OPERATION & MAINTENANCE MANUAL

DELIVERY BOX





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 whichever comes first).
- 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. <u>Tires, wheels, and batteries</u> 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. <u>Electrical switches and controls</u> 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:

Kirby Manufacturing, Inc. P.O. Box 989 Merced, CA – 95341-0989 PH: (209) 723-0778

Fax: (209) 723 -3941

SAFETY PROCEDURES

When inspecting the machine <u>all power must be shut off</u> 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 E.

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

SAFE OPERATIONS:

Operation of this delivery box shall be limited to competent and experienced persons. In addition, anyone who will operate or work around a delivery box must use good common sense. To be qualified, they 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 DELIVERY BOX 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 Delivery Box prior to start up.
- B. Before loading, run the Delivery Box empty and check all operations.

C. Do not overload the Delivery Box.

Maximum load is 30,000lbs FOR a 20 FT DELIVERY BOX.

Maximum load is 35,000lbs FOR a 24 FT DELIVERY BOX.

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.

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 delivery box 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 DELIVERY BOX SAFELY

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

Do not exceed load capacity of the Delivery Box. 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 DELIVERY BOX

Keep riders off. Riders are subject to injury such as being struck by foreign objects, falling into the delivery box 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. 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 DB-0027 – DB-0029).

A 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 delivery box. Practice operation of your delivery box 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.

Be sure that there are no tools lying on or in the delivery box. 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 delivery box prior to starting it up.

It is possible that this delivery box 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.



! 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 truck or equipment, except as required for operation.

Keep hands and clothing clear of moving parts. Do not clean, lubricate, or adjust your delivery box 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 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 delivery box unattended.

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



FOLLOWING OPERATION

Following operation, stop the 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 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 delivery box 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 delivery box in a position to provide maximum visibility.

Make allowances for increased length and weight of the delivery box when making turns, stopping the unit, etc.

EQUIPMENT OPERATIONS

BEFORE STARTING UNIT:

- 1. Check hydraulic fluid level. If needed, fill with correct type as specified in the <u>Lubricant</u> <u>Types</u> section in the manual.
- 2. Inspect floor and cross-feed chains for proper tension. Adjust as necessary. Follow proper adjustment guidelines as outlined in the manual.
- 3. Check to ensure that all guards are in place and securely latched.

OPERATING YOUR DELIVERY BOX

- For front mounted or Repto pumps, hydraulic flow starts when the truck engine is started. For PTO mounted pumps, engage the PTO, this will start the hydraulic fluid flow to the hydraulic valves which will make the delivery box operational.
- ➤ It is recommended to set the engine rpm to 1500 for optimal operations.
- ➤ When you are ready to feed open the door and lower the cross-feed spout.
- ➤ Pull the trigger on the joystick to start system operations. This will start the cross-feed and enable the toggle switch for the beaters.
- > Push the joystick forward to speed up or backward to slow down the cross-feed.
- > Toggle beaters switch on to start beaters.
- ➤ Toggle floor direction switch forward to start floor operation which will move feed into the cross-feed for unloading.
- ➤ Floor speed is automatically determined by the hydraulic pressure from the beaters. If the beaters slowdown from excessive material, the floor will slow down to prevent the beaters from stalling.
- ➤ In the event of the beaters stalling, <u>momentarily</u> hold down the floor switch to reverse the floor chain direction. This will allow the beaters to resume operation by reducing the pressure on the beaters from the feed. NOTE: Only hold down the floor switch till the beaters start.
- ➤ Once the beaters resume operation toggle the floor switch forward to continue feeding.

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 delivery box, 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 the proper tools or equipment for the job at hand.

Use extreme caution when adjusting.

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 delivery box.

DELIVERY BOX STRUCTURE

Observe for cracks in metal and welds in beater cabinet, frame, and around discharge door and chute. Re-weld, 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.

Observe truck 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 <u>level</u> with bottom of filler hole. Fill with proper lubricant to overflow.

BEATERS, SHAFTS & BEARINGS

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

Observe beater shaft bearings:

- ➤ Check for cracks in bearing housings. Replace if cracked.
- > Check carriage bolts holding hosing to beater posts. They must be tight.
- > Check set screws, either for looseness or missing.
- ➤ Check for wear in housing or excessive bearing movement in housing. Replace if housing is worn.

Observe beaters, beater shafts and floor shafts.

- > Beater integrity: check welds to shafts on both ends.
- > Check that all knives are in place and secured.
- > Replace all missing, sheared or stretched bolts.
- > Check that beater rotations are balanced and true

Observe cutting and beater chamber, sides, ends and roof. Walls ends and roof should be straight, not bulging in appearance.

SPROCKET & CHAINS

With delivery box turned off and secured, observe chain for properly seating on sprocket. Use caution and at a safe distance, observe feeder chains while in operation. Look for chain jerking motion when chain wraps around sprocket. Jerking motion may indicate:

- Misalignment of chain and sprocket. Realign where needed.
- ➤ 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. Replace worn sprockets.
- > Tooth worn to cup at base indicates excessive load on chain. Replace worn 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. Realign and 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

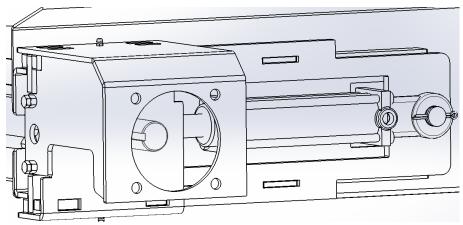
Truck mounted feeder PTOs:

- ➤ 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".

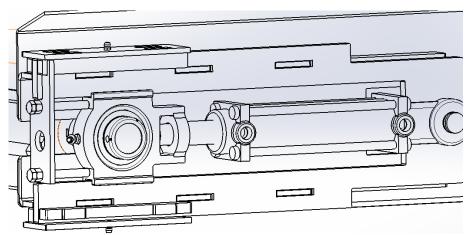
Delivery Box drive line:

- ➤ 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 collars.
- ➤ 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.

ADJUSTMENT AND LUBRICATION OF CROSSFEED TAKE-UP BEARINGS



TAKE-UP BEARING DRIVE SIDE OF CROSSFEED CONVEYOR; (MOTOR NOT SHOWN)



TAKE-UP BEARING DRIVE SIDE OF CROSSFEED CONVEYOR; (CUT-AWAY VIEW)

ADJUSTING THE CROSS-FEED CHAINS: The cross feed on your piece of equipment utilizes two pressurized hydraulic cylinders to make it easy for the operator to adjust (tighten) the cross-feed chains. When the chains become loose due to normal wear, all the operator has to do is inject a few pumps of grease into the centralized grease fitting to tighten both chains. This hydraulic system incorporates a pressure relief valve in the circuit so that the correct pressure is always applied to the chain take-up cylinders. This pressure relief valve is preset and should <u>not</u> be adjusted.

If the pressure were too great in this circuit early wear could happen to the cross-feed chains, as well as other components in the cross-feed system. When the cross-feed is correctly tightened, you should still be able to lift the cross-feed chain assembly ½" – ½" above of the cross-feed floor panel with ease. If you are unable to lift the chain from the cross-feed floor panel or if it is hard to lift, your chains are too tight.

<u>TAKE-UP BEARING REPLACEMENT</u>: When replacing a cross-feed take-up bearing, it is important to note that proper reinstallation of the take-up bearing/cylinder assembly back into the take-up frame is very important. The take-up bearing/cylinder assembly are designed to push "inline" and parallel with the slide guides. The take-up bearing housing is designed to push the "motor mount frame" using the two 3/8" bolts that tighten up against the bearing housing.

After a replacement take-up bearing is installed, these bolts should be tightened till they just come in contact with the face of take-up bearing housings; at which point the 3/8" jam nuts should be tightened securely against the motor mount frame, locking the 3/8" bolts in place. By doing this, the take-up bearing will be able to push on the motor mount frame.

<u>LUBRICATION OF THE TAKE-UP SLIDE GUIDES</u>: Each cross-feed take-up bearing assembly has two (2) grease fittings. One grease fitting is located on <u>top</u> of the motor mount frame. The other grease fitting is located underneath the motor mount frame.

To ensure smooth operation of the take-up bearing assemblies, these grease fittings should be greased on a regular basis when performing routine maintenance. Grease these fittings until grease flow from the slide guide track.

GEARBOXES

PLANETARY GEARBOX

Things to check:

- ➤ Observe shaft seals for leaks. Replace seals.
- > Check for loose bolts that secure gearbox to mounting bracket. Tighten as required.
- > Check for misalignment to other components: chains, couplers, u-joints. Realign.
- ➤ Check input shaft, movement indicates worn bearings. Replace.
- ➤ Check that the oil is level with the filler plug. Fill to overflow or half full.

For regular service, refer to the "Lubrication and Maintenance Schedule" of the manual.

LUBRICATION & MAINTENANCE

Floor chain bearings.

- There are four greaseable bearings on the forward end of the floor chain conveyor.
- ➤ There are four greaseable bearings on the rear end of the floor chain conveyor.
- ➤ All floor chain bearings and bushings have grease zerks that need to be greased.
- ➤ 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 for each bearing. Always be sure the machine is operating, and the bearings are rotating to ensure that the bearings are taking grease.
- Make sure the machine is not in operation when pumping grease into the rear shaft bushings.

Discharge conveyor bearings.

- There are two take-up bearings on the discharge end of the cross-feed conveyor.
- There are also two flange bearings on the opposite side of the discharge.
- ➤ All cross-feed bearings have grease zerks that need to be greased.
- ➤ 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 1 to 2 times for each bearing. Always be sure the machine is operating, and the bearings are rotating to ensure that they take grease.

<u>CAUTION</u>: 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**

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

Power takeoff. U-joints and slip sleeves.

- ➤ Follow safety procedures. **<u>DO NOT</u>** 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 <u>ALL FOUR</u> CAPS OF THE U-JOINT bearings.
- ➤ Check all safety shields and ensure that all are in place.

LUBRICATION SCHEDULE

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

PM SERVICE	Prior to all starts	1 st 50 Hours	Every 100 Hours	Every 500 Hours	Every 1000 Hours	Every 3 Months	Every 6 Months	Every 12 Months
Check hydraulic oil level in tank	X ⁽¹⁾							
Oil all drive chains		X	X					
Oil all floor chains		X	X					
Change oil in all gearboxes		X			X (3)		X (3)	
Grease all Bearings			X ⁽⁴⁾					
Grease PTO, Drive Line & Slip Sleeve			X ⁽⁵⁾					
Grease all floor take-up sprockets			X					
Change hydraulic oil filters on tank				X (1,2)		X (1,2)		
Repack Wheel bearings								X
Change hydraulic oil in tank								X (1)

<u>NOTE</u>: For a more detailed Preventative Maintenance (PM) Schedule refer to the "Maintenance Schedule Checklist" located at the end of this chapter.

IMPORTANT: ALWAYS CHECK OIL LEVELS PRIOR TO STARTING THE MACHINE

⁽¹⁾ for truck mounts only

^{(2) 500}hrs or 3 months whichever comes first.

^{(3) 1,000}hrs or 6 months whichever comes first.

⁽⁴⁾ one full pump from grease gun per bearing, do not over grease (over greasing bearings can damage seals)

⁽⁵⁾ grease crosses on driveline yokes until grease is seen coming out of all four ends of cross.

LUBRICANT TYPES:

(Always make sure the equipment is turned <u>OFF</u> & <u>SECURED</u> prior to performing lubrication activities)

Gearboxes:

The gearboxes are originally filled with "Chevron Meropa Ultra Gear 220" gear oil. When topping-off oil in the gearboxes, it is suggested to use "Chevron Meropa Ultra Gear 220" gear oil. Mixing of different brands or types of gear oil is never a good idea. If switching to a different brand or type of gearbox oil, it is recommended that all the existing oil be drained from the gearbox prior to switching oils. Always use a good quality SAE viscosity grade 90 gear oil in the gearboxes with an Extreme Pressure (EP) additive.

Drive Chains, Floor Chains, Threaded Take-Ups, and Bushings Joints:

The drive chains and floor chains should be lubricated periodically with an all-purpose SAE viscosity grades 30 oil. Apply an appropriate amount of oil to all bushing and pin link joints connections on the chain. Apply only enough oil to lubricate the link connections. This is a case where more is not better, since excess oil will only make the equipment messy and could cause a slip hazard. A few drops of oil should be applied to all bushing joints, sprockets, and threaded bearing take-ups.

Housed Bearings, Wheel Bearings, PTO Crosses and Power Shaft Splines:

The housed bearings and wheel bearings should be lubricated on a regular maintenance scheduled. For housed bearings such as pillow block, flanged and take-up bearings it is best to use an all-purpose heavy-duty NLGI Grade 2 grease with Extreme Pressure (EP) additive. One full pump from grease gun per bearing is all that is needed, do not over grease the bearings, (over greasing housed bearings can damage lip seals). Grease should never be seen flowing out of the lip seals on the housed bearings, since this is a sign of over greasing and a damaged seal. Likewise, the PTO crosses and shaft splines should be lubricated using an all-purpose heavy-duty grease with Extreme Pressure (EP) additive. When lubricating the PTO crosses using a grease gun, it is necessary to inject grease until the grease is seen flow out of all four (4) caps on the cross. Since wheel bearings can operate at higher temperatures, it is recommended to clean and re-pack wheel bearings with a "high-temp" wheel bearing grease.

Hydraulic System:

A superior quality hydraulic oil should be used when adding oil to the hydraulic system or changing the oil in the hydraulic tank. It is recommended to use a high-grade hydraulic oil with a viscosity of AW68.

PROCEDURE FOR CHANGING OILS:

The following information pertains to changing oils in both the gearboxes and the hydraulic circuits on the delivery box. Always make sure to change 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 may be in the oil will be in suspension while draining and therefore will be flushed out.

<u>ALWAYS</u> PARK EQUIPMENT ON A LEVEL SURFACE WHEN CHANGING OIL AND CHECKING OIL LEVELS.

I. GEARBOXES:

Draining gearboxes:

- 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 a small specimen in a clear glass jar.
- 6. Observe this specimen for contamination and possible wear pieces.
- 7. **SECURELY** replace plug when last of oil has drained from gearbox.

Filling gearboxes:

- 1. Remove fill plug on side of gear box, (this plug is near the middle of the gearbox).
- 2. Using a hand pump fill gearbox through the fill hole, (Note: warm oil will flow easier).
- 3. Continue filling until the oil starts to flow from fill hole.
- 4. Replace plug and wipe any excess oil from the equipment.
- 5. Run equipment and recheck oil levels and check for leaks.

II. HYDRAULIC SYSTEM, (truck mount only):

A superior quality hydraulic oil should be used when adding oil to the hydraulic system or changing the oil in the hydraulic tank. It is recommended to use a hydraulic oil with a viscosity of AW68. When changing hydraulic oil in the hydraulic tank, completely drain all fluid from the tank and the hoses. After all the oil has drained from the tank and hoses, it is good practice to inspect the inside of the tank for contamination. If contamination is found, flushing of the tank may be required. After all fluid has been removed from the tank and the tanks has been found to be in good working order, fill the tank until the oil is visible in the "fluid level gauge tube" mounted on the side of the tank. Once filled to the proper level, run the equipment, and cycle all hydraulic circuits. After cycling hydraulic circuits, recheck tank oil levels and add additional oil as needed.

IMPORTANT: ALWAYS CHECK OIL LEVELS PRIOR TO STARTING THE MACHINE

Maintenance Schedule equipment: Delivery Box (truck mount) frequency: 100 hours; approximately 1 week intervals; (UNLESS STATED OTHERWISE BELOW) Customer Location Date service performed Hours on unit Service technician Equipment ser. no. MAJOR AREAS 1. CUSTOMER INFO. follow-up required (y/n) item description check-off minor areas general 1 speak with equipment operators 2 speak with maintenance technicians 2. HYDRAULIC SYSTEM follow-up required (y/n) minor areas item description check-off general 1 check for leaks; (hoses, fittings, seals, etc) 2 check oil levels, fill if needed; (daily) 3 change all oil filters, (every 500 hrs) 4 change hydraulic oil, (every 4000 hrs.; approx. 1 year) 5 check for worn hoses 6 start deliver box and listen for unusual noises 7 start deliver box and check general operating parameters 8 check driveline to pumps; (lubricate yokes every 8 hrs) (a needle lube gun fitting is needed, grease must sqirts out of all 4 caps) 9 check operations of hydraulic actuators (valves) 10 clean heat exchanger (radiator) on hydraulic system (daily) 3. MECHANICAL SYSTEM follow-up required minor areas item description check-off (y/n) general 1 are all guards in place, (notify customer/owner if not) 2 start deliver box and listen for unusual noises 3 look for worn/broken parts 4 lubricate all grease zerk fittings and/or points of lubrication box structure 1 check for cracks in welds, guards, frames, door & chute 2 check that all bolts & set screws are tight & seated properly 3 check to see that all load cells are working properly beaters & bearings 1 check for cracks in beaters & bearing housings 2 check for loose bearing bolts and set screws 3 check for worn out bearings & loose bearings in housings 4 check beater welds & uniform knive placement around beater 5 check beater straightness & balance

Mainter	nance S	Sc	hedule	K	irby
	sprocket & chains	1	check drive chain tightness, (tighten if needed)		
		2	check for damage/wear to chain and keys		
		3	check for tooth wear on side's and root's of sproket teeth		
	gearbox	1	check oil levels, fill if needed		
		2	check shaft seals for leaks		
		3	check for loose mounting bolts		
		4	check for bent shafts, misaligned chains and couplers		
	crossfeed & floor	1	check for wear on chain assemblies		
		2	check for wear on floor		
		3	check drive system alignment & wear		
		4	check chain assembly take-ups and adjust if needed		
1. WEIGH SYSTEM					
mechanical)	minor areas	item	description	check-off	follow-up required (y/n)
			check operations of scales		
			check for rotation of load cells and tighten locking screw		
			check for damaged wiring		
			check and clean load ceil mounting "V" block brackets		
			check local support/truck frames for cracks		
			make sure 7/8" bolt in load mounting bracket is loose		
ADDITIONAL NOTES AND C	OMMENTS:				
AFTER SERVICE IS CO AND PLACE STICKER (CED DATE WITH YOUR INITIALS ON A STICKER NUMBER ID PLATE.		
			ion of the delivery box and		
OIL. THE ADOVE HAIRICENAL	nce program covers the	operat	ion of the uclivery box and		+

<u>NOTE</u>: It is suggested to make copies of this "<u>Maintenance Schedule/Checklist</u>" 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 source must have a minimum of 12-15 volts 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 HAVE EXPOSED WIRES. DO NOT HAVE EXPOSED J-BOX OR SCALE INSTRUMENTS TO DIRECT FORCE OF WATER. All entry points are water resistant but must not be subjected to <u>direct force of water</u>.

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

- ➤ Be sure and confirm that the power source is stable
- ➤ Unstable power sources can cause glitches and erratic scales performance.

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

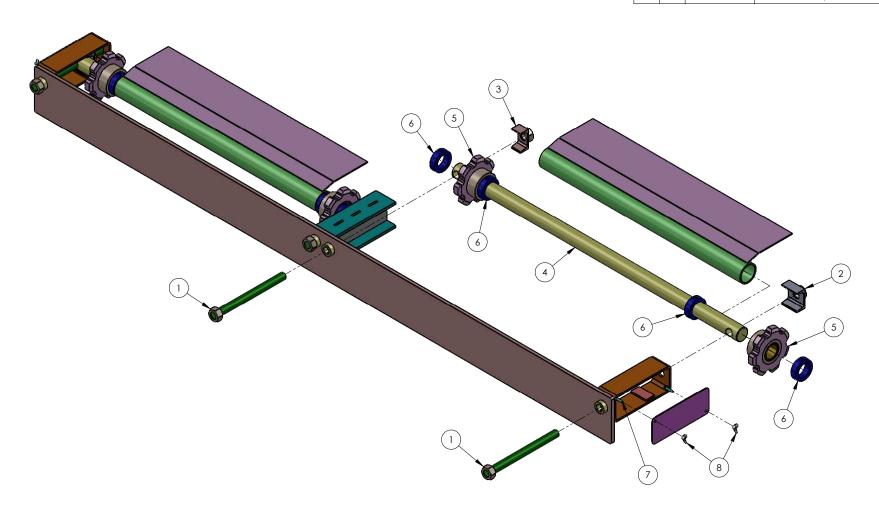
IF YOU ARE UNSURE OF HOW TO CORRECT THE PROBLEM WITH YOUR SCALE SYSTEM, CONTACT YOUR DEALER OR KIRBY MANUFACTURING'S SCALE DEPARTMENT FOR ASSISTANCE.

SPARE PARTS

DRAWING NO	DESCRIPTION
DB-001	IDLER ASSEMBLY, FLOOR
DB-002	DRIVE ASSEMBLY, FLOOR
DB-003	GUARD, FLOOR DRIVE
DB-004	DRIVE ASSEMBLY, BEATERS
DB-005	GUARD, BEATER DRIVE
DB-006	BEATER ASSEMBLY
DB-007	CROSSFEED AUGER ASSEMBLY
DB-008	AUGER, CROSFEED
DB-009	GRAIN AUGER ASSEMBLY
DB-010	COOLER & FILTER ASSEMBLY
DB-011	CHAIN ASSEMBLY, CROSSFEED
DB-012	TAKE-UP COMPONENTS, CROSSFEED
DB-013	CROSSFEED, CHAIN, HYDRAULIC
DB-014	TAKE-UP ASSEMBLIES, DRIVE & IDLER, CROSSFEED
DB-015	FOLDING SPOUT, DAIRY APPLICATION
DB-016	FOLDING SPOUT, FEEDLOT APPLICATION
DB-017	SUBFRAME ASSEMBLY
DB-018	CHAIN ASSEMBLY, FLOOR
DB-019	DOOR ASSEMBLY, DISCHARGE
DB-020	ACCESS DOOR, REAR
DB-021	WIPER ASSEMBLY, FLOOR, REAR
DB-022	DOOR ASSEMBLY, FLOOR TAKE-UP
DB-023	DEFLECTOR LIGHT ASSEMBLY
DB-024	BUMPER ASSEMBLY, REAR
DB-025	TANK, HYDRAULIC
DB-026	GREASE LINE DETAIL

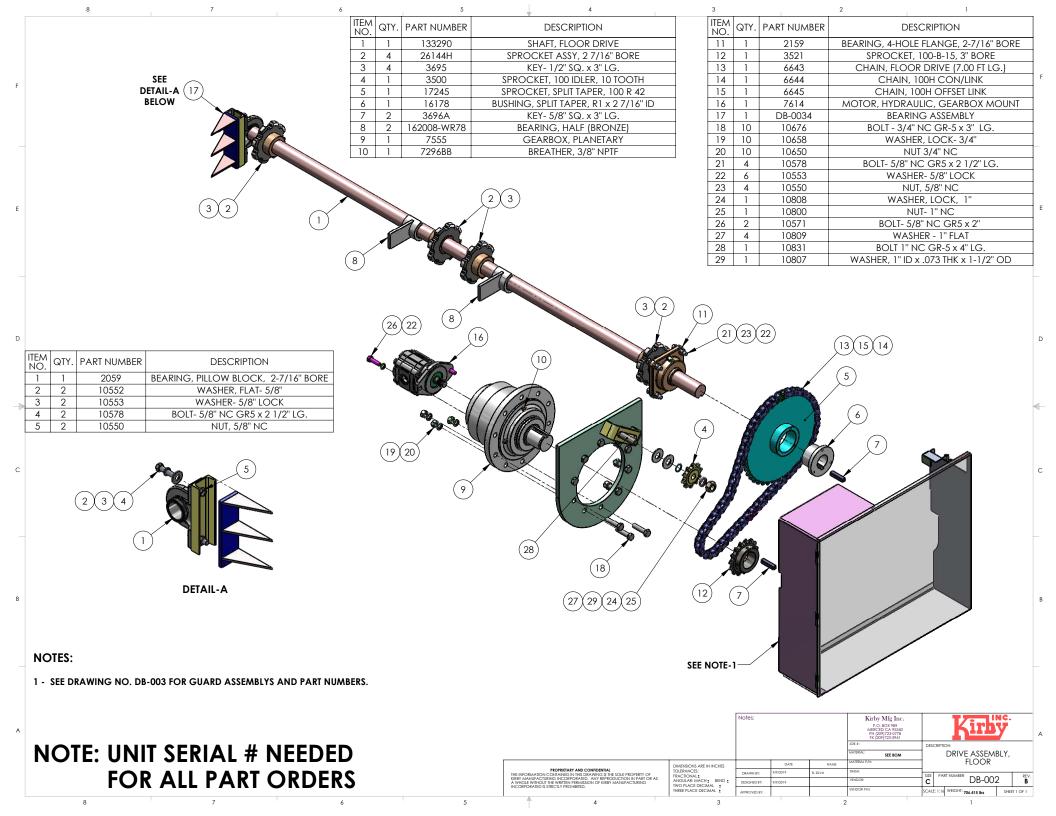
DB-027	DECALS – I
DB-028	DECALS – II
DB-029	DECALS – III
DB-030	SCHEMATIC, HYDRAULIC
DB-031	SCHEMATIC, ELECTRICAL – I
DB-032	SCHEMATIC, ELECTRICAL – II
DB-033	COMPONENTS, TRUCK CAB

3			2
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	4	DB-0041B	ALLTHREAD ASSEMBLY, IDLER TAKE-UP
2	2	DB-0041C	RUNNER, IDLER, OUTER ASSEMBLY
3	2	DB-0041D	RUNNER, IDLER, INNER ASSEMBLY
4	2	26300	SHAFT, HD IDLER
5	4	27035	HD IDLER SPROCKET HUB ASSEMBLY
6	8	4325	SHAFT COLLAR, 2" BORE
7	4	10026	BOLT- 1/4" NC GRD.5 x 1 1/4" LG.
8	4	10008	1/4-20 WING NUT

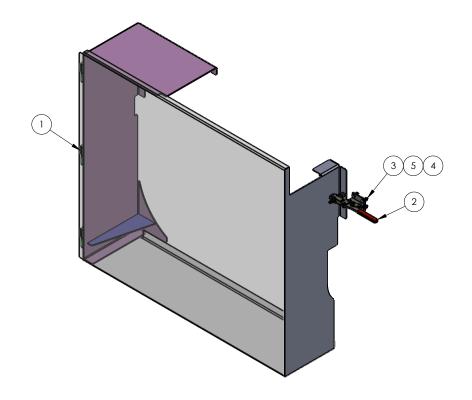


NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

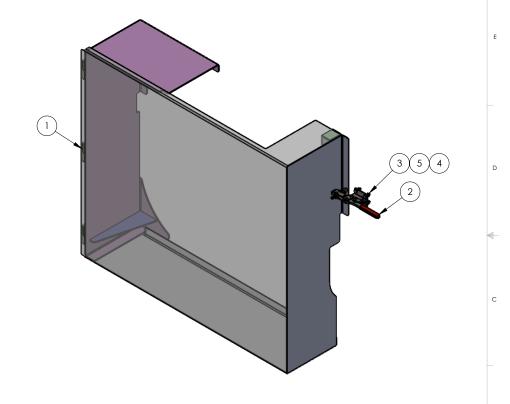
IDLER ASSEMBLY, FLOOR



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	3	5651	HINGE, 3", WELD-ON-BUTT, BULLET
2	1	5647	CLAMP, HOLD DOWN TOGGLE
3	4	10017	BOLT, HEX, 1/4" NC x 3/4"
4	4	10009	WASHER, LOCK- 1/4"
5	4	10001	NUT, 1/4" NC



FLOOR DRIVE GUARD W/CROSSFEED AUGER,
TO ORDER COMPLETE ASSEMBLY, USE PART NO. DB-0027A.



FLOOR DRIVE GUARD W/O CROSSFEED AUGER,

TO ORDER COMPLETE ASSEMBLY, USE PART NO. DB-0063A.

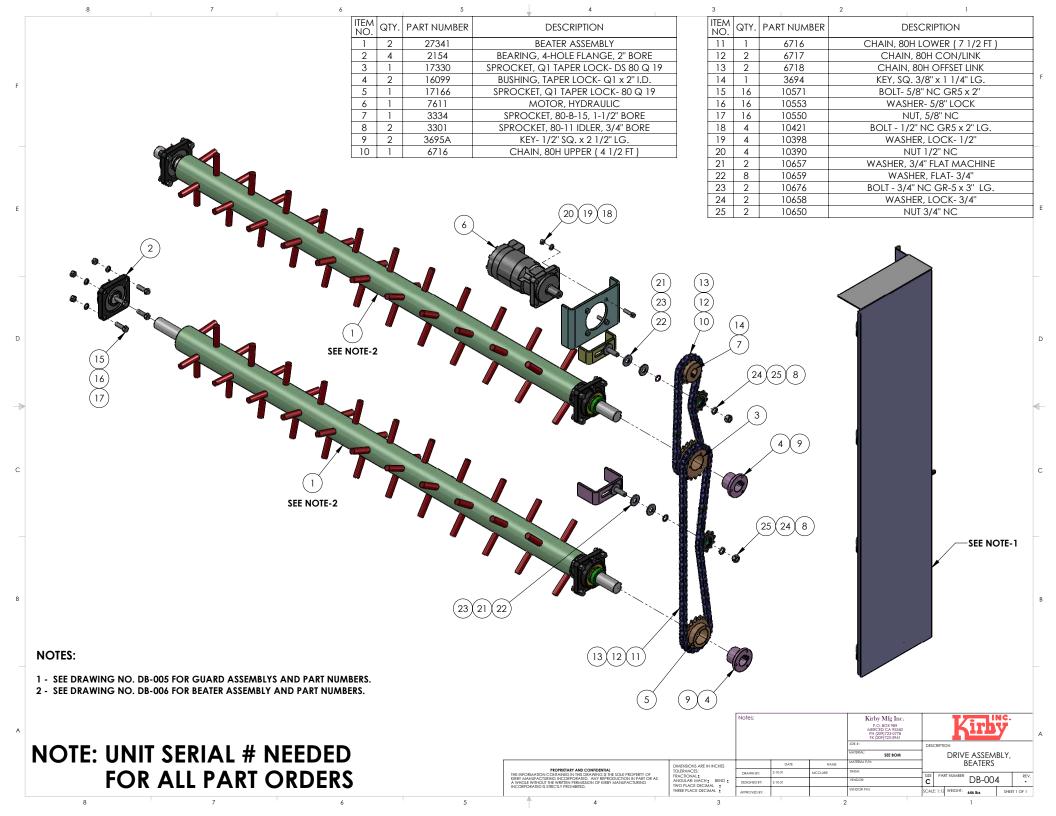
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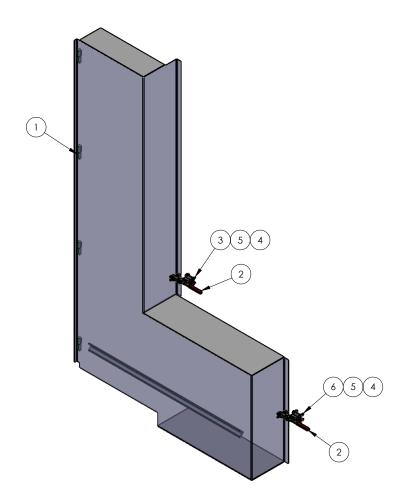
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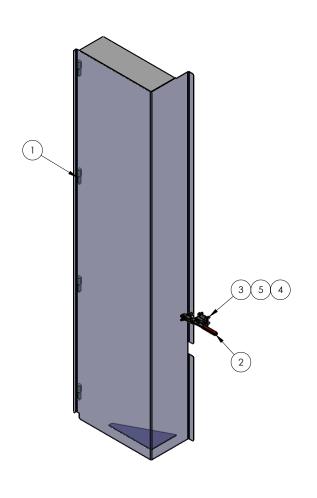
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ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	4	5651	HINGE, 3", WELD-ON-BUTT, BULLET
2	1	5647	CLAMP, HOLD DOWN TOGGLE
3	4	10017	BOLT, HEX, 1/4" NC x 3/4"
4	4	10009	WASHER, LOCK- 1/4"
5	4	10001	NUT, 1/4" NC



BEATER DRIVE GUARD W/CROSSFEED AUGER, TO ORDER COMPLETE ASSEMBLY, USE PART NO. DB-0050A.



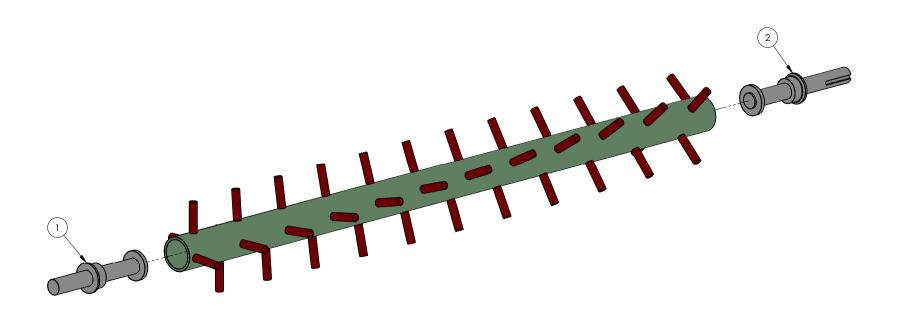
BEATER DRIVE GUARD W/O CROSSFEED AUGER,
TO ORDER COMPLETE ASSEMBLY, USE PART NO. DB-0060A.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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NOTES:

1 - TO ORDER A COMPLETE BEATER ASSEMBLY, USE PART NO. 27341.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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		APPROVED BY:			VENDOR P/N:	SCALE: 1:1	WEIGHT: 192.769 lbs	SHEET 1 OF 1		

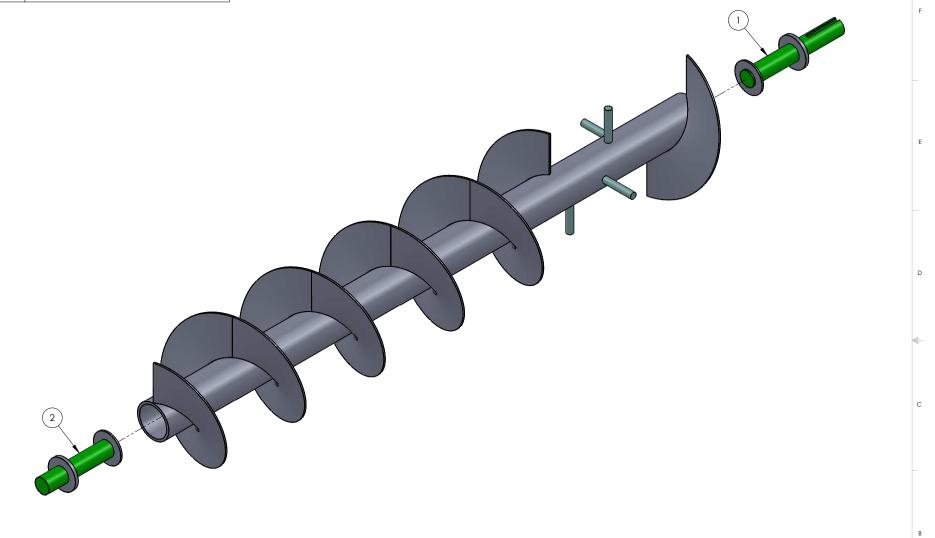
QTY. PART NUMBER **DESCRIPTION** NO. 2159 BEARING, 4-HOLE FLANGE, 2-7/16" BORE SEE NOTE-1 AUGER, CROSSFEED 3 2059 BEARING, PILLOW BLOCK, 2-7/16" BORE 17201 SPROCKET, 80 SF 60 3362 SPROCKET, 80BS15, 2" BORE 6 16101 BUSHING, SF x 2-7/16" BORE 3301 SPROCKET, 80-11 IDLER, 3/4" BORE 8 KEY, SQ, 1/2" x 4" LG. 3696 KEY- 5/8" SQ. x 2 1/2" LG. 10 6716 CHAIN, #80H DIAMOND, (8 FT.) 11 6717 CHAIN, 80H CON/LINK 12 10658 WASHER, LOCK- 3/4" 13 10650 NUT 3/4" NC 14 10659 WASHER, FLAT- 3/4" 15 BOLT- 5/8" NC GR5 x 2 1/2" LG. 10578 (18)(19)(16)(17) 16 10553 WASHER- 5/8" LOCK 17 10550 NUT, 5/8" NC 18 10581 BOLT - 5/8" NC GR-5 x 3" LG. 19 10552 WASHER, FLAT- 5/8" 20 10657 WASHER, 3/4" FLAT MACHINE BOLT - 3/4" NC GR-5 x 3" LG. (8)(5) 7 (12)(13)

NOTES:

- 1 SEE DRAWING NO. DB-008 FOR AUGER ASSEMBLY AND PART NUMBERS.
- 2 TO ORDER A COMPLETE CROSSFEED AUGER ASSEMBLY, USE PART NO. DB-0032.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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NOTES:

1 - TO ORDER A COMPLETE AUGER ASSEMBLY, USE PART NO. DB-0007.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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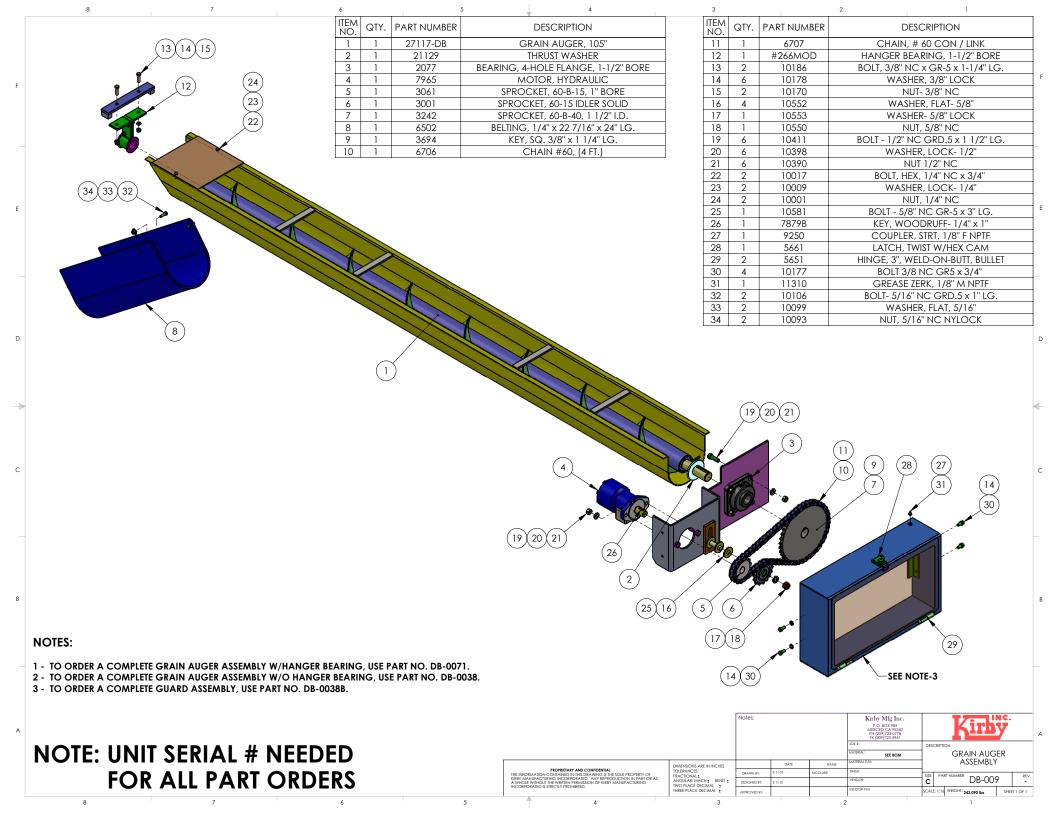
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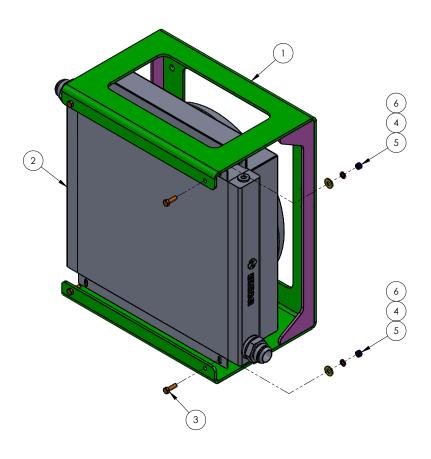
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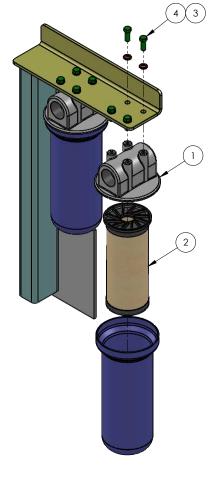
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ITEM NO. PART NUMBER DESCRIPTION DB-0042A COOLER STAND 1 2 COOLER 7930-E 3 10106 BOLT- 5/16" NC GRD.5 x 1" LG. 4 4 4 10098 WASHER, LOCK- 5/16" 5 4 10090 NUT, HEX, 5/16" NC 6 10099 WASHER, FLAT, 5/16"

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	2	SEE NOTE-1	FILTER, CORELESS SPIN-ON
2	2	7963A	FILTER ELEMENT
3	8	10178	WASHER, 3/8" LOCK
4	8	10181	BOLT, 3/8" NC x GRD-5 x 1" LG.





NOTES:

1 - TO ORDER A COMPLETE COOLER & STAND ASSEMBLY, USE PART NO. DB-0042.

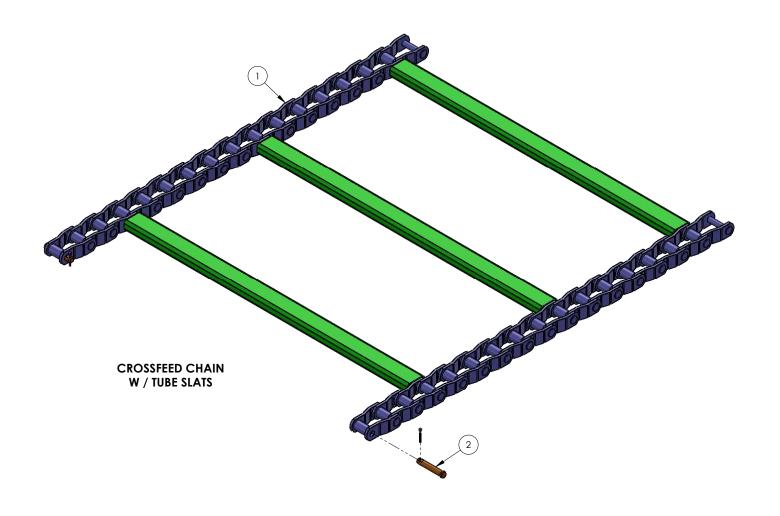
NOTES:

- 1 TO ORDER A FILTER W/ELEMENT, USE PART NO. 7963. 2 TO ORDER A FILTER MOUNT STAND, USE PART NO. DB-0064.

NOTE:	UNIT	SER	IAL#	NEED	ED
	FOR	ALL	PART	ORD	ERS

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			10			JO8 #:			DESCRIPTION				
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ĺ		DIMENSIONS ARE IN INCHES		DATE	NAME	MATERIAL P/N:		ASSEMBLY					
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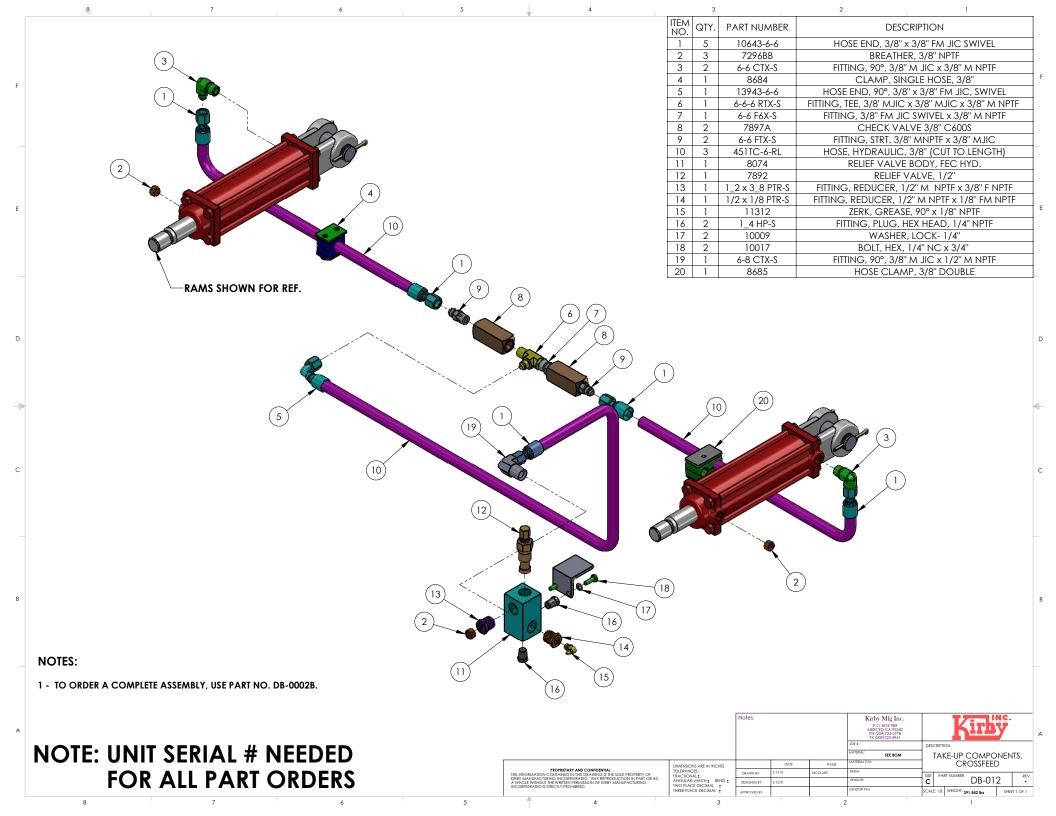
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	29466-WR78	CHAIN ASSEMBLY
2	2	WR78-PIN	WR78 CHAIN - PIN & KEY

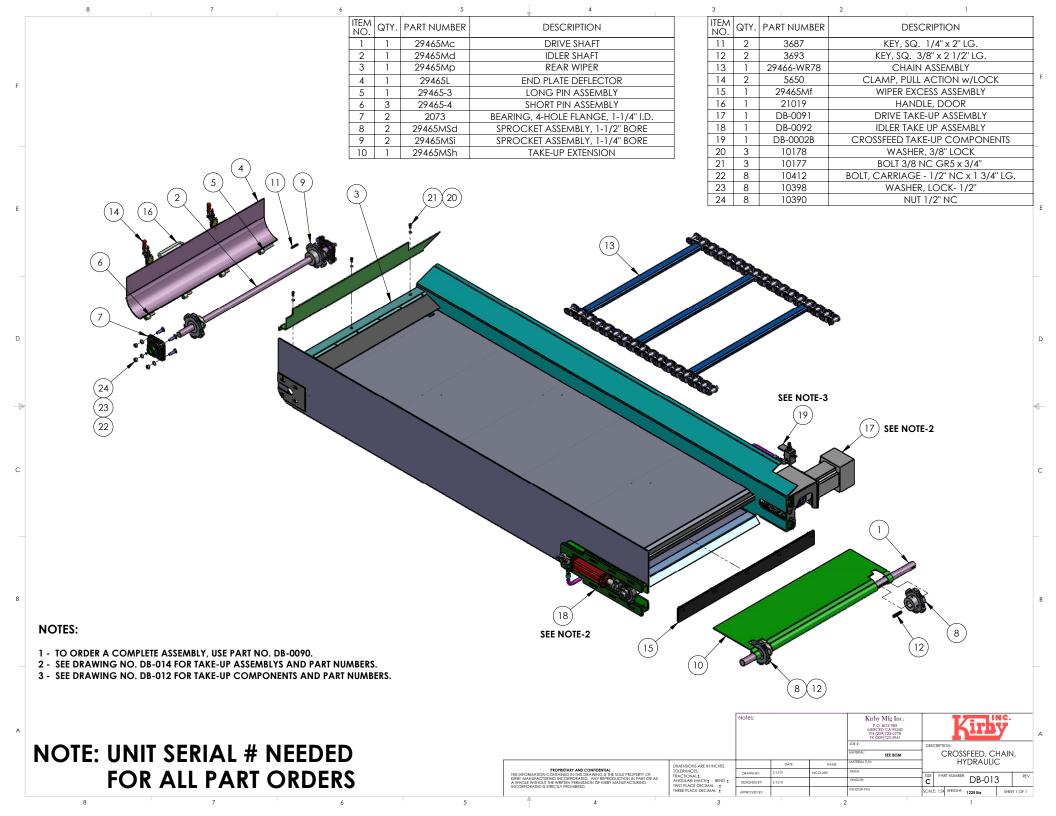


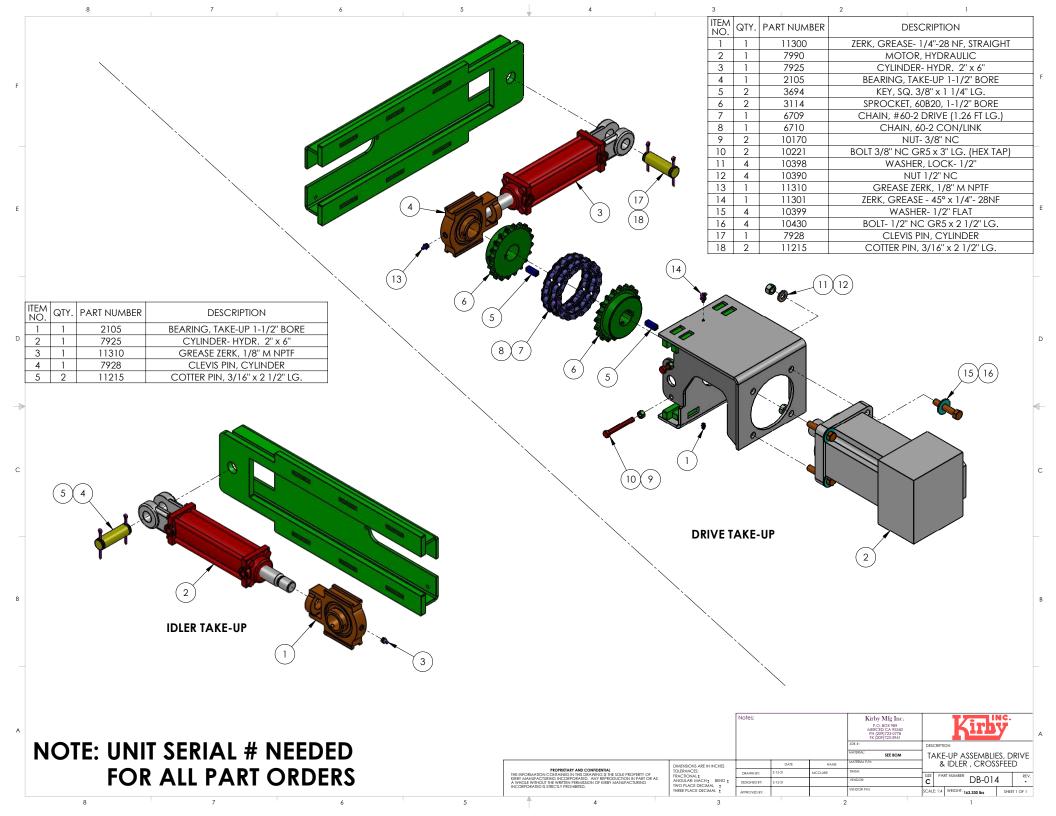
NOTES:

1 - CROSSFEED CHAIN TYPE IS WR-78 CHAIN.

		1000			P.I MERC	O. BOX 989 CED CA 95340 [209]723-0778 209]723-3941		Kirb	y	
					JO8 #:			CRIPTION		
					MATERIAL: SEE BOM		CHAIN ASSEMBLY,			
	DIMENSIONS ARE IN INCHES		DATE	NAME	MATERIAL P/N:		1	CROSSFEED)	
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF	TOLERANCES: FRACTIONAL: ANGULAR: MACH: BEND: TWO PLACE DECIMAL:	DRAWN BY:	2-12-21	MCCLURE	FINISH:		SIZE	PART NUMBER		REV.
KIRBY MANUFACTURING INCORPORATED. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF KIRBY MANUFACTURING		DESIGNED BY:	2-12-21		VENDOR:		c	DB-011		-
INCORPORATED IS STRICTLY PROHIBITED.	THREE PLACE DECIMAL 1				VENDOR P/N:		SCALE	- 1:8 WEIGHT:	SHEET	1.0F.1







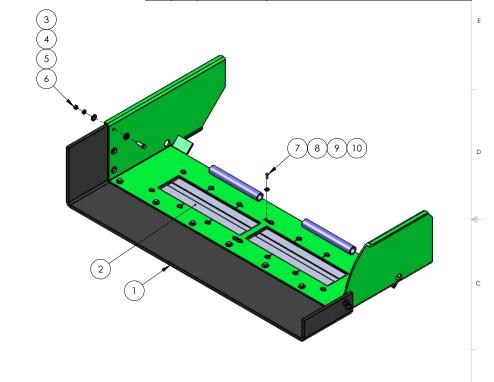
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION					
1	2	27315	IT TUBE					
2	1	27316	TUBE, RAM MOUNT	POST				
3	1	27317	27317 ROD, RAM MOL					
4	1	8241	CYLINDER, 2" x 1	0''				
5	4	4317	SHAFT COLLAR, 1"	BORE				
6	1	27287D	ASSEMBLY					

2		
5		
4		
5		
	6	

NOTES:

1 - TO ORDER A COMPLETE SPOUT ASSEMBLY, USE PART NO. 29463D.

QTY. PART NUMBER **DESCRIPTION** 6536 BELTING, RUBBER- 1/2" x 10" x 62" LG. 5511 MAGNET PLATE, 18 1/2" 10186 BOLT, 3/8" NC x GR-5 x 1-1/4" LG. 24 10179 WASHER, 3/8" FLAT 12 10178 WASHER, 3/8" LOCK 12 10170 NUT- 3/8" NC 10016 SCREW, RD HD, 1/4" NC x 3/4" LG. 16 10010 WASHER, FLAT- 1/4" 10009 WASHER, LOCK- 1/4" 16 10 16 10001 NUT, 1/4" NC



NOTES:

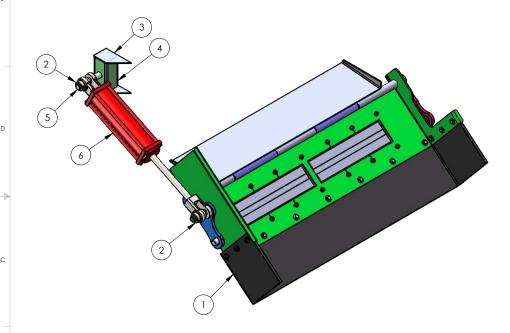
1 - TO ORDER A SPOUT FLIPPER ASSEMBLY, USE PART NO. 27287D.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

FOLDING SPOUT, DAIRY APPLICATION

ITEM NO. QTY. PART NUMBER DESCRIPTION	
1 1 DB-0048A FOLDING SPOUT FLIPPER ASSEM	BLY
2 5 4317 SHAFT COLLAR, 1" BORE	
3 2 27315 GUSSET, RAM MOUNT TUBE	
4 1 27316 TUBE, RAM MOUNT POST	
5 1 27317 ROD, RAM MOUNT	
6 1 8241 CYLINDER, 2" x 10"	

J			
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	6536	BELTING, RUBBER, 1/2" x 10" x 68 1/2" LG.
2	2	5511	MAGNET PLATE, 18 1/2"
3	13	10186	BOLT, 3/8" NC x GR-5 x 1-1/4" LG.
4	26	10179	WASHER, 3/8" FLAT
5	13	10178	washer, 3/8" lock
6	13	10170	NUT- 3/8" NC
7	14	10016	SCREW, RD HD, 1/4" NC x 3/4" LG.
8	14	10010	WASHER, FLAT- 1/4"
9	14	10009	WASHER, LOCK- 1/4"
10	14	10001	NUT, 1/4" NC



7 8 9 10

NOTES:

1 - TO ORDER A COMPLETE SPOUT ASSEMBLY, USE PART NO. DB-0048.

NOTES:

1 - TO ORDER A SPOUT FLIPPER ASSEMBLY, USE PART NO. DB-0048A.

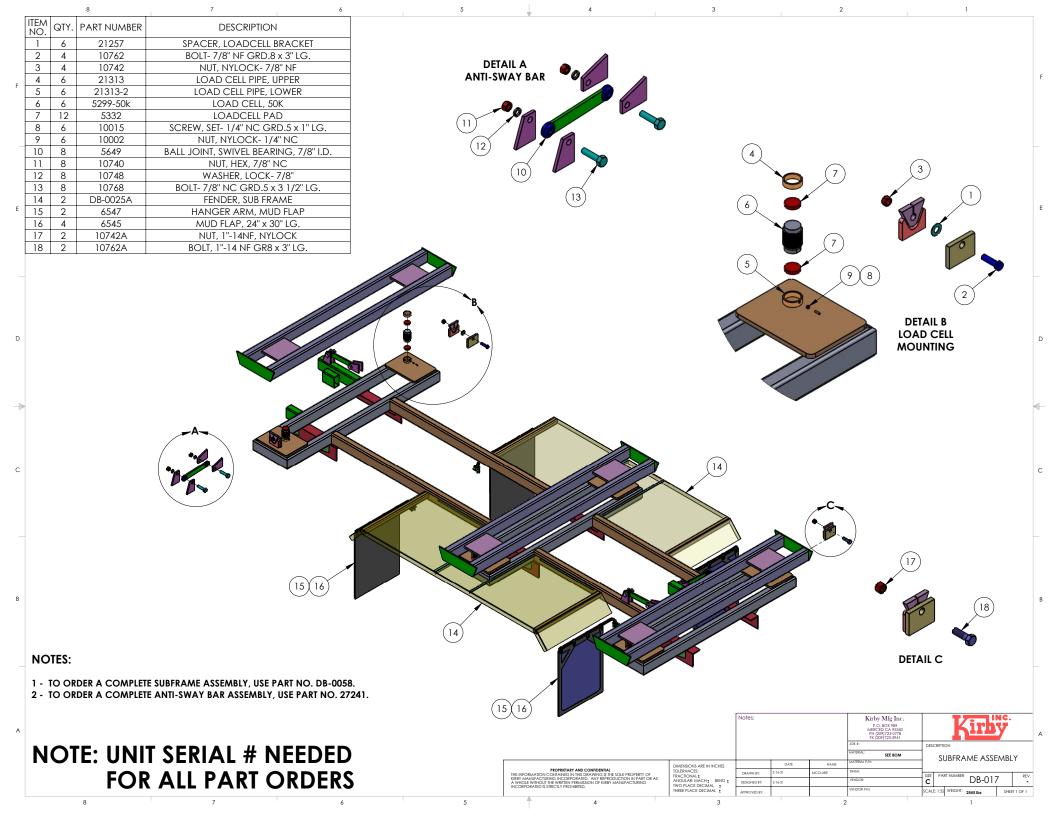
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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| DESCRIPTION | DATE |

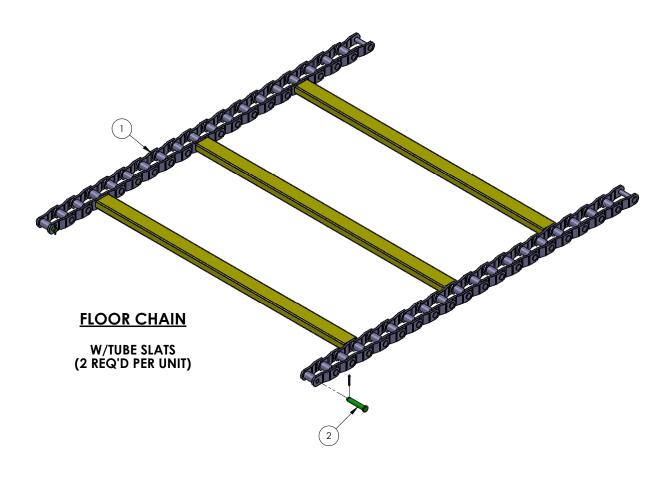
FOLDING SPOUT,
FEEDLOT APPLICATION

SIZE PART NUMBER DB-016 REV
C DB-016 SEALE 11 M WIGHT 1...



UNIT SIZE PART NUMBER DESCRIPTION 8 FT x 20 FT DB-0054 FLOOR CHAIN, P88C ASSEMBLY 8 FT x 22 FT 27218 FLOOR CHAIN, P88C ASSEMBLY 8 FT x 24 FT 27197 FLOOR CHAIN, P88C ASSEMBLY

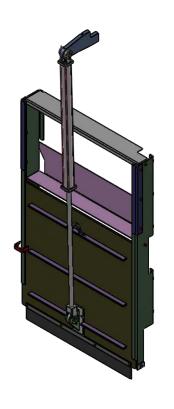
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	6799	CHAIN, P88C
2	2	6801A	P88C CHAIN, PIN & KEY



NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

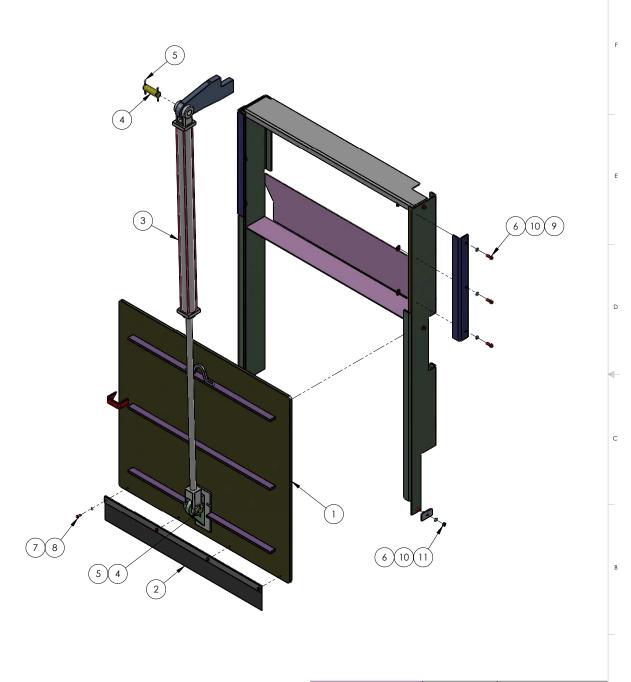
CHAIN ASSEMBLY, FLOOR

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	27281	DISCHARGE DOOR
2	1	27142	DOOR WIPER
3	1	SEE NOTES	CYLINDER, HYDRAULIC
4	2	7928	CLEVIS PIN, CYLINDER
5	4	11215	COTTER PIN, 3/16" x 2 1/2" LG.
6	16	10181	BOLT, 3/8" NC x GRD-5 x 1" LG.
7	4	10009	WASHER, LOCK- 1/4"
8	4	10017	BOLT, HEX, 1/4" NC x 3/4"
9	15	10172	NUT, WELD- 3/8" NC
10	16	10178	WASHER, 3/8" LOCK
11	1	10170	NUT- 3/8" NC

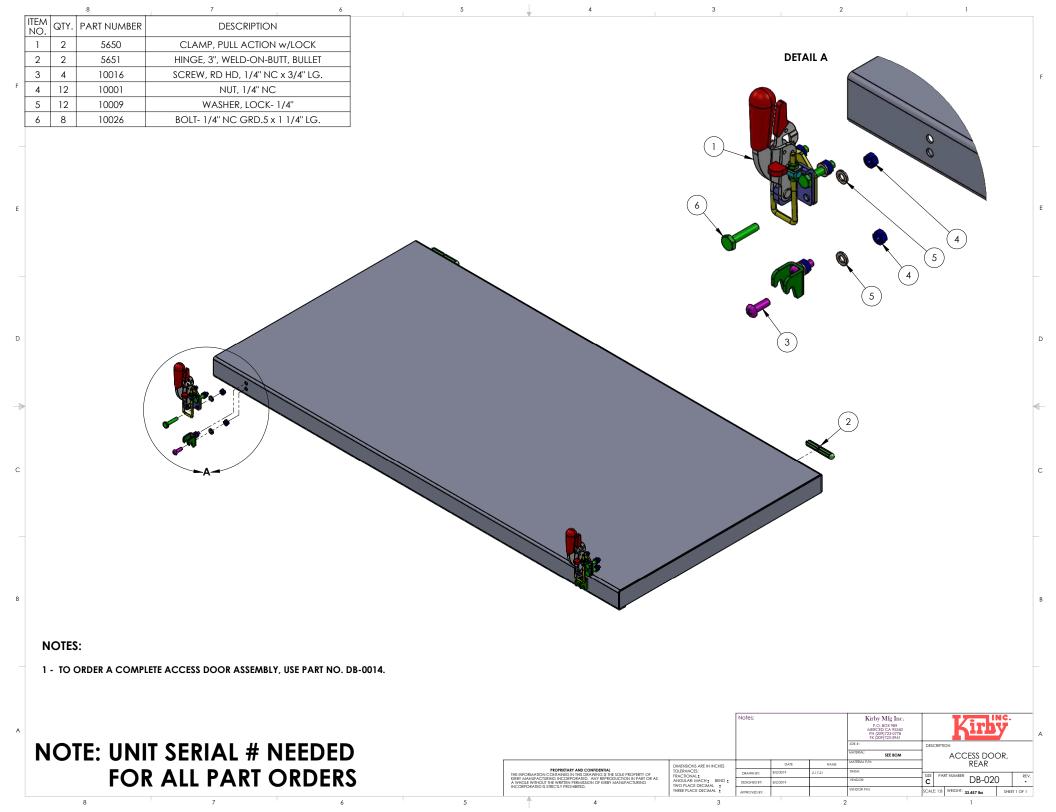


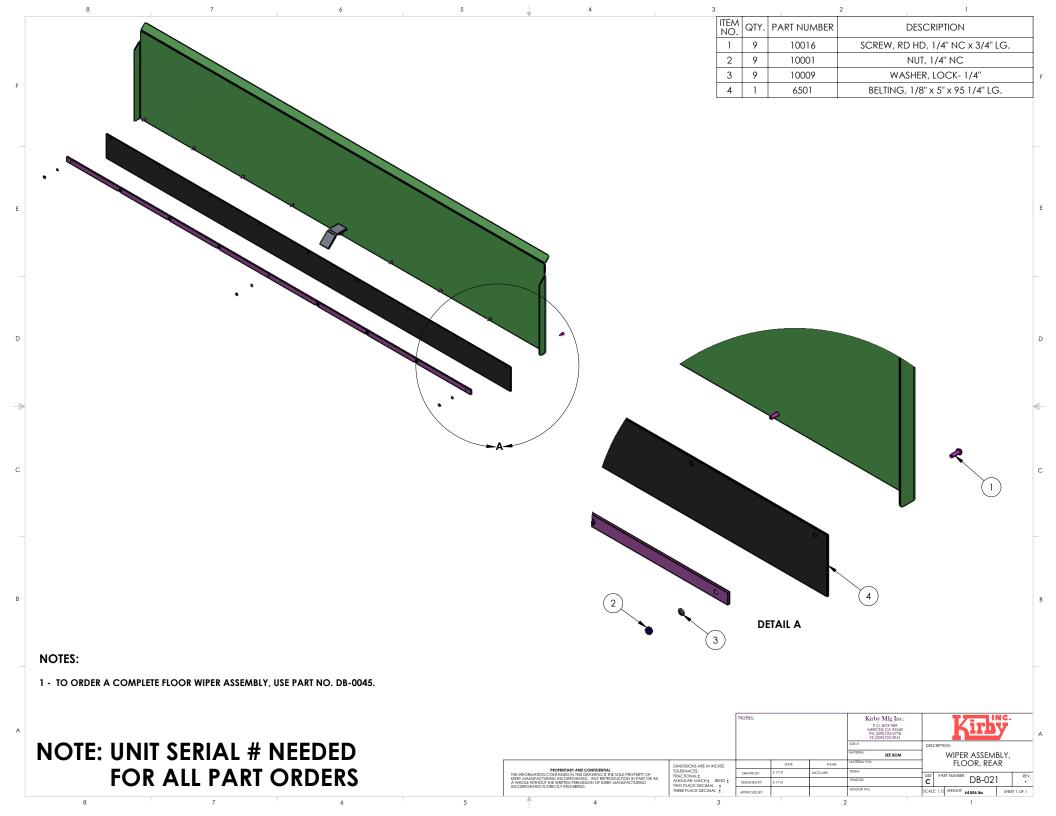
NOTES:

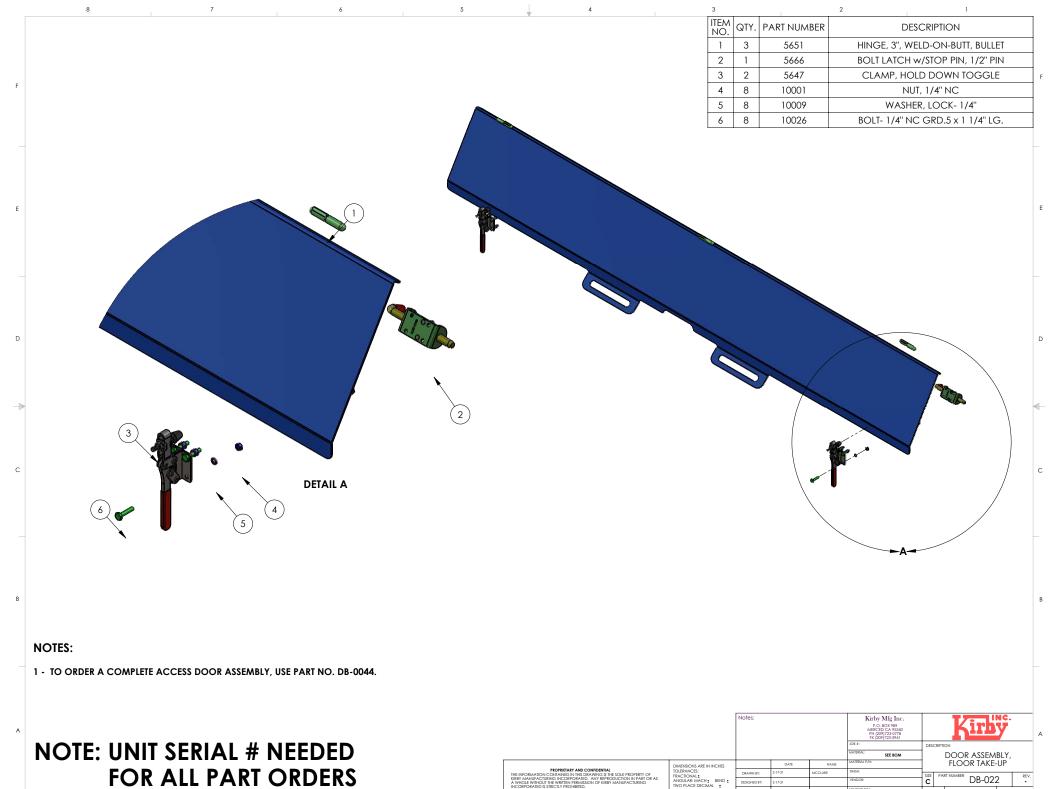
- 1 FOR A UNIT W/6 FT. WALLS, USE CYLINDER PART NO. 7936. 2 FOR A UNIT W/7 FT. WALLS, USE CYLINDER PART NO. 8242.



		Notes:			Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			Kirb	y Y		Α
		3			JOB #:	DESCRIPTION					
					MATERIAL: SEE BOM			DOOR ASSEM			
	DIMENSIONS ARE IN INCHES		DATE	NAME	MATERIAL P/N:	1		DISCHARG	E		
PROPRIETARY AND CONFIDENTIAL MATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF	TOLERANCES: FRACTIONAL±	DRAWN BY:	2-17-21	MCCLURE	FINISH:	SIZE	PART NUMBER		REV.		
IUFACTURING INCORPORATED. ANY REPRODUCTION IN PART OR AS WITHOUT THE WRITTEN PERMISSION OF KIRBY MANUFACTURING (ATED IS STRICTLY PROHIBITED.	ANGULAR: MACH BEND TWO PLACE DECIMAL *	DESIGNED BY:	2-17-21	2-17-21 VENDOR:		c		DB-019	'	-	
PATED IS STRUCTET PROPRIETED.	THREE PLACE DECIMAL ±	APPROVED BY:			VENDOR P/N:	SCAL	: 1:12	WEIGHT 370.570029 lbs	SHEET	T 1 OF 1	

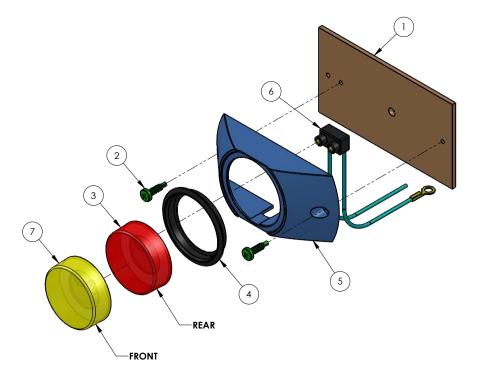




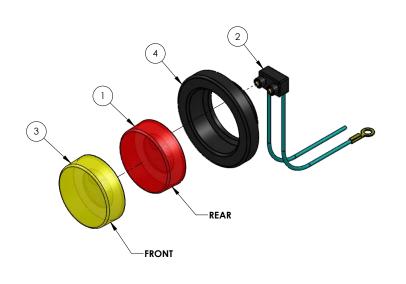


ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	391110	MOUNT PLATE, CLEARANCE LIGHT
2	2	10032	SCREW, PH, SELF TAP, #10 x 3/4" LG.
3	1	4680	LIGHT, CLEARANCE, 2" RND RED, 12V
4	1	4682	GROMMET, RUBBER, 2" RND LIGHT
5	1	4688	DEFLECTOR MOUNT, 2" RND LIGHT
6	1	4703	CONNECTOR PLUG, 2-WIRE PRONG
7	1	4681	LIGHT, CLEARANCE,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

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	4680	LIGHT, CLEARANCE, 2" RND RED, 12V
2	1	4703	CONNECTOR PLUG, 2-WIRE PRONG
3	1	4681	LIGHT, CLEARANCE, 2" RND AMBER, 12V
4	1	4682A	GROMMET, RUBBER, 2" RND LIGHT



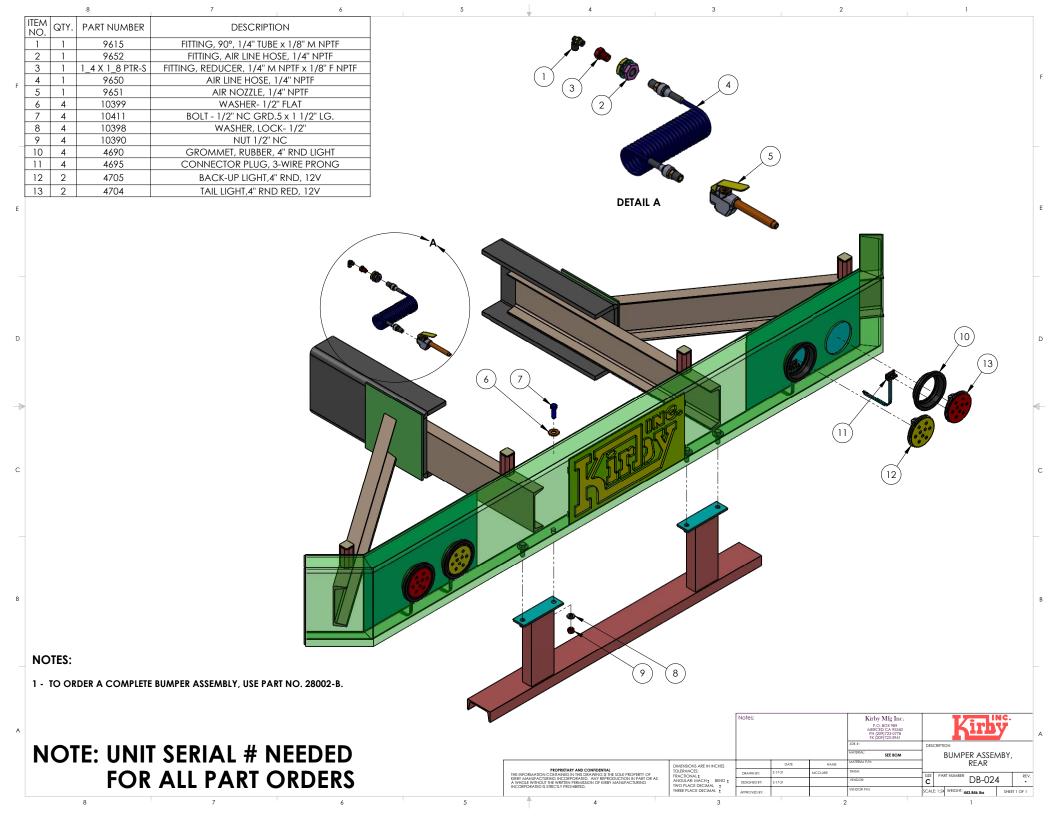
LOWER LIGHTS

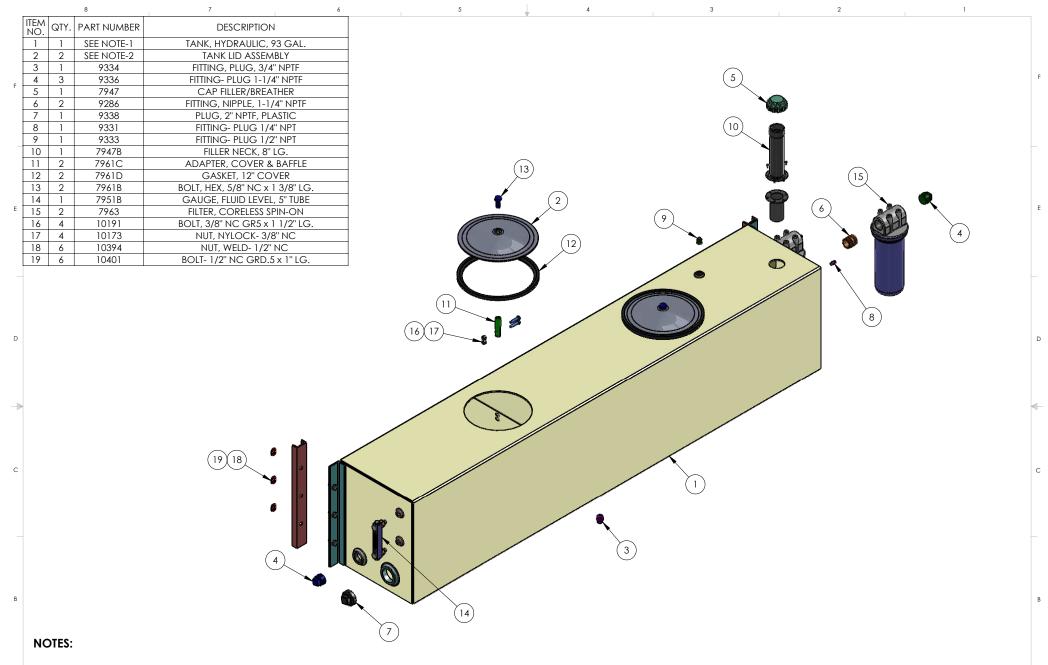


UPPER LIGHTS

	ı
PROPRIETARY AND CONFIDENTIAL	ı
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KIRBY MANUFACTURING INCORPORATED. ANY REPRODUCTION IN PART OR AS	ı
A WHOLE WITHOUT THE WRITTEN PERMISSION OF KIRBY MANUFACTURING	ı

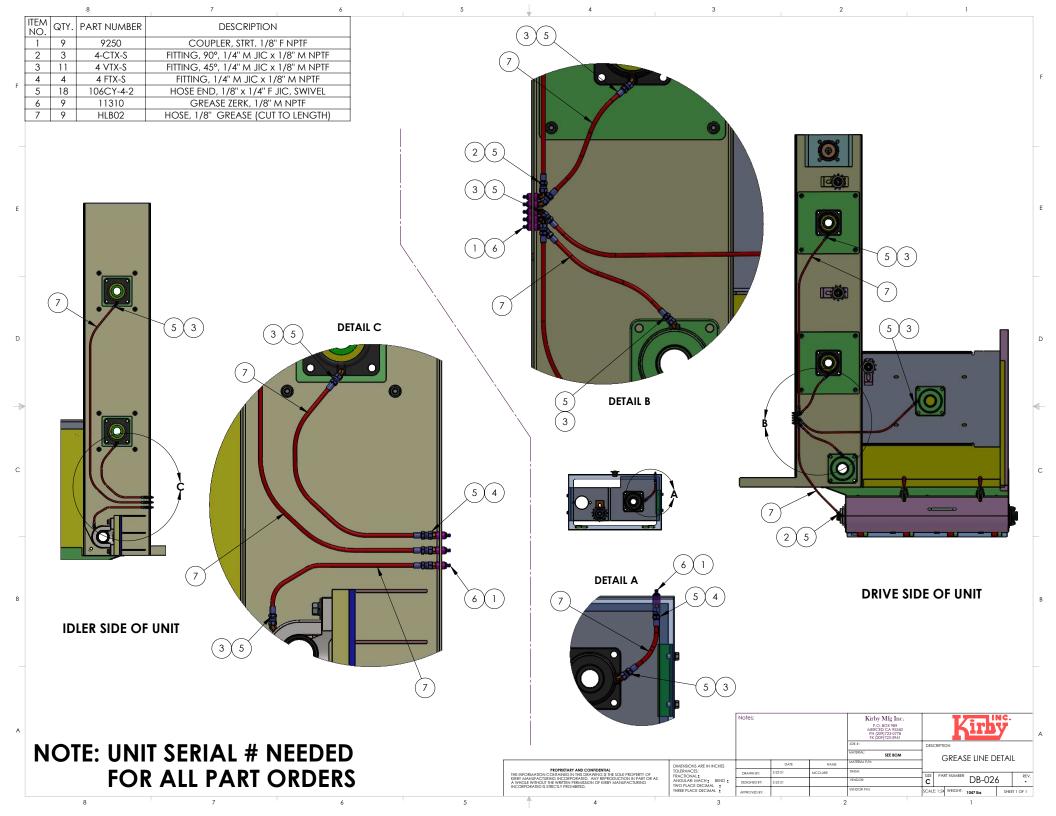
				JOB #: MATERIAL:	DESC	RIPTIC	DEFLECTO	n
				SEE BOM	1			
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IGULAR: MACH BEND :	DESIGNED BY:	2-17-21		VENDOR:	C		DB-023	3
REE PLACE DECIMAL ±	APPROVED BY:			VENDOR P/N:	SCALE:	1:1	WEIGHT: 2.156 lbs	SI





- 1 TO ORDER A COMPLETE TANK ASSEMBLY, USE PART NO. 162079DB.
- 2 TO ORDER A COMPLETE TANK LID ASSEMBLY, USE PART NO. 7961.
- 3 HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION.

			110103.			P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		<u>Kirb</u>	y	Α
						JO8 #:	DESCRIF	TION		
						MATERIAL: SEE BOM		TANK, HYDRAU	JLIC	
ĺ		DIMENSIONS ARE IN INCHES		DATE	NAME	MATERIAL P/N:				
	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF	TOLERANCES: FRACTIONAL±	DRAWN BY:	2-19-21	MCCLURE	FINISH:	SIZE P	'ART NUMBER	REV.	
	KIRBY MANUFACTURING INCORPORATED. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF KIRBY MANUFACTURING	ANGULAR: MACH BEND TWO PLACE DECIMAL *	DESIGNED BY:	2-19-21		VENDOR:	c	DB-025	-	
	INCORPORATED IS STRICTLY PROHIBITED.	THREE PLACE DECIMAL ±	APPROVED BY:			VENDOR P/N:	SCALE: 1:	16 WEIGHT: 385.776 lbs	SHEET 1 OF 1	
_	A	•			•		-			





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,

CM09

P/N KM09



KM31

P/N KM31



P/N KM62



P/N KM63

Notes:

NOTE:	UNIT	SER	IAL#	NEED	ED
	FOR	ALL	PART	ORDE	ERS

					P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		KILD	У	Α
					JOB #:	DESCRIP	ION		
					MATERIAL:		DECALS - I		
	DIMENSIONS ARE IN INCHES		DATE	NAME	MATERIAL P/N:		DEC/ (LO I		
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF	TOLERANCES: FRACTIONAL±	DRAWN BY:			FINISH:	SIZE P	RT NUMBER	REV.	
KIRBY MANUFACTURING INCORPORATED. ANY REPRODUCTION IN PART OR A A WHOLE WITHOUT THE WRITTEN PERMISSION OF KIRBY MANUFACTURING	ANGULAR: MACH BEND TWO PLACE DECIMAL *	DESIGNED BY:			VENDOR:	c	c DB-027		
INCORPORATED IS STRICTLY PROHIBITED.	THREE PLACE DECIMAL ±	APPROVED BY:			VENDOR P/N:	SCALE: 3:2	WEIGHT: Ibs	SHEET 1 OF 1	
A	•			•					



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



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.

CM49

P/N 4615

P/N KM49



P/N KM64

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

					MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		VII.D.	y	A
					JOB #:	DESCRIP	TION		
					MATERIAL:	1	DECALS - II	1	
	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL *		DATE	NAME	MATERIAL P/N:		520/120 11		
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF		DRAWN BY:			FINISH:	SIZE P	SIZE PART NUMBER RF		REV.
KIRBY MANUFACTURING INCORPORATED. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF KIRBY MANUFACTURING INCORPORATED IS STRICTLY PROHIBITED.	ANGULAR: MACH BEND TWO PLACE DECIMAL *	DESIGNED BY:			VENDOR:	c	DB-028	3	
INCORPORATED IS STRICTLY PROPIBITED.	THREE PLACE DECIMAL ±	APPROVED BY:			VENDOR P/N:	SCALE: 3:2	2 WEIGHT: Ibs	SHEET 1 C	NF 1



P/N KM18



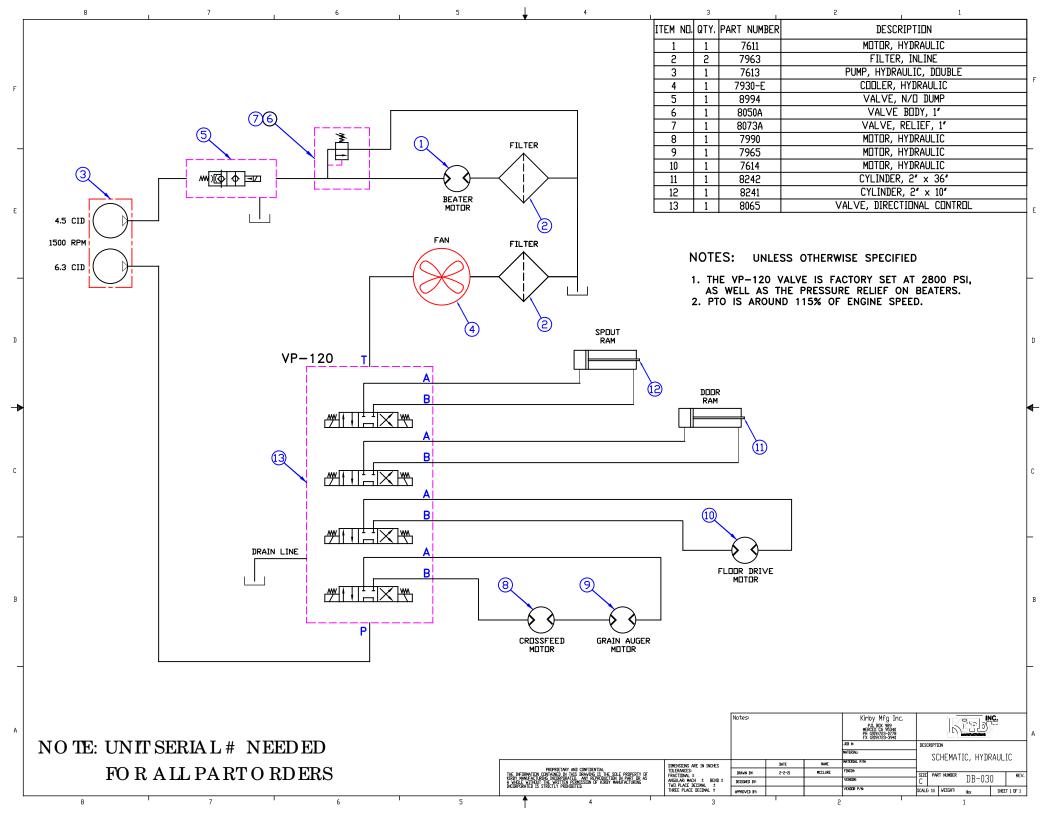
P/N KM26

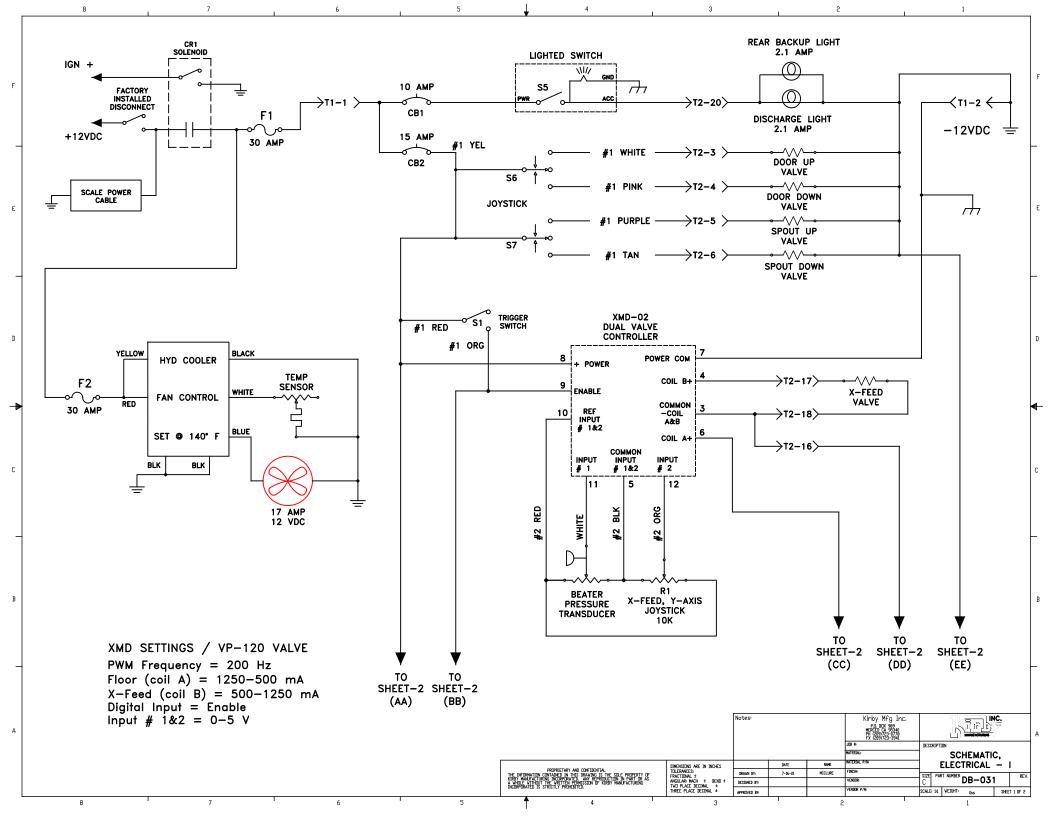


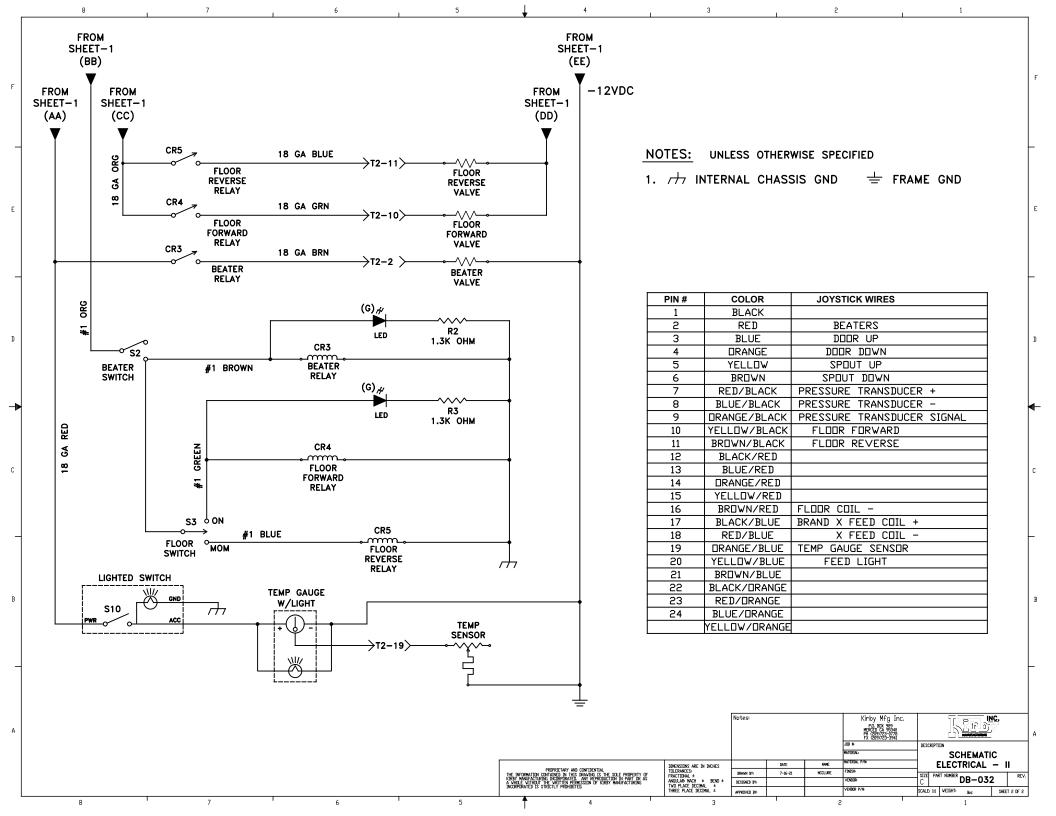
P/N KM26A

PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF KIRRY MANUFACTURING INCORPORATED. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITHEN PREMISSION OF KIRRY MANUFACTURING	D TH FI A
INCORPORATED IS STRICTLY PROHIBITED.	T/

				PH (209)723-0778 FX (209)723-3941					/	
				JOB #:	DES	CRIPTIO)N			
				MATERIAL:			DF	CALS - II	l	
ONS ARE IN INCHES		DATE	NAME	MATERIAL P/N:						
ICES: NAL±	DRAWN BY:			FINISH:	SIZE	PART	T NUMBER			REV.
R: MACH BEND . CE DECIMAL .	DESIGNED BY:			VENDOR:	С			DB-029	,	
ACE DECIMAL ±	APPROVED BY:			VENDOR P/N:	SCAL	E: 3:2	WEIGHT:	lbs	SHE	T 1 OF 1







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	4745	CIRCUIT BREAKER, 10-AMP
2	1	4748	CIRCUIT BREAKER, 15-AMP
3	1	4747	SWITCH, AMBER, DUCK BILL
4	1	4746	SWITCH, RED, DUCK BILL
5	1	5485E	JOYSTICK, SINGLE AXIS
6	3	73980	RELAY, 12V
7	1	22102F	ARMREST PAD, JOYSTICK BOX
8	1	676-3015	SWITCH, ON/OFF/MOM
9	1	676-3000	SWITCH, ON/OFF
10	2	676-3010	SWITCH, MOM/OFF/MOM
11	1	5484C	DRIVER CARD, DOUBLE OUTPUT
12	1	70117610	POTENTIOMETER, 10K OHM
13	1	ATM4347	GAUGE, OIL TEMP.
14	1	5485A2	SWITCH, TRIGGER, PUSHBUTTON

NOTES:

- 1 TO ORDER A COMPLETE MAIN DISPLAY, USE PART NO. 5281.
- 2 TO ORDER A COMPLETE REMOTE DISPLAY, WITH CABLE, TX/RX, USE PART NO. 5205.
- 3 TO ORDER A COMPLETE JOYSTICK CONTROLLER ASSEMBLY, USE PART NO. DB-0065. FOR INDIVIDUAL COMPONENTS, USE SPARE PARTS LIST SHOWN ON DRAWING..

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

PROPRIETABY AND CONFIDENTIAL
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A WINGLE WITHOUT THE WRITEN PERMISSION OF KRIET MANUFACTURING

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