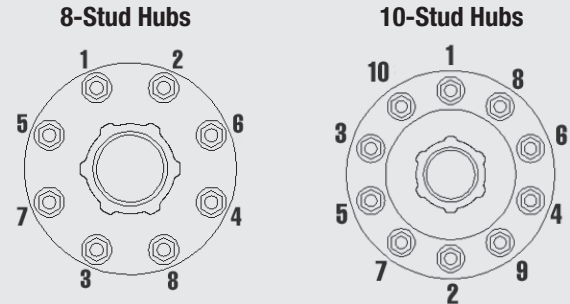
Step 2. Starting with the top nut, tighten all flange nuts to 50 ft-lbs using the sequence shown at right.

Step 3. Tighten all flange nuts to the recommended torque of 450-500 ft-lbs using the sequence shown at right.

Step 4. Check all disc wheels for proper positioning on pilots and proper seating against flange.

Recheck torque after first 50 to 100 miles of service or reference TMC RP 237A, "Torque Checking Guidelines For Disc Wheels" for individual fleet maintenance alternatives.

Tightening Sequence



Stud Piloted with Double Cap Nuts (6 & 10 Stud Hubs)

Applied to 3/4 - 16 and 1 1/8 - 16 fastener sizes • Recommended torque dry: 450 to 500 ft-lbs

Inner Cap Nuts

Step 1. Place a drum pilot pad at the 12:00 o'clock position. For corrosive environments, apply a light coating of anti-seize to the mounting pads of the hub as well as the pilot of the brake drum to ease installation and removal. **Note:** Avoid getting any lubricant on the mating surfaces of the hub flange, drum flange, or disc wheel mounting flange areas. Starting with the top nut, tighten all inner cap nuts to 50 ft-lbs using the sequence shown at the right.

Step 2. Tighten all inner cap nuts to the recommended torque of 450 to 500 ft-lbs, dry, using the sequence shown at right.

Outer Cap Nuts

Step 1. Place a drum pilot at the 12:00 o'clock position. Then, starting with the top nut, tighten all outer cap nuts to 50 ft-lbs using the sequence shown at right.

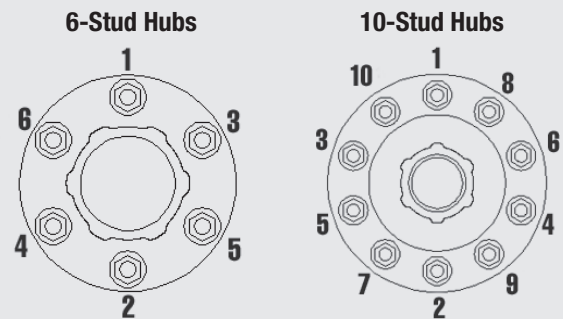
Step 2. Tighten all outer cap nuts to the recommended torque of 450 to 500 ft-lbs using the sequence shown at right.

Step 3. Check disc-wheels for proper positioning on pilots and proper seating against flange.

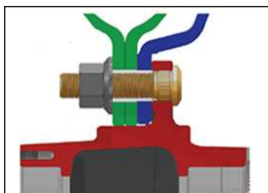
Recheck torque after first 50 to 100 miles of service or reference TMC RP 237A, "Torque Checking Guidelines For Disc Wheels" for individual fleet maintenance alternatives.

NOTE: In all applications where an aluminum disc wheel is to be installed, a special inner cap nut must be substituted for a standard inner cap nut.

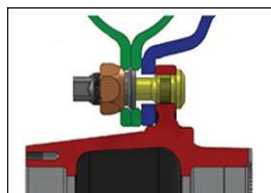
Tightening Sequence



Mount Identification



FN Mount (Flange Nut)



BSN Mount (Ball Seat Nut)



www.webbwheel.com

Contact your local Webb Wheel Products supplier for training that can cut your operating costs!



Webb Torque Specification Guidelines

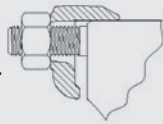
The purpose of this publication is to assist users with safe installation and maintenance practices while maintaining optimum performance of their wheel-end equipment. If additional information is required, please refer to TMC Recommended Practices: 217D, 222C, 237A, 656, and 662.

3, 5 and 6 Spoke Wheels

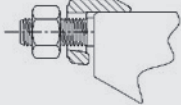
Recommended torque dry: 200 to 260 ft-lbs (Applies to ¾-10 fastener sizes)

Tighten clamps evenly in the sequence shown at right.

Heel-Less Clamps: Do not depend on a fulcrum at the bottom of the clamp to produce the force to wedge the rims. Heel of clamp does not touch wheel.



Heel-Type Clamps: Gap permissible but not required. If gap exceeds 1/4" or if clamp bottoms out before reaching 80% of recommended torque, check to insure that the proper clamps and spacers are being used.

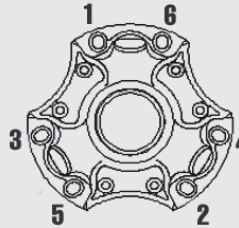


Recheck torque after first 50 to 100 miles of service or reference TMC RP 237A, "Torque Checking Guidelines For Disc Wheels" for individual fleet maintenance alternatives.

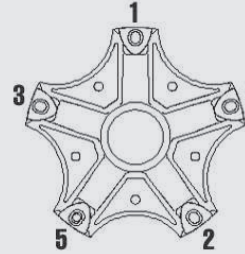
IMPORTANT: Do not overtorque! Rim clamp does not have to heel. Overtorquing can deform rim spacer and damage back flange.

Tightening Sequence

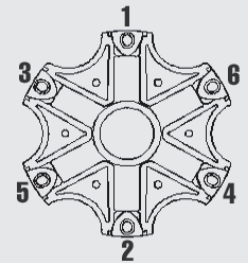
3-Spoke Wheel



5-Spoke Wheel



6-Spoke Wheel



Drive Studs and Hub Cap Bolt Torque

Recommended Dry Torque Values

Description	Thread Size	Torque Requirements ft-lbs Min/Max
Drive studs/ axle installation torque	1/2 - 20	80/90
	5/8 - 18	175/185
	3/4 - 16	250/275

Bolt-On ABS Ring

Recommended Dry Torque Values

Description	Thread Size	Torque Requirements ft-lbs Min/Max
Screws For Bolt-On ABS Ring	# 8 - 32	15/20

Brake Drum or Rotor Assembly Torque Requirements

For Mounting Bolts or Nuts: Grade 8 Fasteners

Thread Size	Tighten/Loosen	Torque Requirements ft-lbs Min/Max	Thread Size	Tighten/Loosen	Torque Requirements ft-lbs Min/Max
5/8 - 18	Rotate bolt or nut	150/200	3/4 - 16 wheels	Rotate nut	275/300
5/8 - 18 through holes	Rotate nut	150/175	3/4 - 16 hubs	Rotate nut	100/225
3/4 - 10	Rotate nut	250/275	1 - 14	Rotate nut	175/225



www.webbwheel.com

Contact your local Webb Wheel Products supplier for training that can cut your operating costs!



Scan this QR code to get certified on brake drum selection and wheel-end installation, and we'll send a token of our appreciation.

