OPERATION & MAINTENANCE MANUAL

BALE FEEDER





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 <u>immediately</u> 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 tractor power take-off (PTO) drive line should be removed from the tractor and the key removed prior to servicing or working on the equipment.

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 bale 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, 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 BALE 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 Bale Feeder prior to start up.
- B. Before loading, run the Bale Feeder empty and check all operations.

C. Do not overload the Bale Feeder.

Maximum load is 4 BALES (1 TON EACH) FOR a 20 FT BALE FEEDER. Maximum load is 6 BALES (1 TON EACH) FOR a 28 FT BALE FEEDER. 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.

1 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 BALE FEEDER SAFELY

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

Do not exceed load capacity of the Bale 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 BALE 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 BW-040 & BW-041).

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 mixer/feeder. Practice operation of your bale 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.

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 PT0 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.

1 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.



1 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.

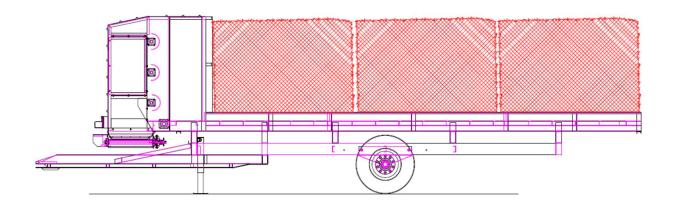
Make allowances for increased length and weight of the mixer/feeder when making turns, stopping the unit, etc.

EQUIPMENT OPERATIONS

A. LOADING OF YOUR BALE FEEDER

- 1. Make sure that the P.T.O is disengaged (this is to ensure the safety of the individual who is loading).
- 2. Make sure that the feeder tongue is properly hooked to trailer hitch (never leave the unit loaded when it is parked on the landing gear).
- 3. Start loading the bale or bales closest to the beaters first and then work your way back. Set the bales on edge so the twines are facing you. This will make the next step easier.
- 4. Remove all twines from bales. If hay tends to fluff apart, you may want to leave one twine on the last bale.
- 5. When you are done loading, make sure everyone and any foreign object is clear of danger and removed from the floor of the unit. Engage the P.T.O at this time.

1st BALE 2nd BALE LAST BALE LOADED LOADED. MAY LEAVE TWINE TO KEEP HAY TOGETHER



NOTE: Above drawing is to illustrate loading only; <u>never</u> load an unhitched Bale Feeder

B. OPERATING YOUR BALE FEEDER

- When running your unit for the first time or running a new load of hay always start out at 1 or 2 on your flow control and move up to the right speed. The setting will vary from tractor to tractor, type of hay and weather conditions. Most units run at about "3".
- ➤ Engage the P.T.O; raise the engine's RPM up to the tractor manufacturer's recommendations. It will require 540 RPM at the P.T.O for the Bale Feeder to work properly.
- When the beaters and cross feed have reached optimum speed, start the hydraulics control on the floor. If the beaters stall or get plugged, the oil by-passes in the flow control. You maybe feeding the hay into the beaters faster than the knives can cut it. If this is the case, slow the floor down with the flow control.
- After you have run the first set of bales, CHECK floor chains for tightness: the chains will stretch. Continue checking weekly. There should be no more than 6" of slack on the floor chain (Lift floor chain in the middle of the span and measure from bottom on chain to floor).
- When you finish a load, always shut off floor and then the beaters (this clears the beaters and gets it ready for the next load). On start up always start the beaters first and then the floor.

C. <u>CROSS FEED BELT ADJUSTMENT – FOR IDLER ROLLER</u>

Idler roller is opposite of discharge side. To keep your belt running true, follow the adjustment procedures below:

- If your belt is rubbing or riding to the left side of the cross-feed conveyor. You can correct this misalignment by tightening the left side of the belt. This is accomplished by tightening idler roller adjustment screw on the left side of the idler roller.
- If your belt is rubbing or riding to the right side of the cross-feed conveyor. You can correct this misalignment by tightening the right side of the belt. This is accomplished by tightening idler roller adjustment screw on the right side of the idler roller.
- ➤ Once the belt is centered and running true, tighten the jam nuts on the adjustment screws and recheck belt alignment.

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 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 mixer/feeder.

BALE FEEDER STRUCTURE & TRAILER

Observe for cracks in metal and welds in beater cabinet, trailer frame, 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 <u>level</u> with bottom of filler hole. Fill with proper lubricant to overflow.

BEATERS, SHAFTS & BEARINGS

CAUTION! THE FEEDER 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 feeder 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

Tractor mounted 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. Lubricate all zerk fittings until grease is seen coming out of cross yoke caps.

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".

Bale feeder 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.

GEARBOXES

50 TO 1 & RIGHT-ANGLE GEARBOXES

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 two bearings on the forward end of the floor chain conveyor.
- ➤ There are two bearings on the rear end of the floor chain conveyor.
- ➤ All floor chain 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 for each bearing. Always be sure the machine is operating, and the bearings are rotating to ensure that the bearings are taking grease.

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 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.

<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.
- o 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			$\mathbf{X}^{(4)}$					
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 Bale Feeder. 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 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

Trailer Maintenance Schedule/Checklist

Equipment:	Bale Feed	ler (trailer mount)		
			roximately 1 week intervals); (UNLESS STATED OTHERWISE	BELOW)	
	Customer		Location		
	Date service perf	ormed	Hours on unit		
	Equipment ser. n	о.	Service technician		
MAJOR AREAS					
1. CUSTOMER INFO.					
					follow-up required
	minor areas	item	description	check-off	l*.
	general	1	speak with equipment operators		
		2	speak with maintenance technicians		
2. HYDRAULIC SYSTEM					
					follow-up
	minor areas	item	description	check-off	
	general	1	check for leaks; (hoses, fittings, seals, etc)		
		2	check oil levels, fill if needed		
		3	check pressure bypass settings		
		4	check for worn hoses & loose fittings		
		5	start Bale Feeder and check general operating parameters		
			check operations of hydraulic cylinders & motors		
3. MECHANICAL SYSTEM			, , , ,		
					follow-u
	minor areas	item	description	check-off	required (y/n)
	general	1	are all guards in place, (notify appropriate personal if not)		
		2	start Bale Feeder and listen for unusual noises		
		3	look for worn/broken parts		
			lubricate all grease zerk fittings and/or points of lubrication		
			check drive line shear pin		
			check operation of running/clearance lights, (repair if needed)		
			, a sala a s		
	floor chain system	1	check tightness is chains, (adjust if needed)		
	3,3.311		check for damage & wear on chain		
			check chain guide wear, (repair if needed)		
			lubricate floor chain take-up bearings		
		7	one chair care up bourings		
	drive chain system	1	check tightness of chains, (adjust if needed)		
			check for damage & wear on chain & sprockets		
			check chain/sprocket alignment, (adjust if needed)		
		4	lubricate drive chain & shaft bearings		
	frame 0 par-1-				
	frame & panels		check wear on inside of housing walls		
	frame & panels	2	check wear on inside of housing walls check wear on floor panels & seams check frame for cracks, (if needed repair)		

	cross conveyor	1	check for wear on cross conveyor belt		
			check bearing and grease		
			check drive system		
			check conveyor belt tracking and take-ups, (adjust if needed)		
			check operations of cross conveyor		
			, , , , , , , , , , , , , , , , , , , ,		
	gear boxes	1	check yokes for tightness, (check set screws)		
		2	check oil levels, (fill if needed)		
		3	check seals for leaks, (change seals if needed)		
		4	check for shafts and yokes tightness, (tighten if needed)		
		5	check tightness of gearbox mounting bolt, (tightness to frame)		
	РТО	1	check and grease shaft, (check set screws & locking collar)		
4. WEIGH SYSTEM					
(if applicable)	minor areas	item	description	check-off	follow-up required (y/n)
	general		check operations of scales		
	general		check for rotation of load cells, (free and not bond-up)		
			check for damaged wiring		
			check and clean load cell mounting brackets		
•			check mounting frames for cracks, (repair if needed)		
			check to see if "V" blocks are loose and not carrying the load		
5. TEST FEEDER OPERATIONS			, , , , , , , , , , , , , , , , , , , ,		
					follow-up
	minor areas	item	description	check-off	required (y/n)
	general		"run-in" Bale Feeder for a period of time (15min+) to insure sm		
	3		operations. Walk around equipment and inspect all		
			components for smooth operations		
ADDITIONAL NOTES AND COM	MENTS:				
AFTER SERVICE IS COM	PLETED; WRI	TE SE	RVICED DATE WITH YOUR INITIALS ON A STICE	CER ANI	<u> </u>

<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.

Truck Maintenance Schedule/Checklist

Maintenance Schedule/Checklist Kiris



			chedule/Checkiisi	MA.	NUFACTURING
Equipment:	Bale Feed	ler (truck mount)		
			roximately 1 week intervals; (UNLESS STATED OTHER)	VISE BELO	<u>)W</u>)
	Customer		Location		
	Date service perf	ormed	Hours on unit		
	Equipment ser. n	о.	Service technician		
MAJOR AREAS					
1. CUSTOMER INFO.					
	minor areas	item	description	check-off	follow-up required (y/n)
	general	1	speak with equipment operators		
			speak with maintenance technicians		
2. HYDRAULIC SYSTEM					
			di contentico	-11#	follow-up
	minor areas	item	description	check-off	(y/n)
	general		check for leaks; (hoses, fittings, seals, etc)		
			check oil levels, fill if needed		
			change all oil filters, (every 500 hrs)		
			change hydraulic oil, (every 2000 hrs.; approx. 1 year)		
			check pressure bypass (relief) settings		
			check for worn hoses		
		8	start Bale Feeder and listen for unusual noises		
		9	start Bale Feeder and check general operating parameters		
		10	check driveline; (lubricate yokes every 100 hrs)		
		11	check operations of hydraulic cylinders & motors		
		14	clean heat exchanger (radiator) on hydraulic system (daily)		
3. MECHANICAL SYSTEM					fallow
					follow-up required
	minor areas	item	description	check-off	(y/n)
	general	1	are all guards in place, (notify appropriate personal if not)		
		2	start Bale Feeder and listen for unusual noises		
		3	look for worn/broken parts		
		4	lubricate all grease zerk fittings and/or points of lubrication		
		5	check drive line shear pin		
		6	check operation of running/clearance lights, (repair if needed)		
	floor chain system	1	check tightness of chains, (adjust if needed)		
		2	check for damage & wear on chain		
		3	check chain guide wear, (repair if needed)		
		4	lubricate floor chain take-up bearings		
	drive chain system	1	check tightness is chains, (adjust if needed)		
			check for damage & wear on chain & sprockets		
			check chain/sprocket alignment, (adjust if needed)		
			lubricate drive chain & shaft bearings		

	frame & panels		check wear on inside of housing walls		
			check wear on floor panels & seams		
			check scale chassis frame for cracks, (if needed repair)		
	cross conveyor	•	check for wear on cross conveyor belt		
		2	2 check bearings and grease		
			3 check drive system		
		4	check conveyor belt tracking and take-ups, (adjust if needed)		
			check operations of cross conveyor		
	gear boxes		check yokes for tightness, (check set screws)		
			check oil levels, (fill if needed)		
			3 check seals for leaks, (change seals if needed)		
			check for shafts and yokes tightness, (tighten if needed)		
			check tightness of gearbox mounting bolt, (tightness to frame)	
	PTO		check and grease shaft, (check set screws & locking collar)		
4. WEIGH SYSTEM					
(if applicable)					follow-up
	minor areas	item	description	check-off	(y/n)
	general		check operations of scales		
			check for rotation of load cells, (free and not bond-up)		
		- 3	S check for damaged wiring		
		4	check and clean load cell mounting brackets		
			5 check mounting frames for cracks, (repair if needed)		
		_ 6	check to see if "V" blocks are loose and not carrying the load		
5. TEST FEEDER OPE	RATIONS				follow-up
					required
	minor areas	item	description	check-off	(y/n)
	general		"run-in" Bale Feeder for a period of time (15min+) to insure sn	nooth	
			operations. Walk around equipment and inspect all		
			components for smooth operations		
ADDITIONAL NOTES A	AND COMMENTS:				
			E SERVICED DATE WITH YOUR INITIALS ON A	STICKER	<u>k</u>
AND PLACE STIC	KER ON UNIT N	EXT TO	SERIAL NUMBER ID PLATE.		
NOTE: The above ma	intenance program	covers t	he operation of the Bale Feeder and		
does not include truc	k maintenance che	cks or sa	afety checks, (other than guarding).		

<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 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.

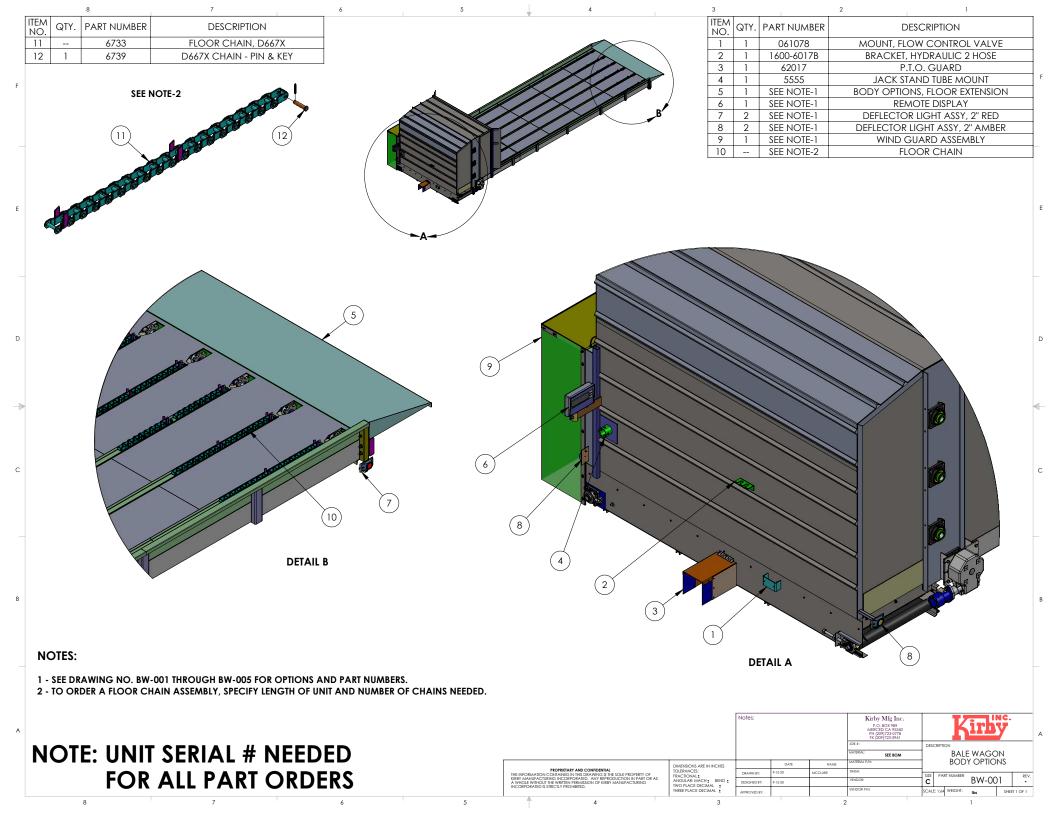
CAUTION: SCALE REPAIRS ARE BEST ACCOMPLISHED BY TRAINED AND QUALIFIED SCALE REPAIR PERSONNEL.

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

SPARE PARTS

DRAWING NO	DESCRIPTION
BW-001	BALE FEEDER BODY OPTIONS
BW-002	BODY OPTIONS, DISPLAY & DEFLECTOR LIGHT
BW-003	BODY OPTIONS, FLOOR EXTENSION
BW-004	WIND GUARD ASSEMBLY
BW-005	WIND GUARD ASSEMBLY, 12" EXTENSION
BW-006	CROSSFEED, L/H FEED, MECHANICAL BELT
BW-007	CROSSFEED, R/H FEED, MECHANICAL BELT
BW-008	CROSSFEED, R/H FEED, MECHANICAL BELT, UHMW
BW-009	CROSSFEED, L/H FEED, HYDRAULIC BELT, BOLT-ON
BW-010	FOLDING SPOUT
BW-011	TRAILER ASSEMBLY
BW-012	AXLE ASSEMBLY, 10-HOLE ON 11 1/4" B.C.
BW-013	AXLE HUB STUD, SINGLE WHEEL
BW-014	DRIVELINE PTO ASSEMBLY
BW-015	SUBFRAME, TRUCK MOUNT
BW-016	IDLER TAKE-UP ASSEMBLY
BW-017	BEATER DRIVE ASSEMBLY, MECHANICAL
BW-018	BEATER DRIVE ASSEMBLY, ALL HYDRAULIC
BW-019	BEATER DRIVE ASSEMBLY, SEMI-HYDRAULIC
BW-020	BEATER ASSEMBLY
BW-021	FLOOR DRIVE ASSEMBLY w/50:1 GEARBOX
BW-022	FLOOR DRIVE ASSEMBLY, NO GEARBOX
BW-023	FLOOR DRIVE ASSEMBLY w/S1CL6KS5 GEARBOX
BW-024	GEARBOX ASSEMBLY 50:1
BW-025	HEAVY DUTY RIGHT-ANGLE GEARBOX ASSEMBLY
BW-026	GREASE LINE DETAIL, FLOOR & BEATER DRIVE

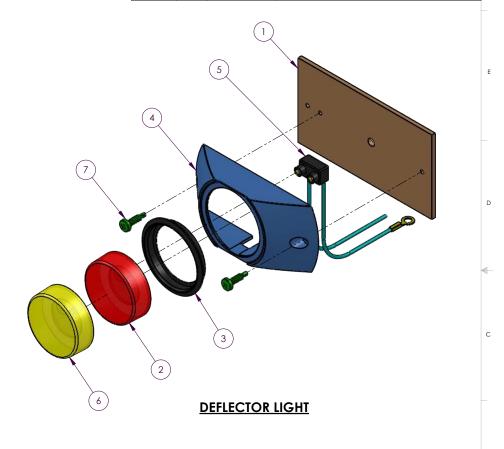
BW-027	SCHEMATIC SEMI-HYDRAULIC
BW-028	SCHEMATIC ALL-HYDRAULIC
BW-029	TANK, HYDRAULIC, 69 GALLONS
BW-030	TANK, HYDRAULIC, 70 GALLONS
BW-031	HYDRAULICS, TRAILER
BW-032	ALL HYDRAULIC, TRUCK
BW-033	ALL HYDRAULIC, TRUCK
BW-034	SEMI - HYDRAULIC, TRUCK
BW-035	SEMI - HYDRAULIC, TRUCK
BW-036	HYDRAULIC, FOLDING SPOUT
BW-037	ELECTRICAL SCHEMATIC BALE FEEDER – I
BW-038	ELECTRICAL SCHEMATIC BALE FEEDER – II
BW-039	TRUCK CAB COMPONENTS
BW-040	DECALS - I
BW-041	DECALS - II



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

2	
NOTES: 1 - TO ORDER COMPLETE ASSEMBLY WITH DISPLAY	
AND CABLE, USE PART NO. 5204.	
O TO ORDER COMPLETE ACCEMBLY WITH DICRLAY	

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	391110	MOUNT PLATE, CLEARANCE LIGHT
2	1	4680	LIGHT, CLEARANCE, 2" RND RED, 12V
3	1	4682	GROMMET, RUBBER, 2" RND LIGHT
4	1	4688	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.



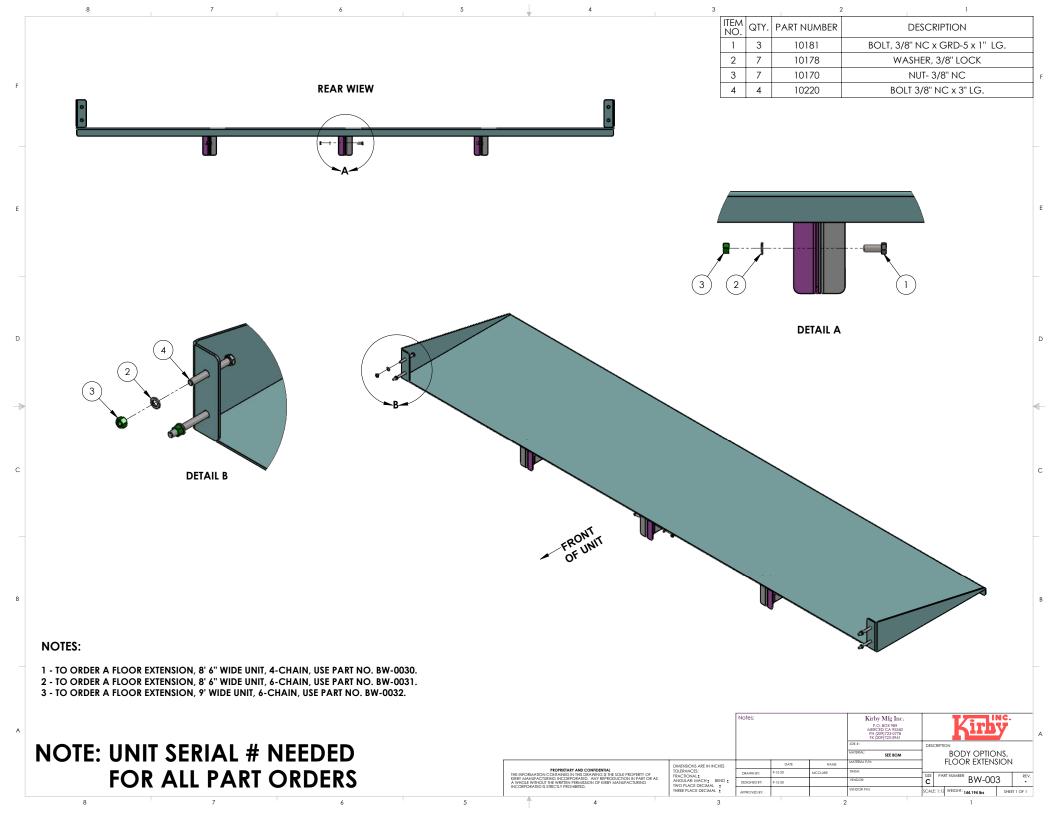
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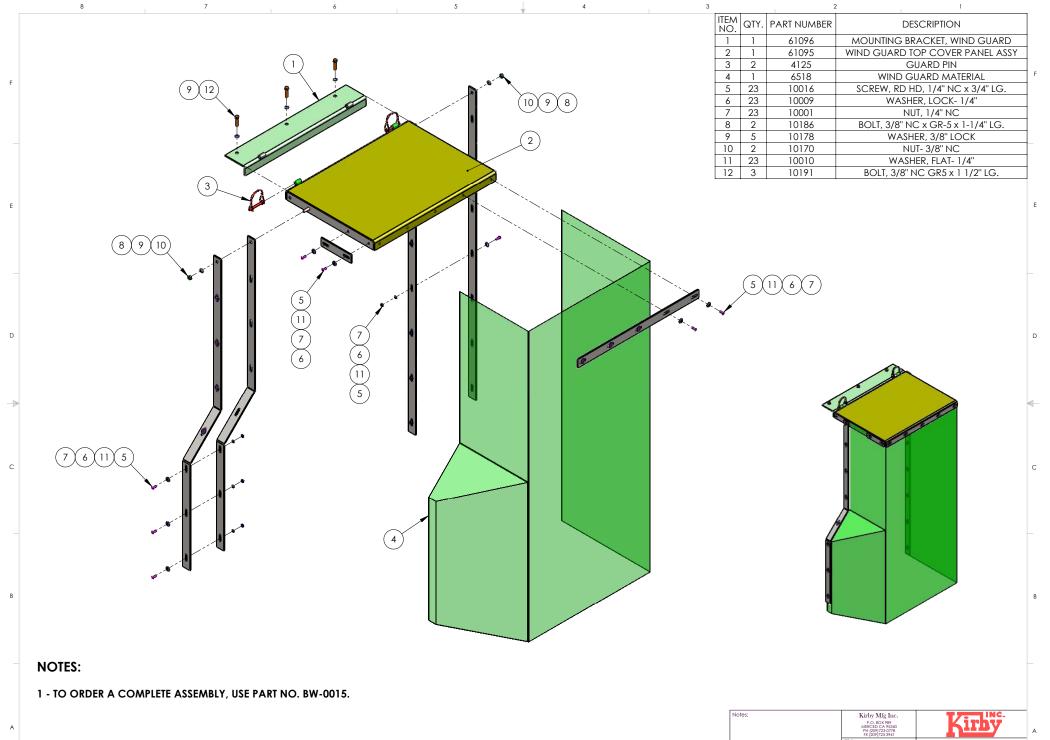
- 1 TO ORDER AN ASSEMBLY WITH A RED LIGHT, USE PART NO. LP-0055. 2 TO ORDER AN ASSEMBLY WITH AN AMBER LIGHT, USE PART NO. LP-0055A.

				Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941	Kirhy						А	
					JO8 #:	DESC	CRIPTIC	ON				
					MATERIAL: SEE BOM	7 E			TIONS, E			
PROPRIETARY AND CONFIDENTIAL MATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF RUB-ACTURING INCORPORATED. ANY REPRODUCTION IN PART OR AS WITHOUT THE WITHEN PERMISSION OF KIRBY MANUFACTURING RAFED IS STRUCTLY PROHERTED.	DIMENSIONS ARE IN INCHES		DATE	NAME	MATERIAL P/N:		8	DEFL	ECTOR L	IGHT		
	TOLERANCES: FRACTIONAL±	DRAWN BY:	6-27-18	MCCLURE	FINISH:	SIZE PA		T NUMBER			RFV	
	ANGULAR: MACH BEND TWO PLACE DECIMAL *	DESIGNED BY:	6-27-18		VENDOR:		С		BW-00		-	
	THREE PLACE DECIMAL ±	APPROVED BY:			VENDOR P/N:	SCALE	E: 1:2	WEIGHT: 4	1.445 lbs	SHEET	1 OF 1	
									,			

NOTE:	UNIT	SER	IAL#	NEEDE	D
	FOR	ALL	PARI	ORDER	S

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





NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

PROPRIETARY AND CONTRIBUTION

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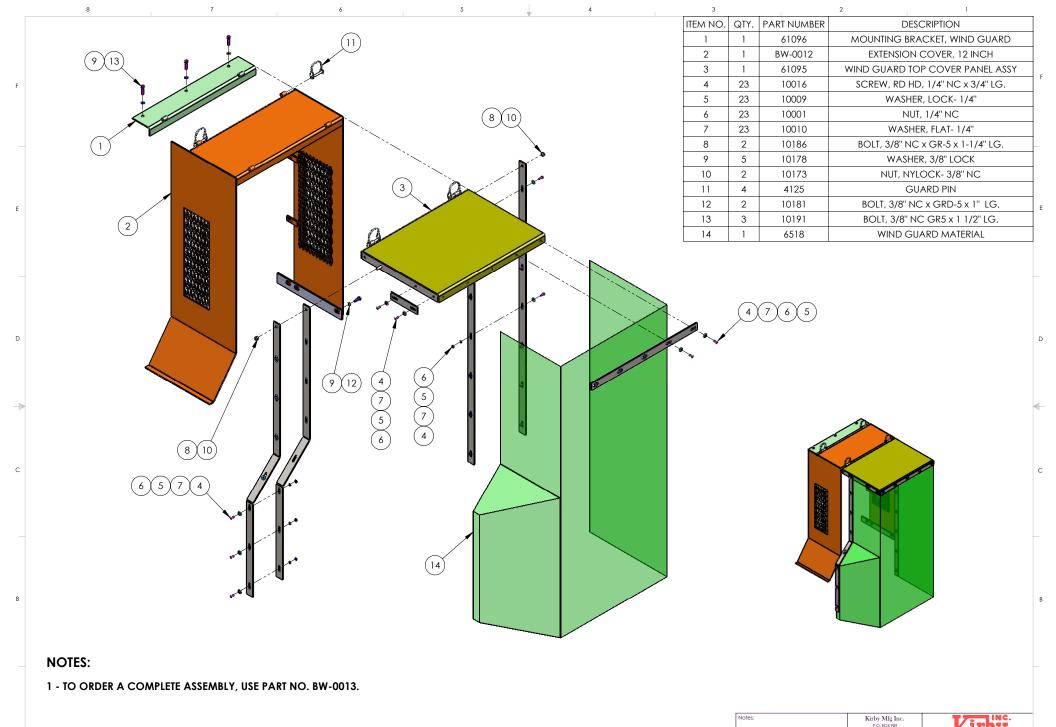
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ANGULAR: MACH | BEND |
IWO PLACE DECIMAL |
IHREE PLACE DECIMAL |

WIND GUARD ASSEMBLY

PART NUMBER BW-004

REV.

VENDOR P/NE SCALE: 1:7 WEIGHT: 62.959 lbs SHEE



NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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ANGULAR: MACH | BEND |
TWO PLACE DECIMAL |
THREE PLACE DECIMAL | APP

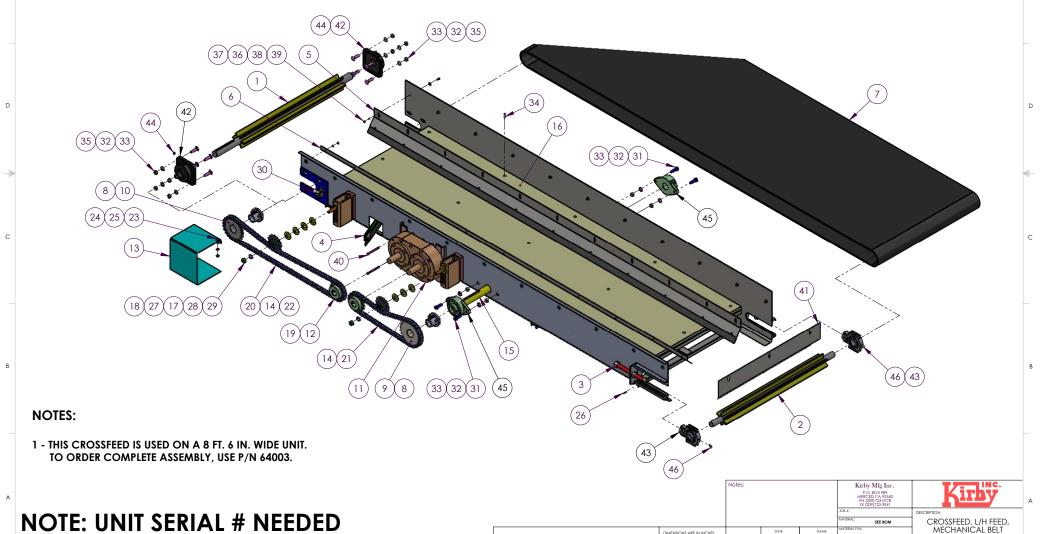
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ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	62005	PADDLE DRIVE ROLLER
2	1	62006	PADDLE IDLER ROLLER
3	2	61018	TAKE-UP BOLT, 3/4" NC x 9" LG.
4	1	62007	BELT CLEANER ASSEMBLY
5	1	62009	WIPER, FRONT
6	1	62008	WIPER, BACK
7	1	6519	BELTING, RUFF-TOP-RUBBER- 30"
8	2	16053	BUSHING, P1 x 1-1/2" BORE
9	1	17107	SPROCKET, 60-P-25
10	1	17101	SPROCKET, 60-P-22
11	1	7290	GEARBOX, REVERSE 1:1
12	2	3083	SPROCKET, 60-B-17 x 1.25" BORE
13	1	61093	GUARD, CHAIN DRIVE
14	2	6636	CHAIN, # 60H CON / LINK
15	1	133221	SHAFT, PTO
16	1	13200	PLYWOOD, 5/8" CROSSFEED BED

FOR ALL PART ORDERS

			· · · · · · · · · · · · · · · · · · ·
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
17	2	3001	SPROCKET, 60-15 IDLER SOLID
18	2	61016	BOLT, IDLER SPROCKET
19	2	3685	KEY- 1/4" SQ. x 1 1/4" LG.
20	1	6635	CHAIN, #60H, (6 1/2 FT LG.)
21	1	6635	CHAIN, #60H, (4 FT LG.)
22	1	6637	CHAIN, 60H OFFSET LINK
23	2	10181	BOLT, 3/8" NC x GRD-5 x 1" LG.
24	2	10170	NUT- 3/8" NC
25	2	10178	WASHER, 3/8" LOCK
26	2	11355	ROLL PIN, SPRING, 3/16" x 1" LG.
27	8	10552	WASHER, FLAT- 5/8"
28	2	10553	WASHER- 5/8" LOCK
29	2	10550	NUT, 5/8" NC
30	2	10669	SET SCREW,SQ HEAD 3/4" NC x 2"

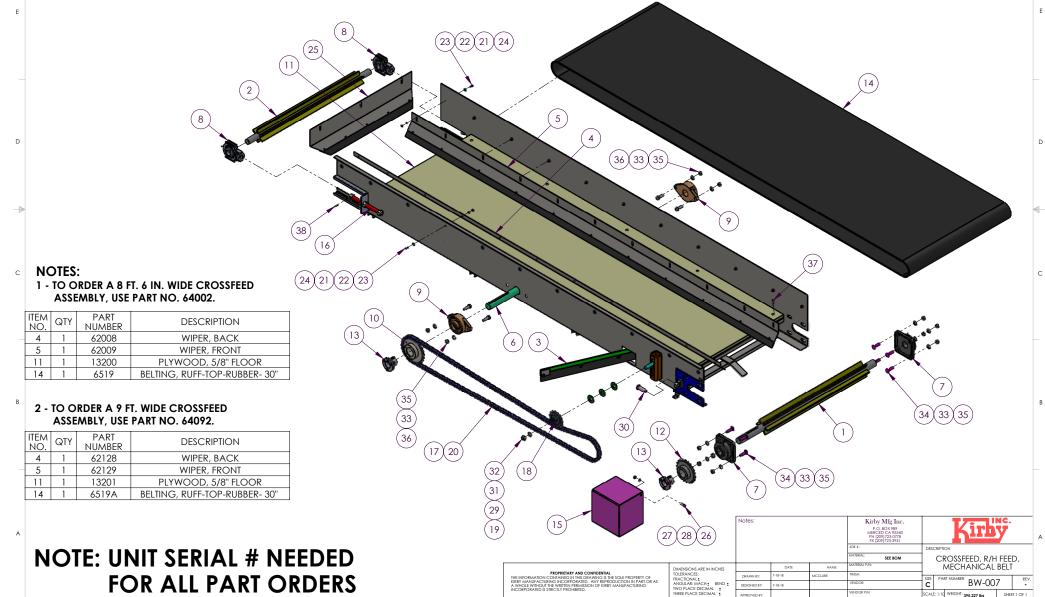
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
31	4	10411	BOLT - 1/2" NC GRD.5 x 1 1/2" LG.
32	12	10398	WASHER, LOCK- 1/2"
33	12	10390	NUT 1/2" NC
34	15	10025	SCREW, SELF TAP
35	8	10412	BOLT, CARRIAGE - 1/2" NC x 1 3/4" LG.
36	22	10010	WASHER, FLAT- 1/4"
37	22	10016	SCREW, RD HD, 1/4" NC x 3/4" LG.
38	22	10009	WASHER, LOCK- 1/4"
39	22	10001	NUT, 1/4" NC
40	4	10142	BOLT - 5/16' NC x GRD-5 x 3 1/4" LG.
41	1	62010	END WIPER ASSEMBLY
42	2	2077	BEARING, 4-HOLE FLANGE, 1-1/2" BORE
43	2	2101	BEARING, TAKE-UP- 1/1/4"
44	2	11310	GREASE ZERK, 1/8" M NPTF
45	2	2132	BEARING, 2-HOLE FLANGE, 1 1/2" BORE
46	2	11311	ZERK, GREASE, 1/8" NPTF x 45°

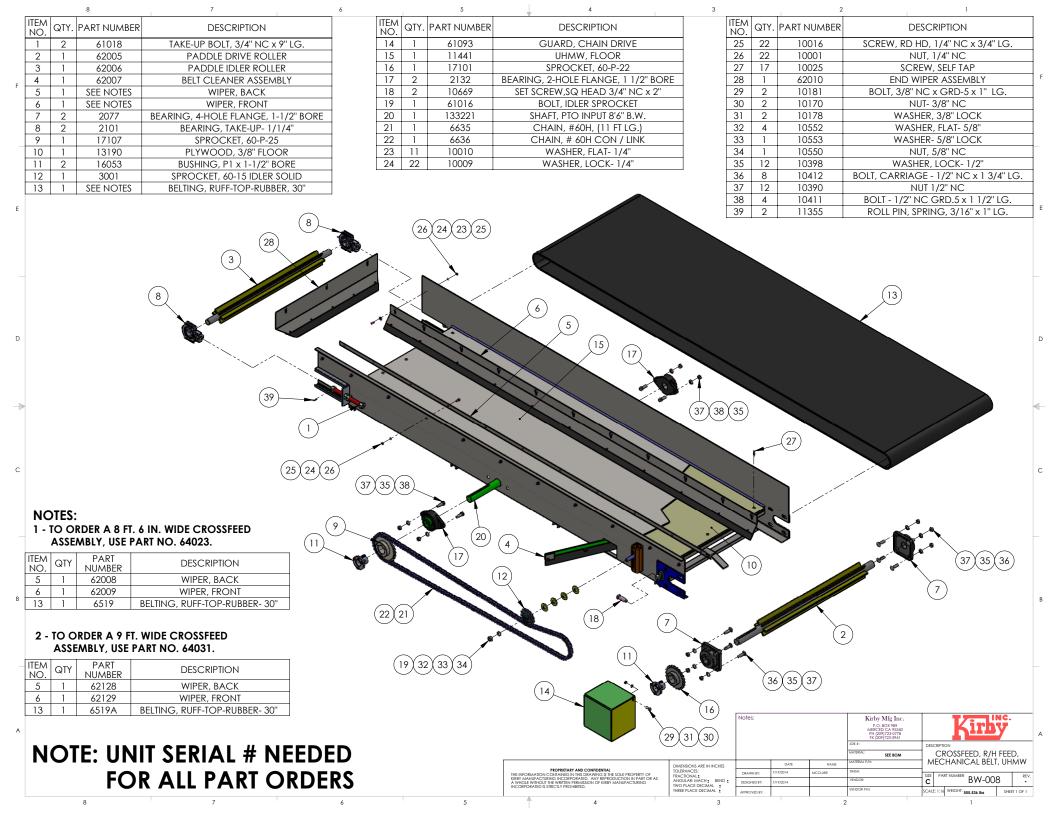


ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	62005	PADDLE DRIVE ROLLER
2	1	62006	PADDLE IDLER ROLLER
3	1	62007	BELT CLEANER ASSEMBLY
4	1	SEE NOTES	WIPER, BACK
5	1	SEE NOTES	WIPER, FRONT
6	1	133221	SHAFT, P.T.O.
7	2	2077	BEARING, 4-HOLE FLANGE, 1-1/2" BORE
8	2	2101	BEARING, TAKE-UP- 1/1/4"
9	2	2132	BEARING, 2-HOLE FLANGE, 1 1/2" BORE
10	1	17107	SPROCKET, 60-P-25
11	1	SEE NOTES	PLYWOOD, 5/8" FLOOR
12	1	17101	SPROCKET, 60-P-22
13	2	14053	BUSHING P1 x 1-1/2" BORE

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION			
14	1	SEE NOTES	BELTING, RUFF-TOP-RUBBER- 30"			
15	1	61093	GUARD, CHAIN DRIVE			
16	2	61018	TAKE-UP BOLT, 3/4" NC x 9" LG.			
17	1	6636	CHAIN, # 60H CON / LINK			
18	1	3001	SPROCKET, 60-15 IDLER SOLID			
19	1	61016	BOLT, IDLER SPROCKET			
20	1	6635	CHAIN, #60H, (11 FT LG.)			
21	22	10009	WASHER, LOCK- 1/4"			
22	22	10010	WASHER, FLAT- 1/4"			
23	22	10016	SCREW, RD HD, 1/4" NC x 3/4" LG.			
24	22	10001	NUT, 1/4" NC			
25	1	62010	END WIPER ASSEMBLY			

3			2
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
26	2	10181	BOLT, 3/8" NC x GRD-5 x 1" LG.
27	2	10170	NUT- 3/8" NC
28	2	10178	WASHER, 3/8" LOCK
29	3	10552	WASHER, FLAT- 5/8"
30	2	10669	SET SCREW,SQ HEAD 3/4" NC x 2"
31	1	10553	WASHER- 5/8" LOCK
32	1	10550	NUT, 5/8" NC
33	12	10398	WASHER, LOCK- 1/2"
34	8	10412	BOLT, CARRIAGE - 1/2" NC x 1 3/4" LG.
35	12	10390	NUT 1/2" NC
36	4	10411	BOLT - 1/2" NC GRD.5 x 1 1/2" LG.
37	10	10025	SCREW, SELF TAP
38	2	11355	ROLL PIN, SPRING, 3/16" x 1" LG.







NOTE: UNIT SERIAL # NEEDED

FOR ALL PART ORDERS

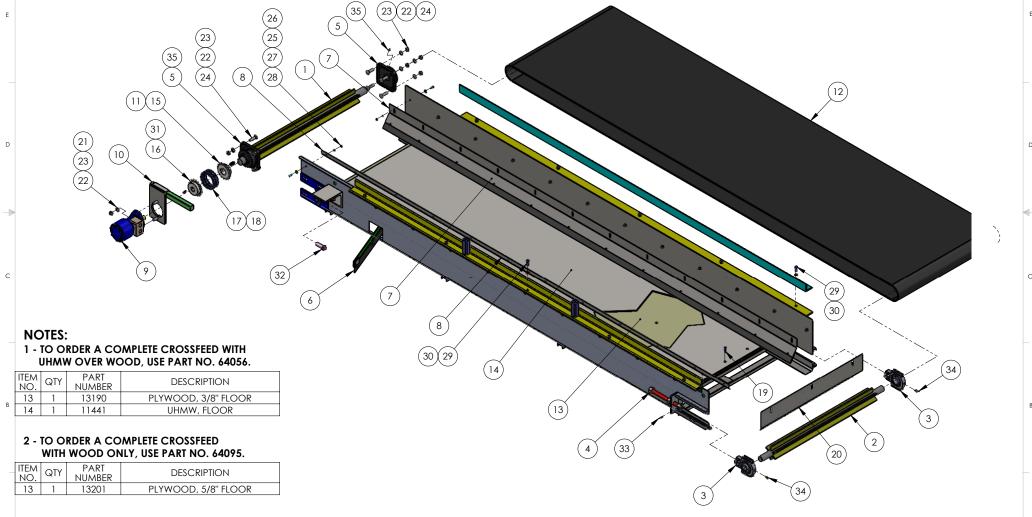
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION			
13	1	SEE NOTES	PLYWOOD, FLOOR			
14	1	SEE NOTES	UHMW, FLOOR			
15	1	2746	SPROCKET, 50-B-18 x 1.50" BORE			
16	1	2742	SPROCKET, 50-B-18 x 1.00" BORE			
17	1	6703	CHAIN, 50-2 DRIVE (.95 FT LG.)			
18	1	6704	CHAIN, #50-2 CON-LINK			
19	20	10025	SCREW, SELF TAP			
20	1	62010	END WIPER ASSEMBLY			
21	2	10411	BOLT - 1/2" NC GRD.5 x 1 1/2" LG.			
22	10	10398	WASHER, LOCK- 1/2"			
23	10	10390	NUT 1/2" NC			
24	8	10412	BOLT, CARRIAGE - 1/2" NC x 1 3/4" LG.			

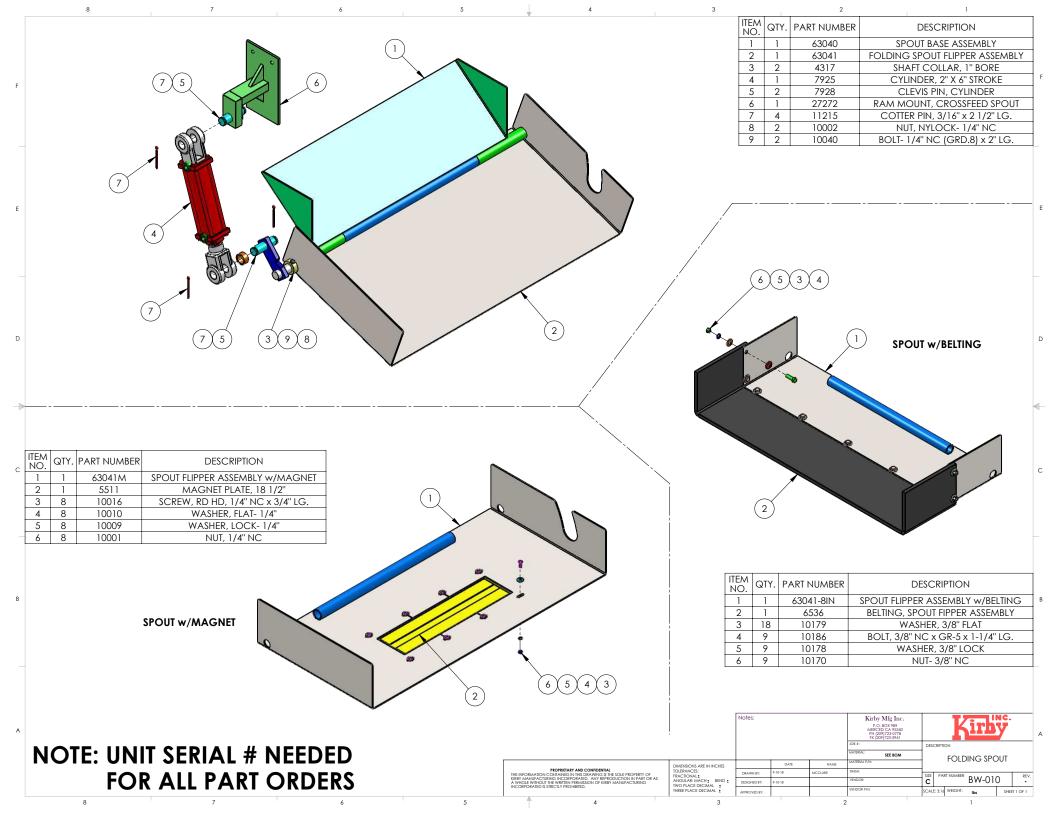
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION			
25	24	10010	WASHER, FLAT- 1/4"			
26	24	10016	SCREW, RD HD, 1/4" NC x 3/4" LG.			
27	24	10009	WASHER, LOCK- 1/4"			
28	24	10001	NUT, 1/4" NC			
29	10	10181	BOLT, 3/8" NC x GRD-5 x 1" LG.			
30	10	10178	WASHER, 3/8" LOCK			
31	1	7879B	KEY, WOODRUFF- 1/4" x 1"			
32	2	10669	SET SCREW,SQ HEAD 3/4" NC x 2"			
33	2	11355	ROLL PIN, SPRING, 3/16" x 1" LG.			
34	2	11311	ZERK, GREASE, 1/8" NPTF x 45°			
35	2	11310	GREASE ZERK, 1/8" M NPTF			

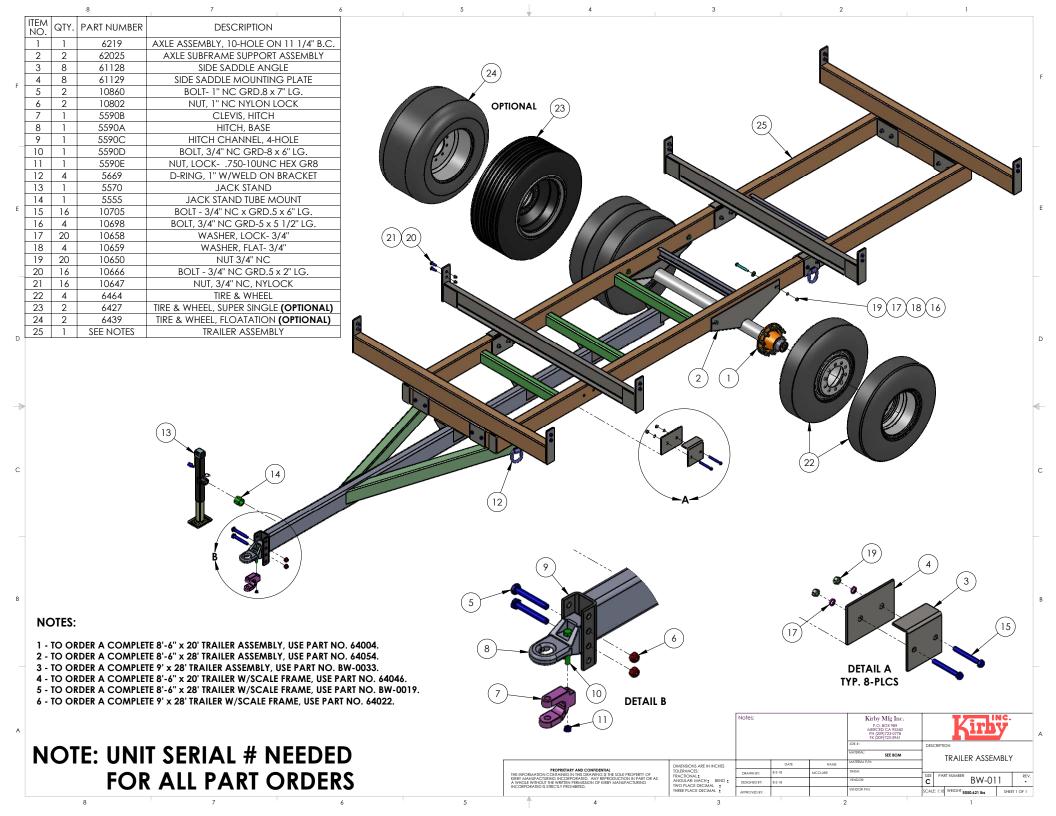
Kirby Mfg Inc.

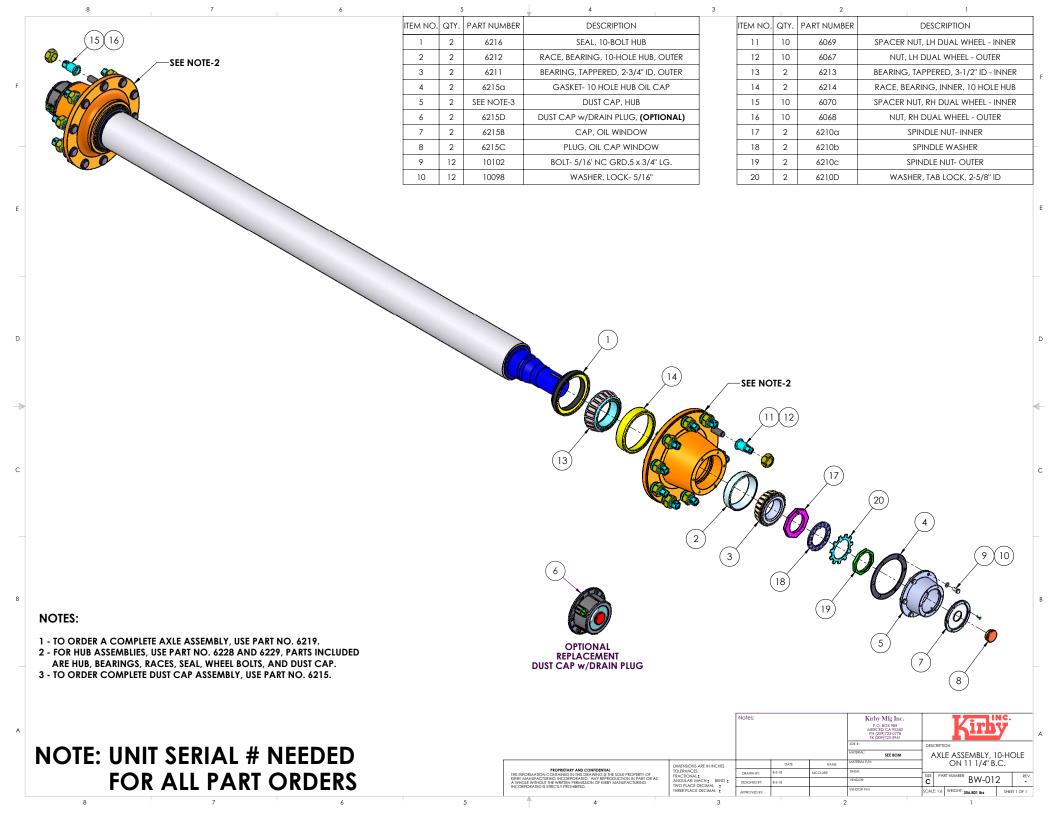
CROSSFEED, L/H FEED, HYDRAULIC BELT, BOLT-ON

BW-009





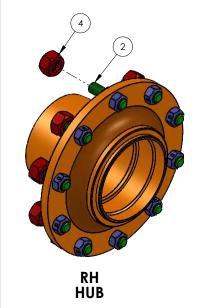




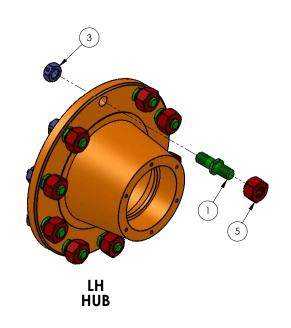
TEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	10	6217A	CLIPPED COLLAR WHEEL STUD- LH
2	10	6218A	CLIPPED COLLAR WHEEL STUD- RH
3	20	10649	NUT, LOCK- 3/4" NF
4	10	6057	LUG NUT- RH
5	10	6056	LUG NUT- LH

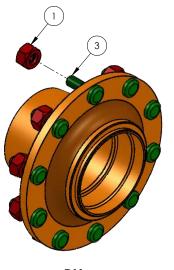
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	10	6057	LUG NUT- RH
2	10	6056	LUG NUT- LH
3	10	6218	STUD BOLT, RH, 3/4" NF
4	10	6217	STUD BOLT, LH, 3/4" NF

STUD BOLT

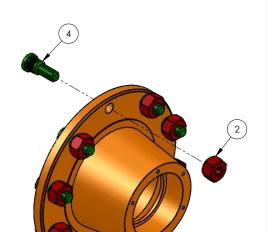


CLIPPED COLLAR STUD





RH HUB



LH HUB

NOTES:

1 - TO ORDER A HUB STUD, SELECT TYPE NEEDED.

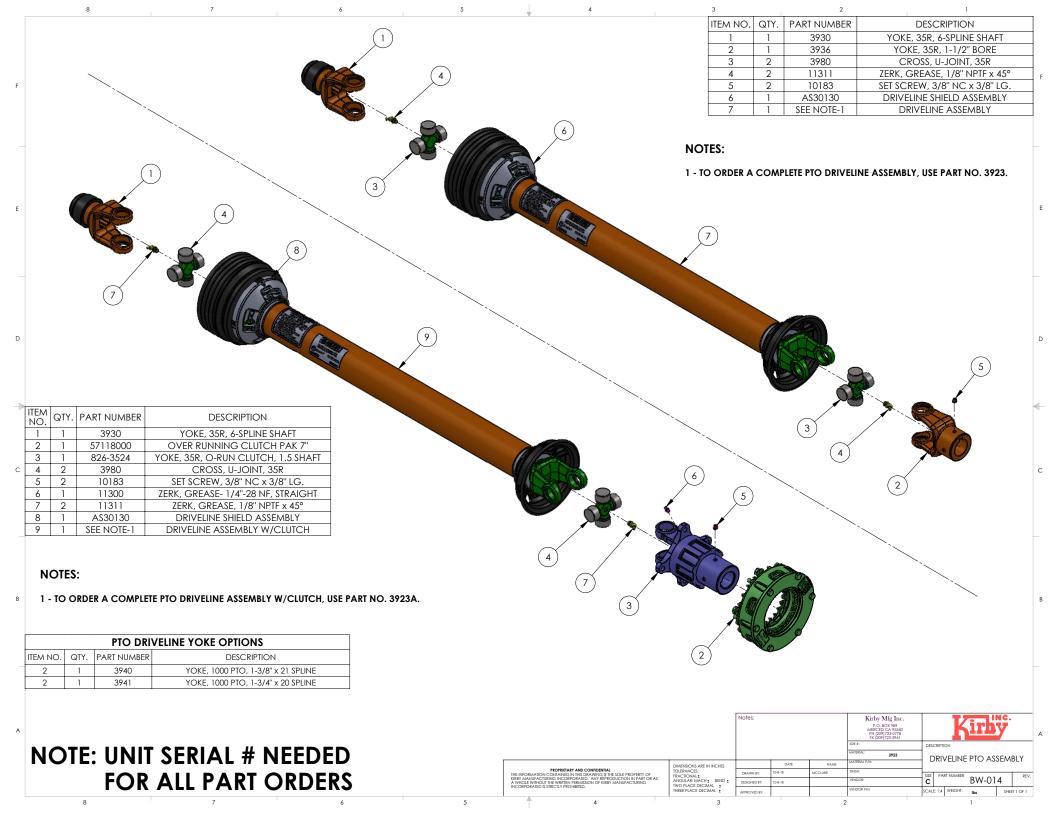
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

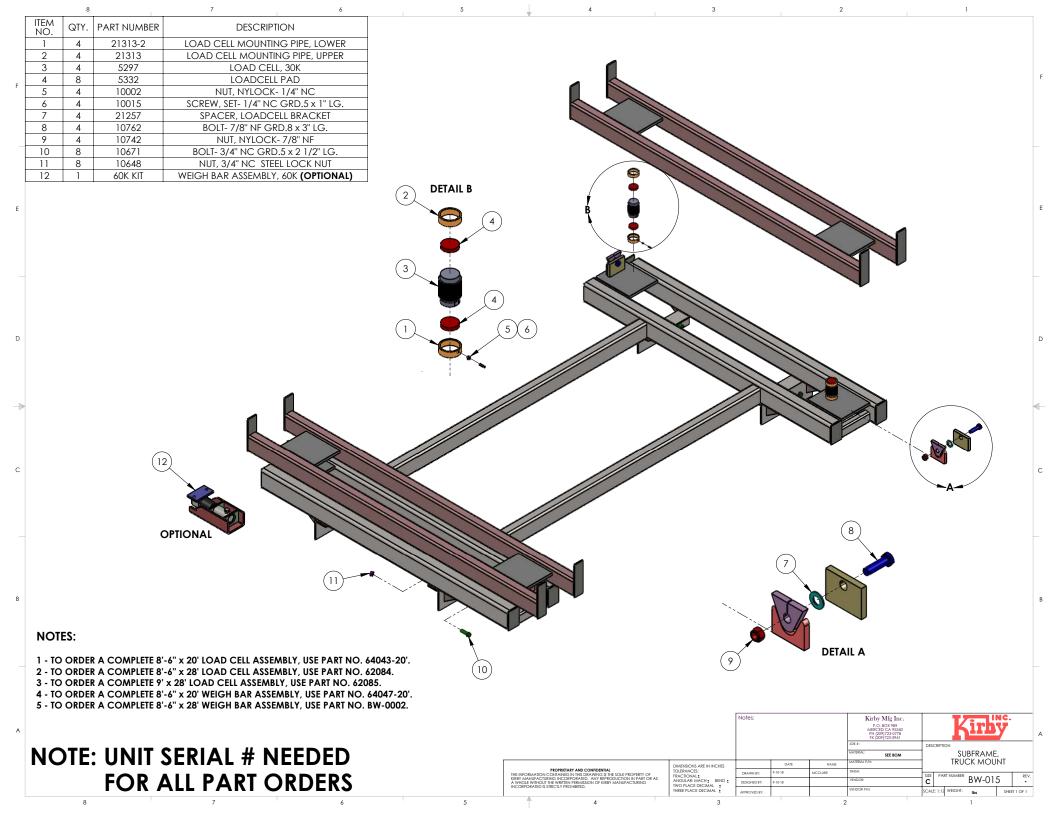
PROPRIETARY AND CONFIDENTIAL

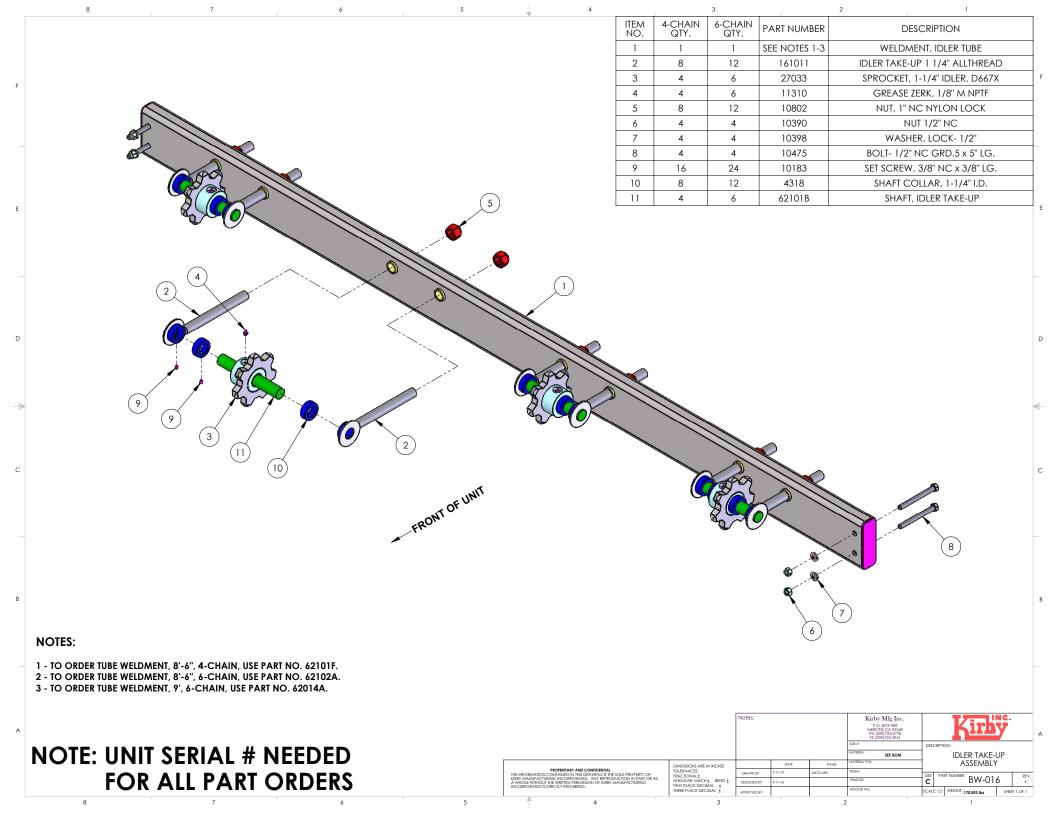
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
KIRBY MANUFACTURING INCORPORATED. ANY REPRODUCTION IN PART OR AS
A WHOLE WITHOUT THE WINTERD PRAINSION OF KIRBY MANUFACTURING

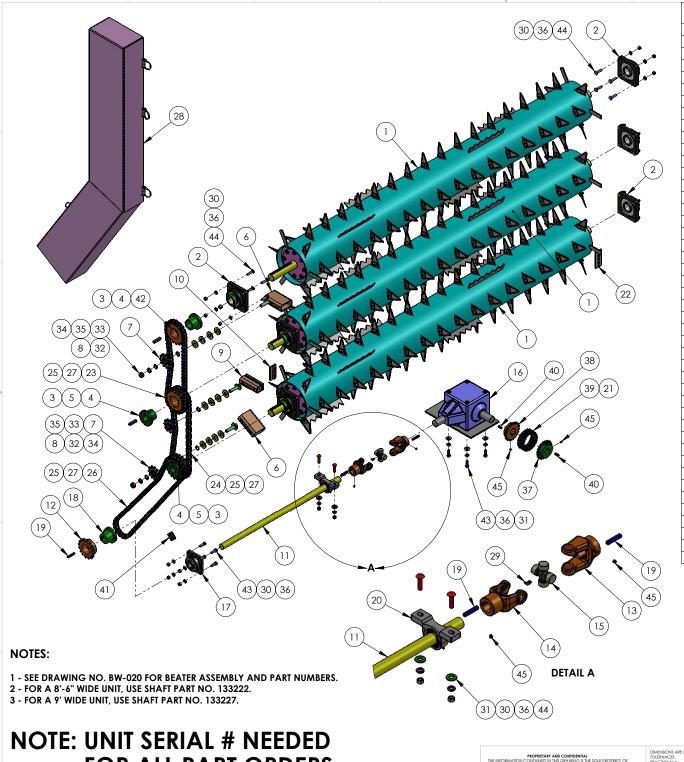
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ±
TWO PLACE DECIMAL ±
TRIPER PLACE DECIMAL ±

| CORNER | C



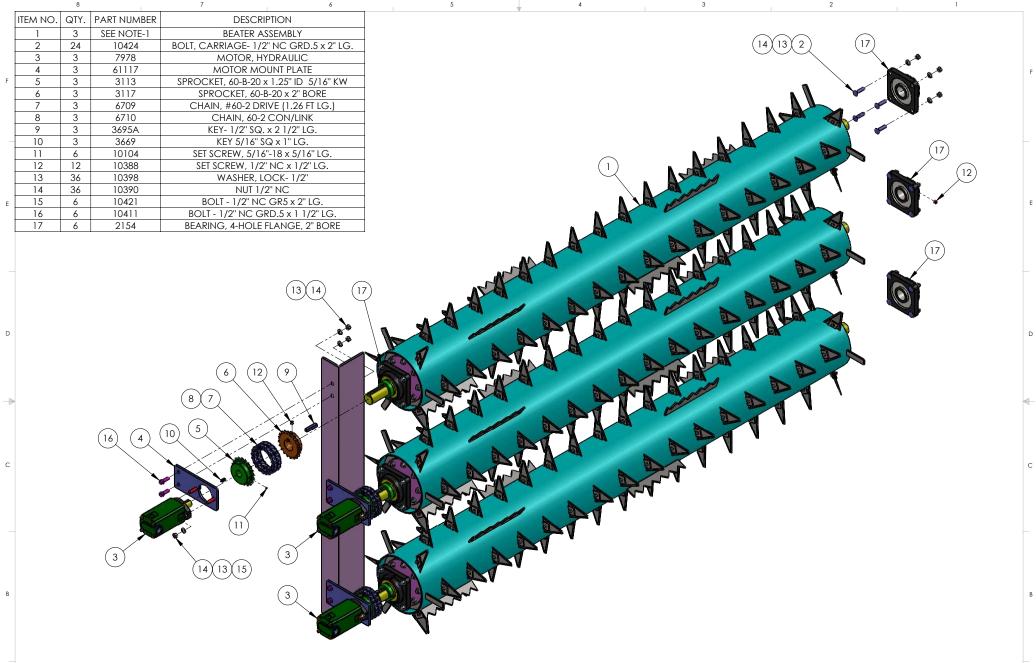






ITEM NO.	QTY.	PART NUMBER	DESCRIPTION				
1	3	SEE NOTE-1	BEATER ASSEMBLY				
2	6	2154	BEARING, 4-HOLE FLANGE, 2" BORE				
3	3	3695A	KEY- 1/2" SQ. x 2 1/2" LG.				
4	3	16099	BUSHING, TAPER LOCK- Q1 x 2" I.D.				
5	2	17330	SPROCKET, Q1 TAPER LOCK- DS 80 Q 19				
6	2	61086	IDLER MOUNT, (80 CHAIN)				
7	3	3301	SPROCKET, 80-11 IDLER				
8	3	61088	CHAIN IDLER BOLT				
9	1	61085	IDLER BLOCK, (80 CHAIN)				
10	1	21231	MOUNT, GREASE FITTING				
11	1	SEE NOTE-2&3	SHAFT, CROSS OVER				
12	1	17160	SPROCKET, Q1 TAPER LOCK- 80 Q 16				
13	1	3938	U-JOINT YOKE, 35R 1 3/4" BORE				
14	1	3936	YOKE, 35R, 1-1/2" BORE				
15	1	3980	CROSS, U-JOINT, 35R				
16	1	7209	GEARBOX, RIGHT ANGLE				
17	1	2077	BEARING, 4-HOLE FLANGE, 1-1/2" BORE				
18	1	16091	BUSHING, TAPER LOCK- Q1 x 1 1/2" I.D.				
19	3	3693	KEY, SQ. 3/8" x 2 1/2" LG.				
20	1	2047	BEARING, PILLOW BLOCK 1-1/2" BORE				
21	1	6710	CHAIN, 60-2 CON/LINK				
22	1	61136	MOUNT, GREASE FITTING				
23	1	6716	CHAIN, 80H BEATER DRIVE (5.11 FT)				
24	1	6716	CHAIN, 80H BEATER DRIVE (5.02 FT)				
25	3	6717	CHAIN, 80H CON/LINK				
26	1	6716	CHAIN, 80H BEATER DRIVE (6.99 FT)				
27	3	6718	CHAIN, 80H OFFSET LINK				
28	1	63015	GUARD, BEATER DRIVE				
29	1	11311	ZERK, GREASE, 1/8" NPTF x 45°				
30	30	10390	NUT 1/2" NC				
31	6	10399	WASHER- 1/2" FLAT				
32	12	10659	WASHER, FLAT- 3/4"				
33	3	10650	NUT 3/4" NC WASHER, 3/4" FLAT MACHINE				
34	6	10657					
35	3	10658	WASHER, LOCK- 3/4" WASHER, LOCK- 1/2"				
36	34	10398 3114	SPROCKET, 60B20, 1-1/2" BORE				
37	1	3114	SPROCKET, 60-B-20 x 1.75" ID				
39	1	6709	CHAIN, #60-2 DRIVE (1.26 FT LG.)				
40	2	3694	KEY, SQ. 3/8" x 1 1/4" LG.				
40	1	61134	MOUNT, GREASE FITTING				
42	1	17166	SPROCKET, Q1 TAPER LOCK- 80 Q 19				
43	8	10411	BOLT - 1/2" NC GRD.5 x 1 1/2" LG.				
44	26	10411	BOLT, CARRIAGE- 1/2" NC GRD.5 x 2" LG.				
45	8	10424	SET SCREW, 3/8" NC x 3/8" LG.				
45	0	10103	SET SCINETY, S/O INC X S/O LG.				

FOR ALL PART ORDERS



NOTES:

1 - SEE DRAWING NO. BW-020 FOR BEATER ASSEMBLY AND 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:

13 14 16 25 (26) (29) (4)(3)(5)

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION	
1	3	SEE NOTE-1	BEATER ASSEMBLY	
2	6	2154	BEARING, 4-HOLE FLANGE, 2" BORE	
3	3	3695A	KEY- 1/2" SQ. x 2 1/2" LG.	
4	3	16099	BUSHING, TAPER LOCK- Q1 x 2" I.D.	
5	2	17330	SPROCKET, Q1 TAPER LOCK- DS 80 Q 19	
6	2	61086	IDLER BLOCK, (80 CHAIN)	
7	3	3301	SPROCKET, 80-11 IDLER	
8	3	61088	CHAIN IDLER SPROCKET BOLT	
9	1	61085	IDLER BLOCK, (80 CHAIN)	
10	1	21231	MOUNT, GREASE FITTING	
11	1	61136	MOUNT, GREASE FITTING	
12	1	6716	CHAIN, 80H BEATER DRIVE (5 1/2 FT)	
13	1	6716	CHAIN, 80H BEATER DRIVE (5 1/4 FT)	
14	3	6717	CHAIN, 80H CON/LINK	
15	1	6716	CHAIN, 80H BEATER DRIVE (7 FT)	
16	3	6718	CHAIN, 80H OFFSET LINK	
17	1	63015	GUARD, BEATER DRIVE	
18	1	7975	MOTOR, HYDRAULIC	
19	1	3694	KEY, SQ. 3/8" x 1 1/4" LG.	
20	1	3334	SPROCKET, 80-B-15, 1-1/2" BORE	
21	12	10659	WASHER, FLAT- 3/4"	
22	3	10650	NUT 3/4" NC	
23	6	10657	WASHER, 3/4" FLAT MACHINE	
24	3	10658	WASHER, LOCK- 3/4"	
25	28	10398	WASHER, LOCK- 1/2"	
26	28	10390	NUT 1/2" NC	
27	1	17166	SPROCKET, Q1 TAPER LOCK-80 Q 19	
28	24	10424	BOLT, CARRIAGE- 1/2" NC GRD.5 x 2" LG.	
29	4	10426	BOLT- 1/2" NC GR5 x 2 1/4" LG.	
30	2	10183	SET SCREW, 3/8" NC x 3/8" LG.	

NOTES:

1 - SEE DRAWING NO. BW-020 FOR BEATER ASSEMBLY AND PART NUMBERS.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

QTY. PART NUMBER DESCRIPTION SEE NOTES BEATER ASSEMBLY 10107 BOLT, HEX, 5/16 NF GRD.5 x 1" LG. 10093 NUT, 5/16 NF NYLOCK 136 61005 BEATER KNIFE BRACKET BEATER KNIFE BLADE, BOLT-ON 7772 6 61006 GATOR TEETH, LONG 26002-4" BEATER PEG, 4" BW-0006 BEATER DRIVE SHAFT BW-0007 BEATER IDLER SHAFT 16 10179 WASHER, 3/8" FLAT WASHER, 3/8" LOCK 10178 12 16 10191 BOLT, 3/8" NC GR5 x 1 1/2" LG. **DETAIL A** 1 - TO ORDER A COMPLETE BEATER ASSEMBLY FOR A 8'-6" WIDE UNIT, USE PART NO. BW-9001.

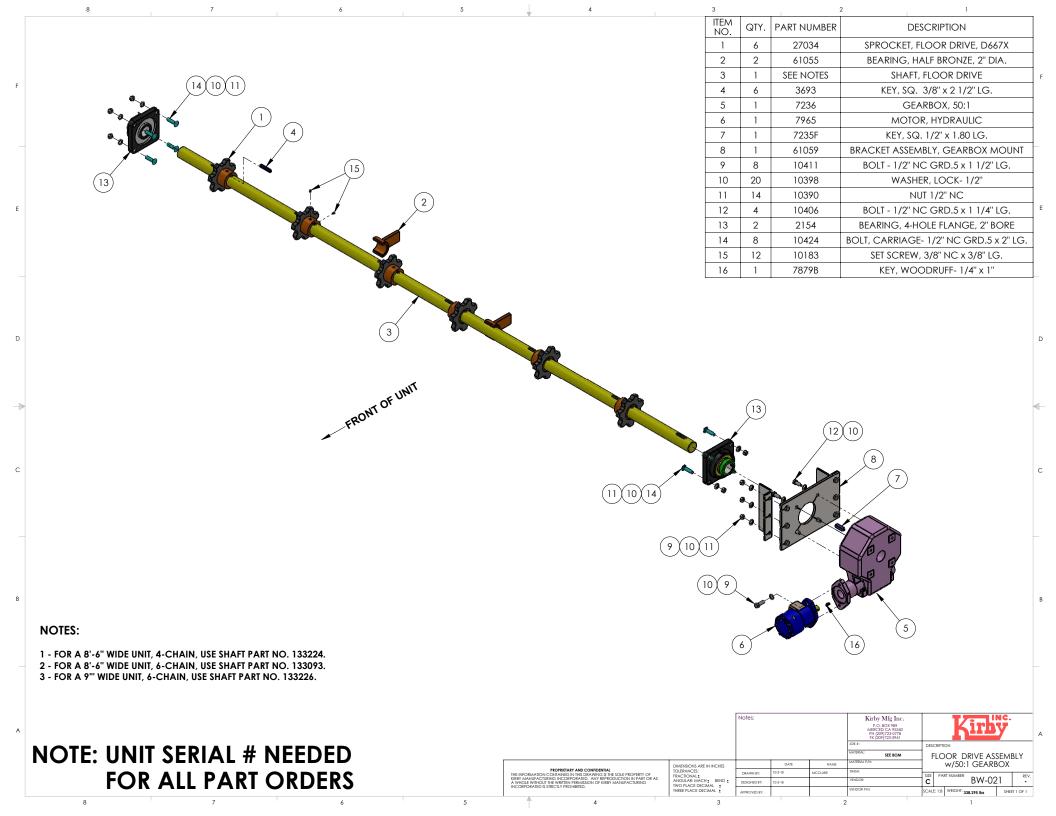
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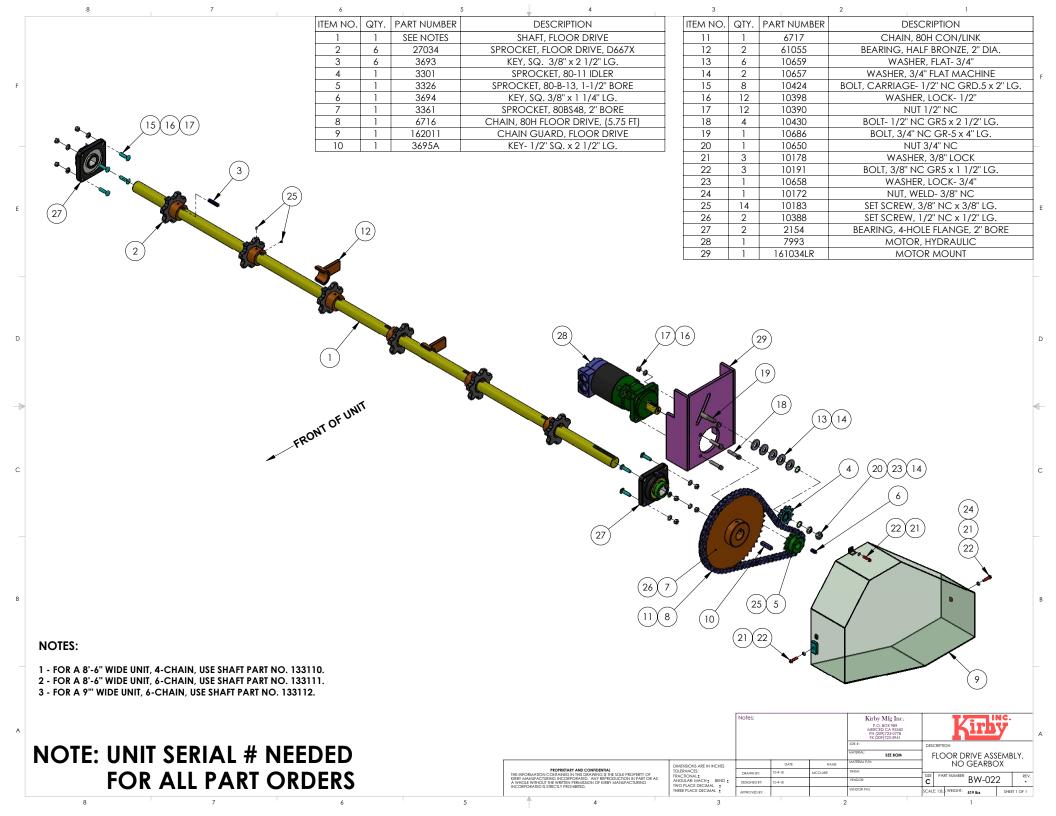
- 2 TO ORDER A COMPLETE BEATER ASSEMBLY FOR A 9' WIDE UNIT, USE PART NO. BW-9002.

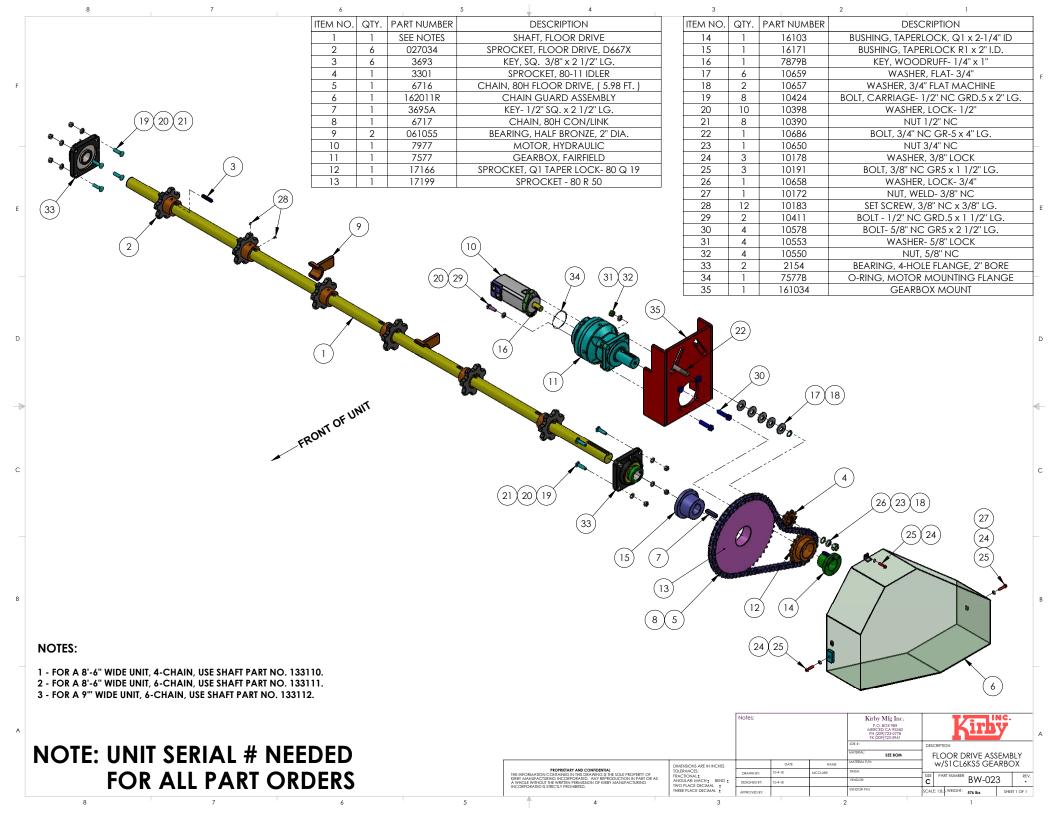
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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	Notes:			P MER PH	oy Mfg Inc. O. BOX 989 CED CA 95340 (209)723-0778 209)723-3941	Kirby				
				JOB #: MATERIAL:	SEE BOM	DES	CRIPT			
					SEE BOW		BEATER ASSEMBLY			
IN INCHES		DATE	NAME	MATERIAL P/N:						
	DRAWN BY:	9-26-18	MCCLURE	FINISH:		SIZE	PA	RT NUMBER		REV.
H BEND :	DESIGNED BY:	9-26-18		VENDOR:		C		BW-020)	- KEV.
CIMAL ±	APPROVED BY:			VENDOR P/N:		SCAL	E: 1:6	WEIGHT: 304.922 lbs	SHEE	T 1 OF 1
								,		







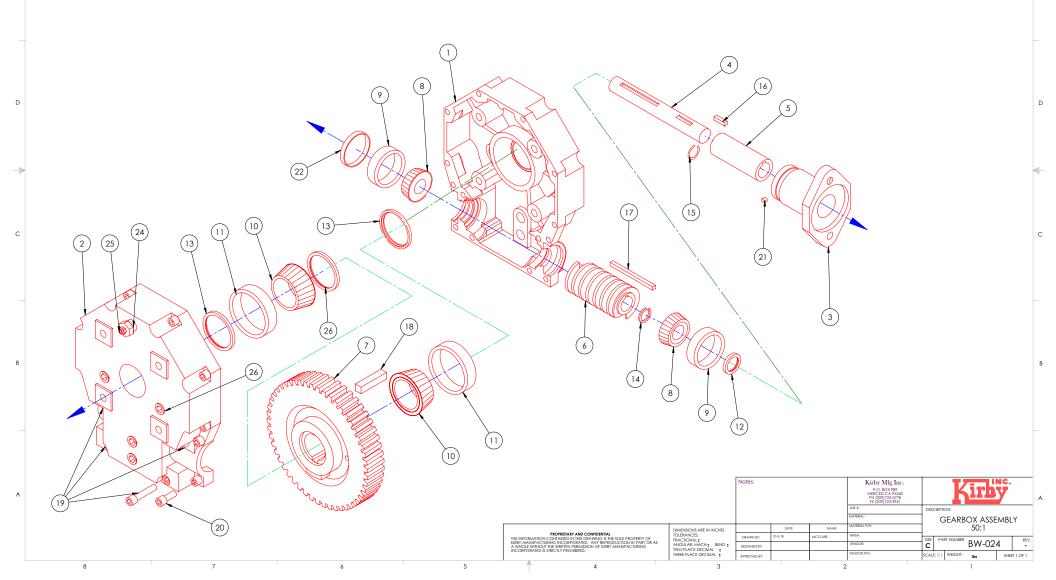
NOTES: UNLESS OTHERWISE SPECIFIED

1 - TO ORDER A COMPLETE GEARBOX ASSEMBLY, USE PART NO. 7236.

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

ITEM NO	QTY	PART NO.	DESCRIPTION			
1	1	7235B	CASTING, MACHINED, W00001			
2	1	7235C	CASTING, MACHINED, W00002			
3	1	7236R	HYDRAULIC MOUNTING ADAPTER			
4	1	7236A	SHAFT			
5	1	7236U	COUPLER			
6	1	7236D	WORM GEAR, R/H, 50:1			
7	1	7236W	GEAR, BRASS, R/H			
8	2	7066	BEARING CONE			
9	2	6074	BEARING CUP			
10	2	7236G	BEARING CONE			
11	2	7236H	BEARING CUP			
12	1	7236J	SEAL 1"			
13	2	7236K	SEAL 2"			

	-		
DESCRIPTION	PART NO	QTY	ITEM NO
SNAP RING 1"	72361	1	14
RET RING (TRU-ARC N5000-100)	7236V	1	15
1/4"SQ. KEY STOCK X 1" LG.	72360	1	16
1/4" SQ. KEY STOCK X 2 7/8" LG.	7236X	1	17
1/2" SQ. KEY STOCK X 1 11/16" LG.	7235F	1	18
3/8" -16 SHCS BOLT X 2 1/4" LG.	7236Q	4	19
3/8"-16 SHCS BOLT X 1 1/2" LG.	7236P	10	20
ADAPTER SET SCREW, 1/4" NF x 1/2" LG	7236Z	1	21
DUST COVER SEAL	7235E	1	22
PLUG 1/2" NPT SKHD HEX	7236L	8	23
BUSHING 1/2"NPT X 1/8"NPT	7236M	1	24
PRESSURE RELIEF PLUG (5 PSI)	7236N	1	25
50:1 GEARBOX SPACER	61122	1	26
	SNAP RING 1" RET RING (TRU-ARC N5000-100) 1/4"SQ. KEY STOCK X 1" LG. 1/4" SQ. KEY STOCK X 2 7/8" LG. 1/2" SQ. KEY STOCK X 1 11/16" LG. 3/8" -16 SHCS BOLT X 2 1/4" LG. 3/8"-16 SHCS BOLT X 1 1/2" LG. ADAPTER SET SCREW, 1/4" NF x 1/2" LG DUST COVER SEAL PLUG 1/2" NPT SKHD HEX BUSHING 1/2"NPT X 1/8"NPT PRESSURE RELIEF PLUG (5 PSI)	7236I SNAP RING 1" 7236V RET RING (TRU-ARC N5000-100) 7236O 1/4"SQ. KEY STOCK X 1" LG. 7236X 1/4" SQ. KEY STOCK X 2 7/8" LG. 7235F 1/2" SQ. KEY STOCK X 1 11/16" LG. 7236Q 3/8" -16 SHCS BOLT X 2 1/4" LG. 7236P 3/8"-16 SHCS BOLT X 1 1/2" LG. 7236Z ADAPTER SET SCREW, 1/4" NF x 1/2" LG 7235E DUST COVER SEAL 7236L PLUG 1/2" NPT SKHD HEX 7236M BUSHING 1/2"NPT X 1/8"NPT 7236N PRESSURE RELIEF PLUG (5 PSI)	1 7236I SNAP RING 1" 1 7236V RET RING (TRU-ARC N5000-100) 1 7236O 1/4"SQ. KEY STOCK X 1"LG. 1 7236X 1/4" SQ. KEY STOCK X 2 7/8" LG. 1 7235F 1/2" SQ. KEY STOCK X 1 11/16" LG. 4 7236Q 3/8"-16 SHCS BOLT X 2 1/4" LG. 10 7236P 3/8"-16 SHCS BOLT X 1 1/2" LG. 1 7236Z ADAPTER SET SCREW, 1/4" NF x 1/2" LG 1 7235E DUST COVER SEAL 8 7236L PLUG 1/2" NPT SKHD HEX 1 7236M BUSHING 1/2"NPT X 1/8"NPT 1 7236N PRESSURE RELIEF PLUG (5 PSI)



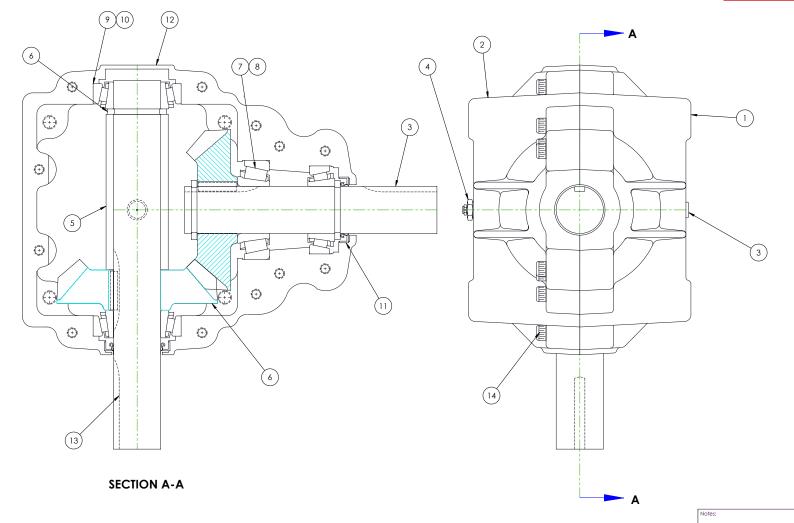
NOTES: UNLESS OTHERWISE SPECIFIED

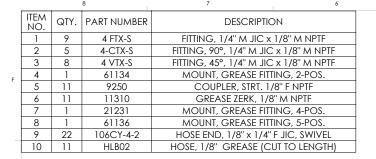
1 - TO ORDER A COMPLETE GEARBOX ASSEMBLY, USE PART NO. 7209.

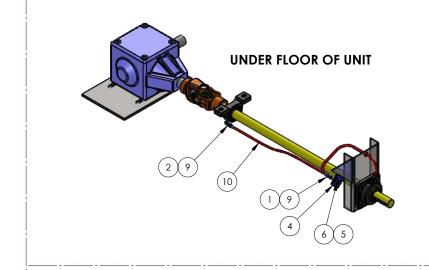
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

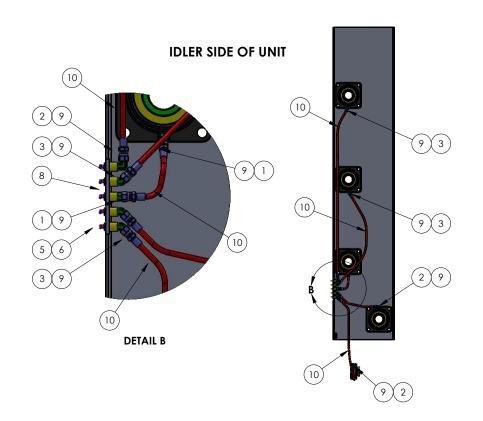
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	7209A	CASTING, MACHINED
2	1	7209B	CASTING, MACHINED
3	1	7209P	PLUG, 1/2NPT SKHD HEX
4	1	7209R	PLUG, PRESSURE RELIEF, 5 PSI
5	1	7209E	SPACER
6	1	7209L	Shaft, Rev Rot. W/ Gear
7	1	7209G	BEARING CUP 3720
8	1	7209H	BEARING CONE 3782
9	3	6005	BEARING CUP 25520
10	3	7216	BEARING CONE 25581
11	2	7209K	SEAL 1 3/4"
12	1	7148	SEAL CAP K155
13	1	7209M	Shaft, Std Rot. W/Gear
14	12	72090	BOLT, 3/8-16 X 2.250 SHCS

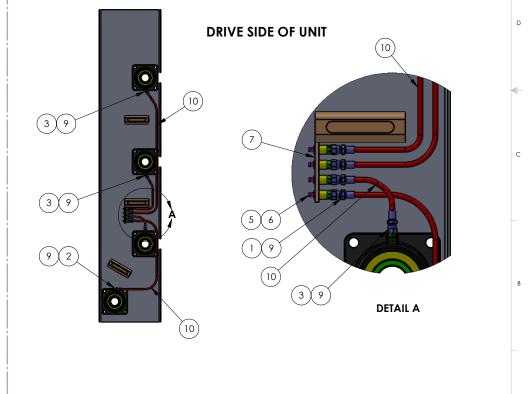
HEAVY DUTY RIGHT-ANGLE GEARBOX ASSEMBLY









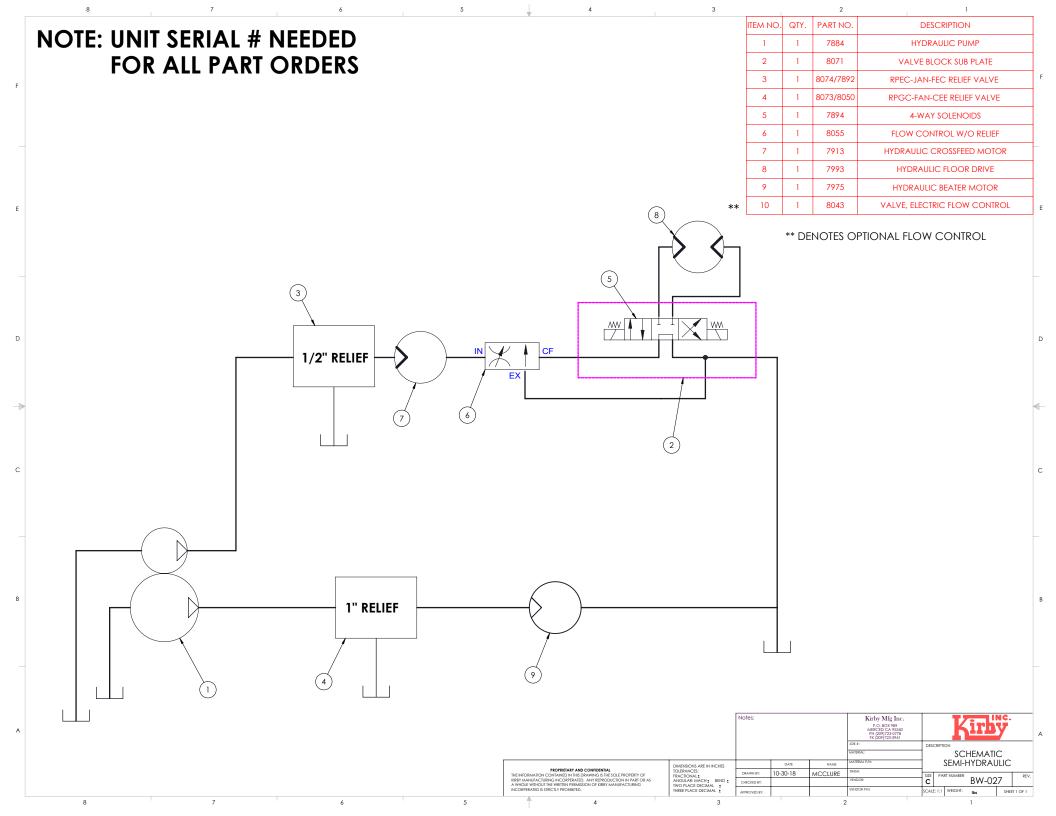


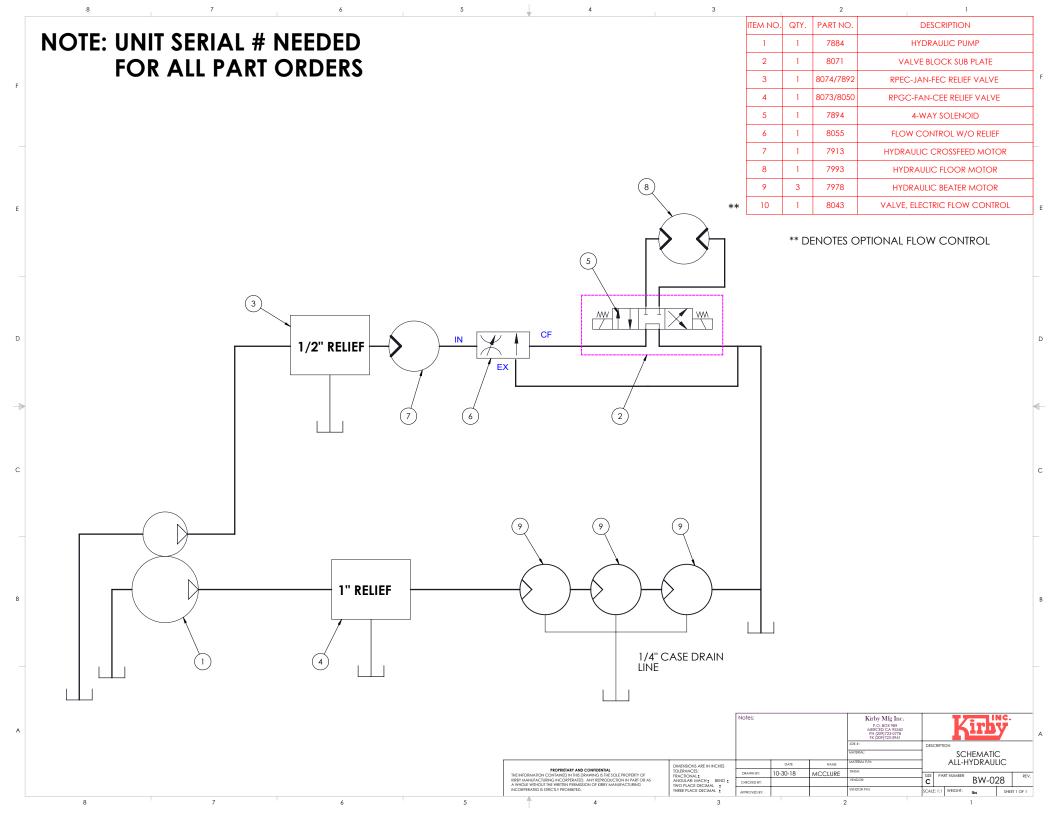
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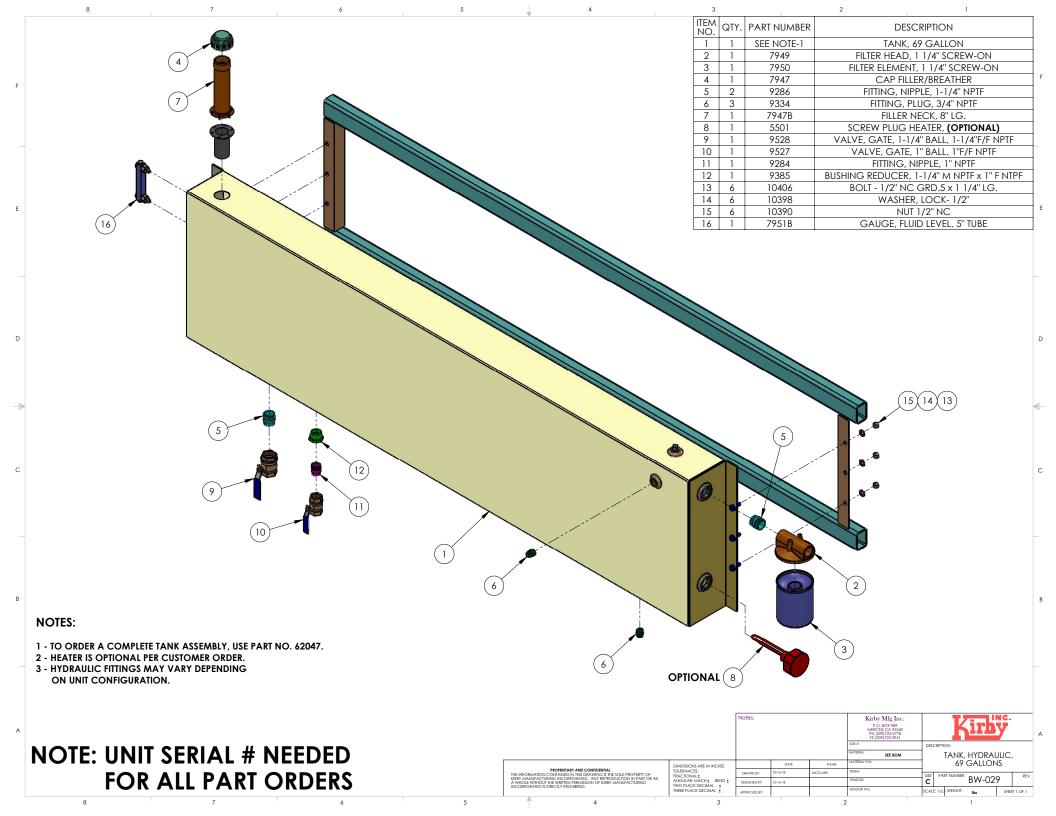
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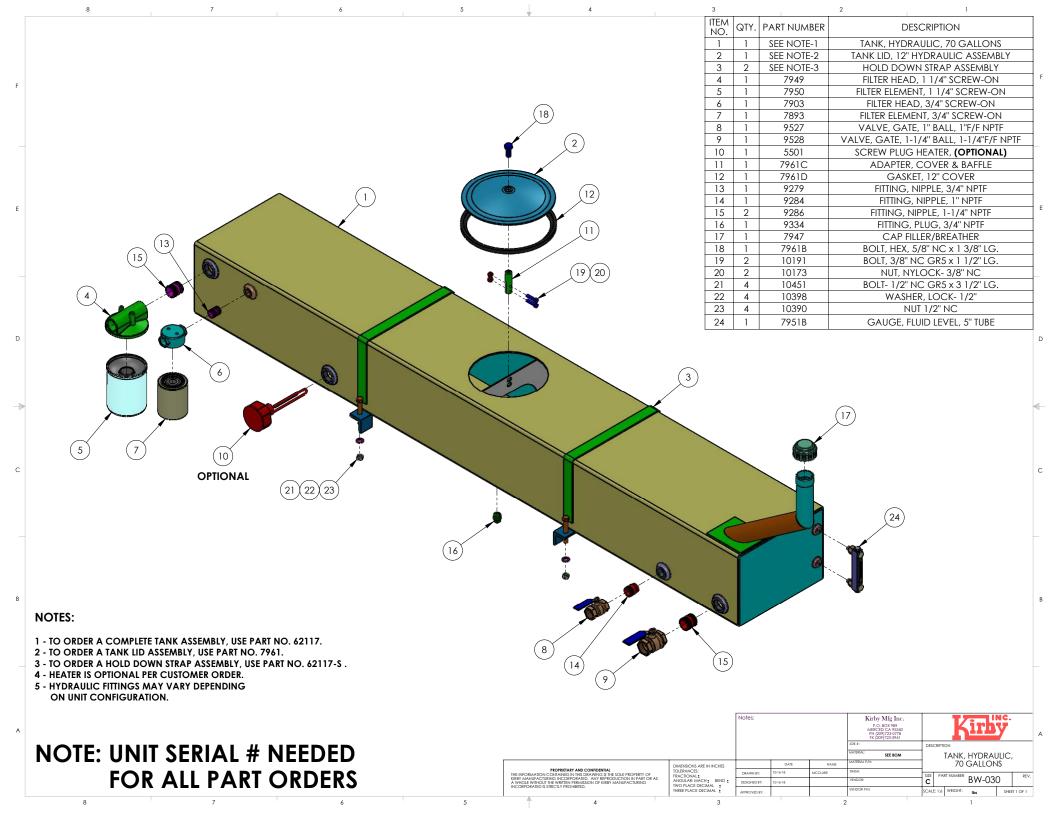
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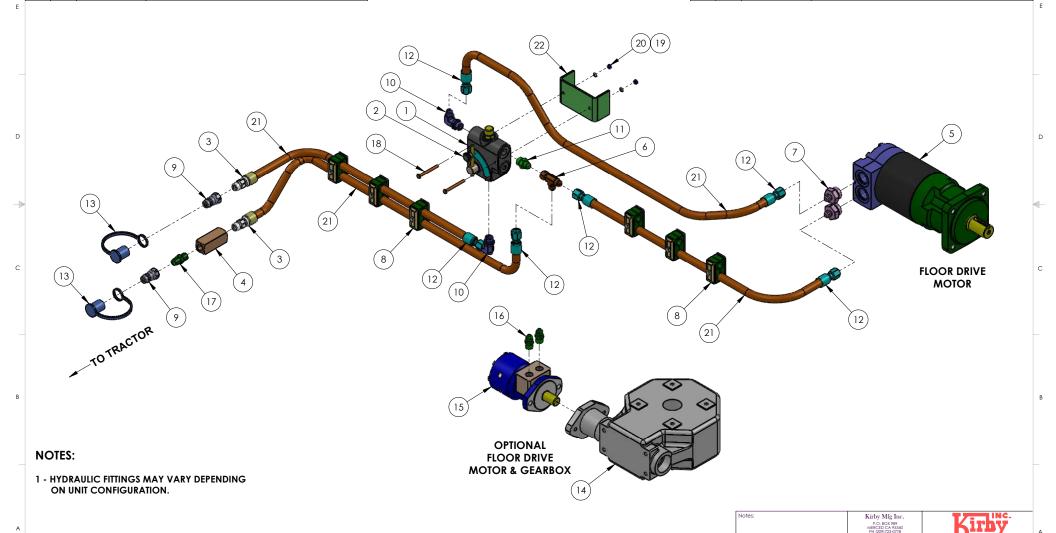






ITEM NO.	QTY.	PART NUMBER	DESCRIPTION				
1	1	8056	VALVE, FLOW CONTROL, w/RELIEF				
2	1	8055A	HANDLE, FLOW CONTROL				
3	2	10143-8-8	HOSE END, 1/2' x 1/2" M NPTF				
4	1	7897	CHECK VALVE 1/2" NPTF				
5	5 1 7993		MOTOR, HYDRAULIC				
6	1	8 R6X-S	FITTING, TEE, 1/2" MJIC x 1/2" MJIC x 1/2" FMJIC				
7	2	8-16 F5OX-S	FITTING, 1/2" M JIC x 1" M O-RING				
8	6	8687	HOSE CLAMP, 1/2" DOUBLE				
9	2	8731	FITTING, COUPLER TIP, 1/2" F NPTF				
10	2	8-10 C5OX-S	FITTING, 90°, 1/2" MJIC x 5/8" M O-RING				
11	1	8-10 F5OX-S	FITTING, 1/2" M JIC x 5/8" M O-RING				

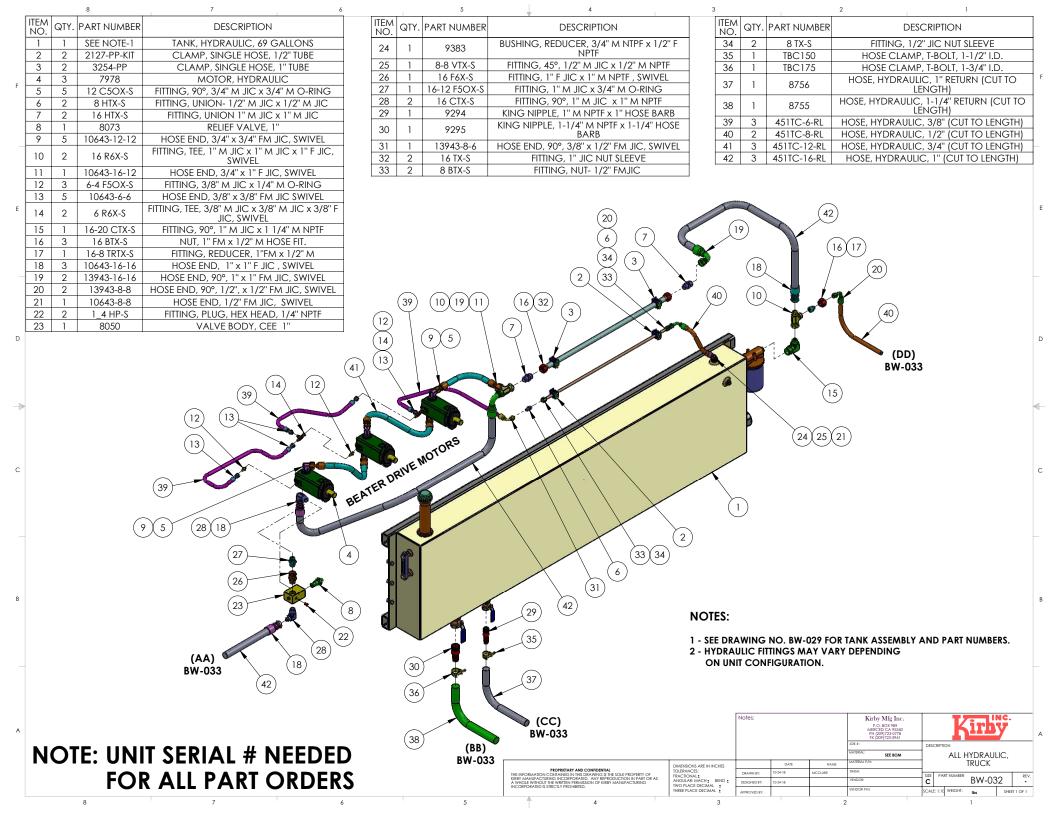
			2
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
12	6	10643-8-8	HOSE END, 1/2" FM JIC, SWIVEL
13	2	5209-4M	DUST CAP
14	1	7236	GEARBOX, SUPERIOR
15	1	7965	MOTOR, HYDRAULIC
16	2	8-8 FTX-S	FITTING, 1/2" M JIC x 1/2" M NPTF
17	1	1_2 FF-S	FITTING, STRT. 1/2" M NPTF x 1/2" M NPTF
18	2	10215	BOLT- 1/4" NC GRD.5 x 2 3/4" LG.
19	2	10009	WASHER, LOCK- 1/4"
20	2	10001	NUT, 1/4" NC
21	4	451TC-8-RL	HOSE, HYDRAULIC, 1/2" (CUT TO LENGTH)
22	1	61078	MOUNT, FLOW CONTROL VALVE

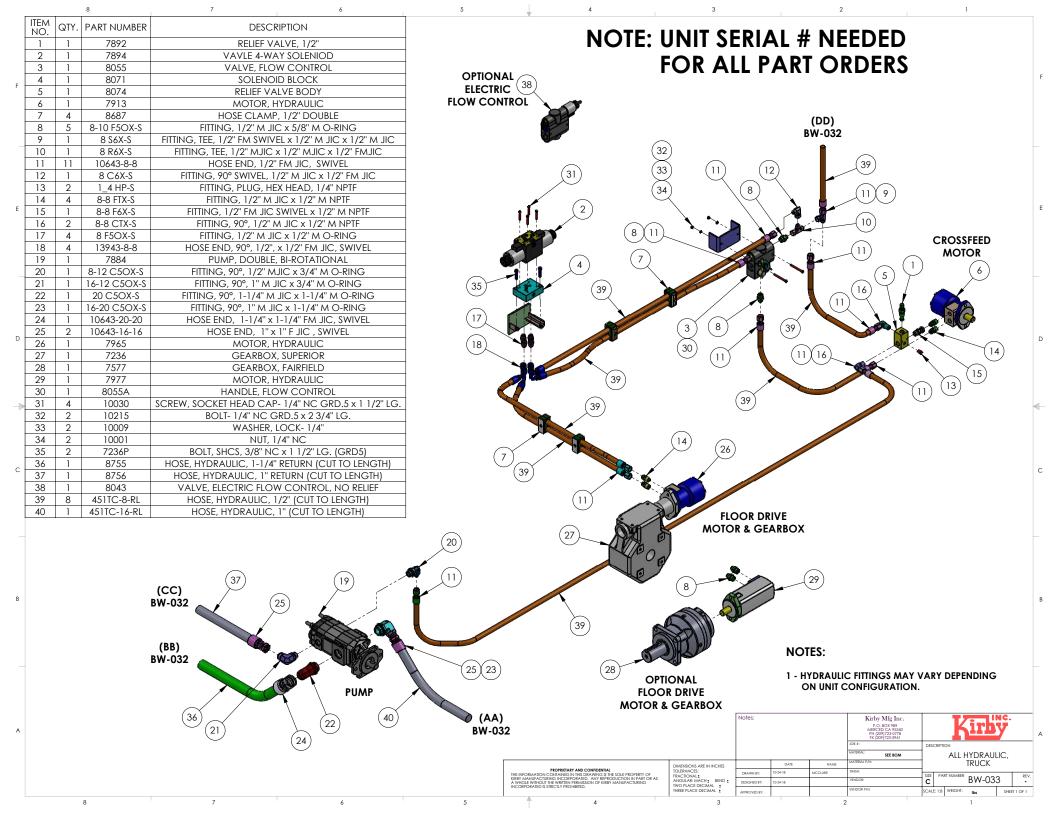


NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

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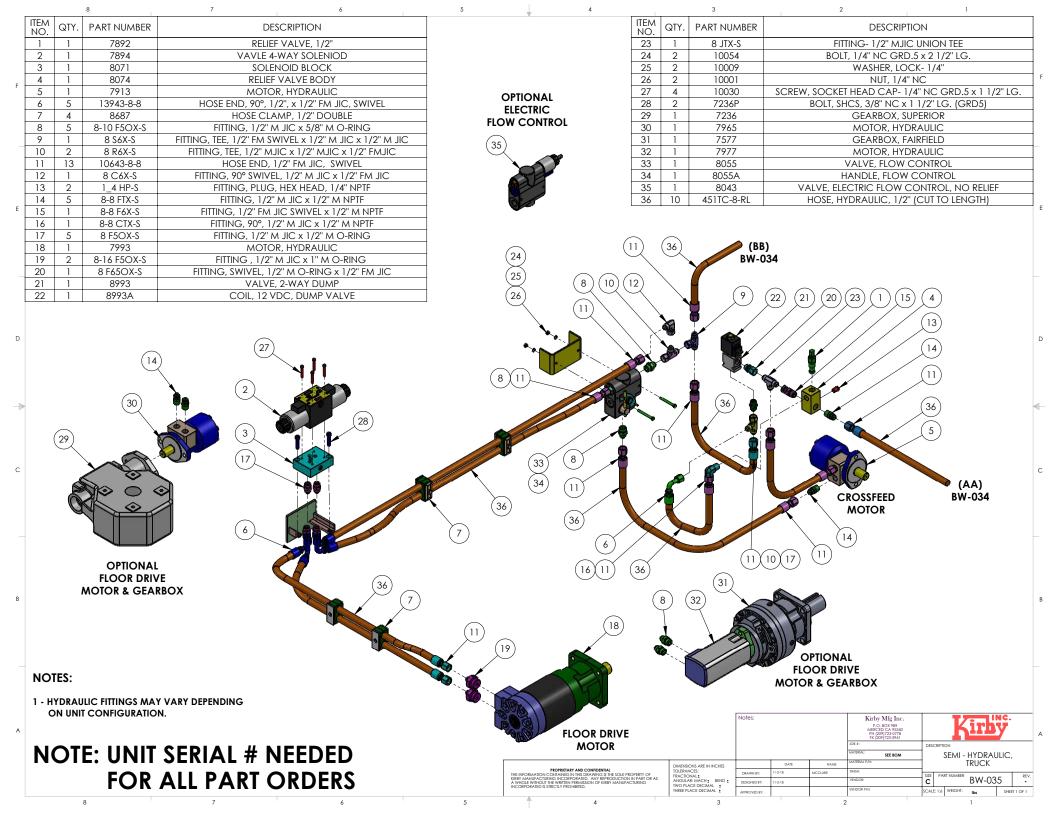
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1 1 SEE NOTES TANK INTORAULE, OF GALLONS 2 1 166705 MUT FIRST LYT MODER! 4 2 168805 MUT FIRST LYT MODER! 5 1 166705 MUT FIRST LYT MODER! 6 6 1064514-16 MUT FIRST LYT MODER! 7 1 196808 MUST FIRST CHINGE STANLY MADER! 8 1 7984 PUMP DOUBLE RESTRICTATIONALY MADER! 9 1 2229 INSO REPTE TAY FIRST LYT MODER! 10 1 9229 INSO REPTE TAY FIRST LYT MODER! 11 1 51/2 CSONS TENSO, SOFT, MINES LATE MADER! 12 1 1072 CSONS TENSO, SOFT, MINES LATE MADER! 13 1 20 CSONS TENSO, SOFT, MINES LATE MADER! 14 1 1020 CSONS TENSO, SOFT, MINES LATE MADER! 15 1 20 CSONS TENSO, SOFT, MINES LATE MADER! 16 1 10640-202 MODE BED. TAY ALL ALL ALL ALL ALL ALL ALL ALL ALL A	ITEM NO.	N QTY	. PART NUMBER	DESCRIPTION					
1		1		TANK HYDRAULIC, 69 GALLONS				\bigcirc	\bigcirc \bigcirc \bigcirc \bigcirc
3 1 IABRYS MITH PITAL ALEY MICKS FIT.		1		FITTING, 90°, 1" M JIC x 1 1/4" M				4 2	Ý ,
## 2 14 ABOAS STRING, TRE, FLAN BLC RT MACK TO \$ 1 1 45 RINS STRING, REDUCER, FLAN BLC RT MACK TO \$ 1 1 45 RINS STRING, REDUCER, FLAN BLC RT MACK TO \$ 1 1 13945-88 VOX BLD, REPUCE, SAVET \$ 1 1 13945-88 VOX BLD, REPUCE, SAVET \$ 1 1 1994 Kad SHPIC, FLAN BLC RT MACK TO \$ 1 1 992 KAD SHPIC, FLAN BLC RT MACK \$ 1 1 992 KAD SHPIC, FLAN BLC RT MACK \$ 1 1 992 KAD SHPIC, FLAN BLC RT MACK \$ 1 1 1 10 1995 KAD SHPIC, FLAN BLC RT MACK \$ 1 1 1 1 6-12 CSONS \$ FIRMS, SP. FLAN BLC RT MACK \$ 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-	1							James de l'
S 1 1-95 (RINS) FITTING PEDICAR (TMAX 1/2/M)	'	+ -		FITTING, TEE, 1" M JIC x 1" M JIC x 1"					
6 6 0643-1-61 HOSE BIND, "NY PILC SINVE TO SINVE		1							
7 1 139/43-86	-	I							**
8 1 7884 PRIVE DOUBLE HEADRICH 9 1 9294 SINGERPE PT AN BIT STEPSE 10 1 9295 SINGE NIPPLE PT AN BIT STEPSE 11 11 6-12 CSONS PRINTED 1/F AN BIT STEPSE 12 1 16-12 CSONS PRINTED 97 1-16 M GR ST 1/F M O-		1		HOSE END, 90°, 1/2", x 1/2" FM JIC,					
9 1 9294 INPO NIPPLE IT IN NIPPLE IT HOSE SAME		1							
10 1 9295 NING NIPPLE, 11/47 MI RPTF X-1-1/4 11 1 8-12 CSOXS FITTING, 975 1/42 MI DEX 3/4" M O- 12 1 16-12 CSOXS FITTING, 975 1/42 MI DEX 3/4" M O- 13 1 20 CSOXS FITTING, 975 1/42 MI DEX 1/4" M O- 13 1 20 CSOXS FITTING, 975 1/42 MI DEX 1/4" M O- 15 1 10643-20.20 MOSE PIN, 1/2" PIN IIC, SWIVEL 14 1 16-20 CSOXS FITTING, 975 1/42 MI DEX 1/4" M O- 15 1 10643-20.20 MOSE PIN, 1/2" PIN IIC, SWIVEL 17 1 TESLOS MOSE PIN, 1/2" PIN IIC, SWIVEL 18 1 TECLOS MOSE PIN, 1/2" PIN IIC, SWIVEL 19 1 8000 VALVE ROOV, CER II PIN 20 1 16-CXS SITTING, 975 1/42 MI DEX 1/4" M O- 20 2 1.4 (14-2) FITTING, PIN IIC, SWIVEL 21 2 1.4 (14-2) FITTING, PIN IIC, SWIVEL 22 1 16-CXS SITTING, 975 1/42 MI DEX 1/4" M O- 23 1 9775 MOSE CHAM, FABOLI, 1/4" M O- 24 2 16-CXS SITTING, 975 1/42 MI DEX 1/4" M O- 25 2 13/4516-16 HOSE RIVE, MIN II M O- 26 2 15-CXS SITTING, PIN II M SITTING, PIN II		1							
1	-	'		BARB					(31)
11 1 6-12 CSOXS FITTING, 99", M JCX 3/4" M O	10	1	9295	HOSÉ BARB					<u></u>
12	11	1	8-12 C5OX-S					' <u> </u>	
1	12	1	16-12 C5OX-S	FITTING, 90°, 1" M JIC x 3/4" M O- RING					
14	13	1	20 C5OX-S					(32)	
15 1 10643-20-20 HOSE END, DAWLE TO SET TO SE	14	1	16-20 C5OX-S	FITTING, 90°, 1" M JIC x 1-1/4" M O-					
16 1 10643-8-8 HOSE END, 1/2" FM JIC, SWIVEL 17 1 18C150 HOSE CLAMP, FBOUT, 1-1/2" ID, 18 1 18C175 HOSE CLAMP, FBOUT, 1-1/2" ID, 19 1 8050 VALVE BODY, CEE 1" 19 1 10 10 10 10 10 10		1		HOSE END, 1-1/4" x 1-1/4" FM JIC,					
17 1 TBC150	16	1	10643-8-8						
18 1 TBC175 HOSE CLAMP, FBOLL, F34* LD. 19 10 10 10 10 10 10 10		1	TBC150				(32)	(32)	
1	_	1					\sim \sim	4	
21 2 1,4 HP-S FITTING, PLUG, HEX HEAD, 1/4" NPTF 22 1 8073 RELIEF VALVE, I" 1 19775 MOTOR, HYDRAULC, 112-1066 24 2 16 FSOX-S FITTING, I"M. JIC. X I"M. O-RING 25 2 1394-S1-6-16 HOSE RIND, 90; I"X I"FM JIC. SWIVEL 26 2 16 FTX-S FITTING, I"M. JIC. X I"M. NPTF 26 2 16 FTX-S FITTING, I"M. JIC. X I"M. NPTF 27 1 1374-31-6-16 HOSE RIND, 90; I"X I"FM JIC. SWIVEL 28 2 H5357PP-KIT CLAMP, I"M. NPTF 29 1 8755 HOSE, HYDRAULIC, I"I RETURN (CUT TO LENGTH) 30 1 8756 HOSE, HYDRAULIC, I"A RETURN (CUT TO LENGTH) 10 1 1 1 1 1 1 1 1	19	1	8050	VALVE BODY, CEE 1"			(25)	(6) (27)	
22 1 8073 RELIEF VALVE, 1" 23 1 7975 MOTOR, HYDRAULIC, 112-1066 24 2 16 FSGXS. FITTING, 1" M JIC X 1" M O-RING 25 2 13943-16-16 HOSE END, 90°, 1"x 1" FM JIC, SWIVEL 26 2 16 FIX-S FITTING, 1" M JIC X 1" M NPTF 27 1 13743-16-16 HOSE END, 49°, 1"x 1" FM JIC, SWIVEL 28 2 H5357PF-KIT CLAMP, 1" HOSE 29 1 8755 HOSE, HYDRAULIC, 1-1/4* RETURN (CUT TO LENGTH) 30 1 8756 HOSE, HYDRAULIC, 1-1/4* RETURN (CUT TO LENGTH) 31 2 451TC-8-RL HOSE, HYDRAULIC, 1" (CUT TO LENGTH) 32 4 451TC-16-RL HOSE, HYDRAULIC, 1"CUT TO LENGTH) 32 4 451TC-16-RL HOSE, HYDRAULIC, 1"CUT TO LENGTH) 32 4 451TC-16-RL HOSE, HYDRAULIC, 1"CUT TO LENGTH) 33 1 SEE DRAWING NO. 8W-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2- HYDRAULIC HTINIGS MAY VARY DEPENDING ON UNIT CONFIGURATION. 40 12 13 8 8 1	20	1	16 CTX-S	FITTING, 90°, 1" M JIC x 1" M NPTF	(a)				
23 1 7975 MOTOR, HYDRAULIC, 112-1066 24 2 16 F5OX-S FITTING, 1"M JICX 1"M O-RING 25 2 13943-16-16 HOSE END, 90°, 1"X 1"FM JIC. SWIVEL 26 2 16 F5NS FITTING, 1"M JICX 1"M O-RING 27 1 13743-16-16 HOSE END, 45°, 1"X 1"FM JIC. SWIVEL 28 2 H5357PP-KIT CLAMP, 1"HOSE 29 1 8755 HOSE, HYDRAULC, 1"AF RETURN (CUIT CLAMP), 1"HOSE 29 1 8755 HOSE, HYDRAULC, 1"AF RETURN (CUIT CLAMP), 1"HOSE 30 1 8756 HOSE, HYDRAULC, 1"RETURN (CUIT CLAMP), 1"HOSE 31 2 451TC-8-RL HOSE, HYDRAULC, 1"C INTO EMOTH) 32 4 451TC-8-RL HOSE, HYDRAULC, 1"C INTO EMOTH) 32 4 451TC-16-RL HOSE, HYDRAULC, 1"C INTO EMOTH) 32 4 451TC-16-RL HOSE, HYDRAULC, 1"C INTO EMOTH) 33 1 2 451TC-16-RL HOSE, HYDRAULC, 1"C INTO EMOTH) 34 451TC-16-RL HOSE, HYDRAULC, 1"C INTO EMOTH) 35 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 29 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 29 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 20 - HYDRAULC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS	_	+				(1)	(24)		
24 2 16 F50X-S FITTING, 1" M JIC X 1" M O-RING 25 2 13943-16-16 HOSE END, 597. 1" X 1" FM JIC, 26 2 16 F1X-S FITTING, 1" M JIC X 1" M NPTF 27 1 13743-16-16 HOSE END, 549. 1" X 1" FM JIC, 28 2 H5357PP-KIT CLAMP, 1" HOSE 29 1 8755 HOSE, HYDRAULIC, 1-1/4" RETURN (CUT TO LENGTH) 30 1 8756 HOSE, HYDRAULIC, 1" RETURN (CUT TO LENGTH) 31 2 451TC-8-RL HOSE, HYDRAULIC, 1" RETURN (CUT TO LENGTH) 32 4 451TC-16-RL HOSE, HYDRAULIC, 1" (CUT TO LENGTH) 32 4 451TC-16-RL HOSE, HYDRAULIC, 1" (CUT TO LENGTH) 32 1 451TC-16-RL HOSE, HYDRAULIC, 1" (CUT TO LENGTH) 32 4 451TC-16-RL HOSE, HYDRAULIC, 1" (CUT TO LENGTH) 35 1 - SEE DRAWING NO, BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 29 HOSE, HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS	-			·		,			
25 2 13943-16-16 HOSE END, 90°, 1"x 1"FM JIC, SWIVEL 26 2 16 FTX-S FITTING, 1" M JIC x 1" M NPTF 27 1 13743-16-16 HOSE END, 45°, 1"x 1"FM JIC, SWIVEL 28 2 H5357PP-KIT CLAMP, 1"HOSE, MOTOR 29 1 8755 HOSE, HYDRAULC, 1-IOSE 29 1 8755 HOSE, HYDRAULC, 1-IOSE 30 1 8756 HOSE, HYDRAULC, 1-IOSE 31 2 451TC-8-RL HOSE, HYDRAULC, 1/2" (CUT TO LENGTH) 32 4 451TC-8-RL HOSE, HYDRAULC, 1/2" (CUT TO LENGTH) 32 1 4 451TC-16-RL HOSE, HYDRAULC, 1" (CUT TO LENGTH) 33 1 5 EE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC HITINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS	_						(23)		(22)
26 2 16 FTX-S HITING, I'M JIC X 1"M NPTF 27 1 13743-16-16 HOSE END, 459, "I'X 1"FM JIC, SWIVEL 28 2 H5357PP-KIT CLAMP, 1"HOSE 29 1 8755 HOSE, HYDRAULIC, 1-1/4" REFURN (CUT TO LENGTH) 30 1 8756 HOSE, HYDRAULIC, 1'Z (CUT TO LENGTH) 31 2 451TC-9-RL HOSE, HYDRAULIC, 1'Z (CUT TO LENGTH) 32 4 45TC-16-RL HOSE, HYDRAULIC, 1'Z (CUT TO LENGTH) 32 4 45TC-16-RL HOSE, HYDRAULIC, 1'Z (CUT TO LENGTH) 33 4 45TC-16-RL HOSE, HYDRAULIC, 1'Z (CUT TO LENGTH) 34 5 5 6 6 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7	: -								20
26 2 16 Fix-5 HITING, " My IZ Y TM MY IF PM JIC, SWIVEL				SWIVEL					(26
1 13743-16-16 SWYEL SW		2				(9)	14)		
28 2 H5357PP-KIT CLAMP, 1" HOSE 29 1 8755 HOSE, HYDRAULC, 1-1/4" RETURN (CUT TO LENGTH) 30 1 8756 HOSE, HYDRAULC, 1" (RETURN (CUT TO LENGTH) 31 2 451TC-8-RL HOSE, HYDRAULC, 1"/2" (CUT TO LENGTH) 32 4 451TC-16-RL HOSE, HYDRAULC, 1" (CUT TO LENGTH) 32 4 451TC-16-RL HOSE, HYDRAULC, 1" (CUT TO LENGTH) 32 4 451TC-16-RL HOSE, HYDRAULC, 1" (CUT TO LENGTH) 33 6 12 NOTES: 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS 1 - MORE -	27	1	13743-16-16			$\langle \cdot \rangle$	BEATER DRIV		
PUMP 30 1 8755 HOSE, HYDRAULIC, 1-1/4' RETURN (CUT TO LENGTH) 30 1 8756 HOSE, HYDRAULIC, 1/2' (CUT TO LENGTH) 31 2 451TC-8-RL HOSE, HYDRAULIC, 1/2' (CUT TO LENGTH) 32 4 451TC-16-RL HOSE, HYDRAULIC, 1/2' (CUT TO LENGTH) NOTES: 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS NOTE: UNIT SERIAL # NEEDED HOSE, HYDRAULIC, 1/2' (CUT TO LENGTH) 18 18 19 10 10 10 10 10 10 10 10 10	28	2	H5357PP-KIT		(10)	(17)		\prec	
NOTES: 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS	29	1	8755			PUMP			
NOTES: 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC HITINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS	30	1	8756	HOSE, HYDRAULIC, 1" RETURN (CUT	(18)	1	(6)		
NOTES: 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS Note:	31	2	451TC-8-RL	HOSE, HYDRAULIC, 1/2" (CUT TO					
NOTES: 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS NOTE: UNIT SERIAL # NEEDED NOTE: UNIT SE	32	4	451TC-16-RI	HOSE, HYDRAULIC, 1" (CUT TO			(16)	(3:	2)
NOTES: 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS (AA) BW-035 (I) (BIT NOMED TO BE SEN OF THE SET OF THE		<u> </u>		LENGIH)					/
NOTES: 1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. Notes: Notes: Kirby Mig. Inc. P.C. (D.C.) A 53.0 P.C					6	(12)			
1 - SEE DRAWING NO. BW-029 FOR TANK ASSEMBLY AND PART NUMBERS. 2 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS Note:	NC	OTES:							
2 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION. Note: Note: Kirby Mig Inc. P. 20 50789 MRECID OR 25340 P. 200772-3378 P. 200772-	1 -	SEE DI	RAWING NO. BW-	029 FOR TANK ASSEMBLY AND PART I	BERS.		→ BW-035		
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS Note: Kirby Mfg Inc. F. C. 60.789 P. C.	2 -	HYDR	AULIC FITTINGS M	AY VARY DEPENDING	_ /	(15)	(31)		
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS DATE		ON U	INII CONFIGURAL	ON.	(29)		Notes:	Kirby Mfg Inc.	T/3
NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS NOTICE ALL PART ORDERS DIMENSION OF DESCRIPTION OF GIRBY ANALYZACHIBRIC RECOGNATION AND FEBRUARY AND CONDENSAL PROCESSION AND FEBRUARY AND CONDENSAL DISCUSSION AND CONDENSAL DISC	4				<u> </u>			P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941	
FOR ALL PART ORDERS MONIBARY NO COMMENTAL PRODUCTION P ANY PERFODUCTION P ANY P ANY PERFORMANCE P ANY	N	O.	TE: UNI	T SERIAL # NEE	ED			144772141 0.01	SEMI - H
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			LOK	ALL PAKI UKL	K2	A WHOLE WITHOUT THE WRITTEN PERMISSION OF KIRBY MANUFACTU INCORPORATED IS STRICTLY PROHIBITED.	IWO PLACE DECIMAL ±	VENDOR: VENDOR P/N:	C

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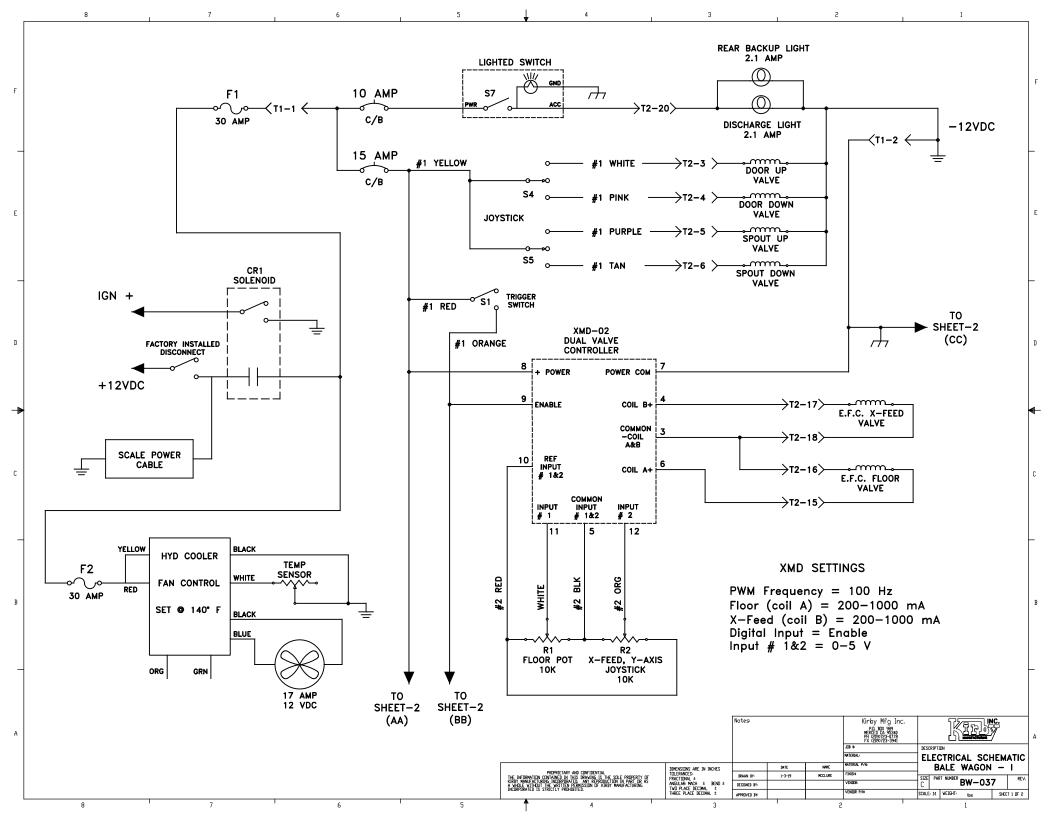


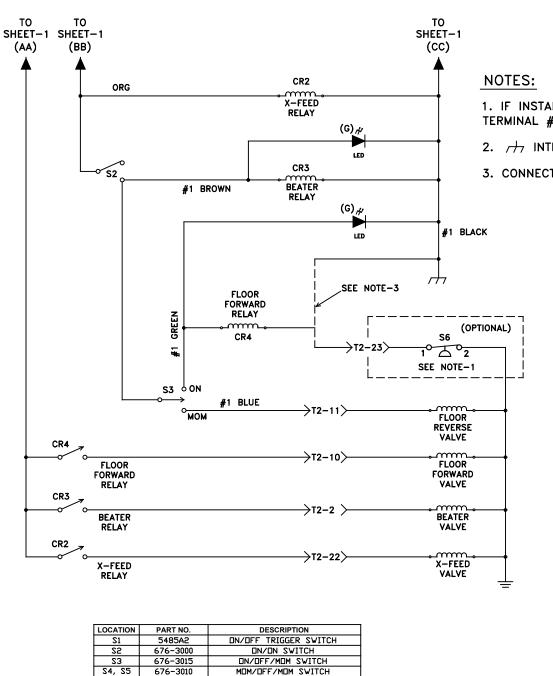
QTY. PART NUMBER **DESCRIPTION** 7925 CYLINDER, 2" X 6" STROKE 7894 **VAVLE 4-WAY SOLENIOD** 8071 SOLENOID BLOCK 6-6 CTX-S FITTING, 90°, 3/8" M JIC x 3/8" M NPTF 5 10643-6-6 HOSE END, 3/8" x 3/8" FM JIC SWIVEL 7896 NEEDLE VALVE, 3/8" NPTF 6-6 FTX-S FITTING, 3/8" MNPTF x 3/8" MJIC 6-6 F6X-S FITTING, 3/8" FM JIC SWIVEL x 3/8" M NPTF 6-8 C5OX-S FITTING, 90°, 3/8" M JIC x 1/2" M O-RING 7236P BOLT, SHCS, 3/8" NC x 1 1/2" LG. (GRD5) 11 10030 SCREW, SOCKET HEAD CAP- 1/4" NC GRD.5 x 1 1/2" LG. 451TC-6-RL HOSE, HYDRAULIC, 3/8" (CUT TO LENGTH) SPOUT **CYLINDER NOTES:** 1 - HYDRAULIC FITTINGS MAY VARY DEPENDING ON UNIT CONFIGURATION.

NOTE: UNIT SERIAL # NEEDED

FOR ALL PART ORDERS

HYDRAULIC, FOLDING SPOUT





NOTES: UNLESS OTHERWISE SPECIFIED

1. IF INSTALLED, PRESSURE SWITCH ON BEATERS HYDRAULIC CIRCUIT N.C. TERMINAL #1 & #2 (SET 200 PSI BELOW BEATER RELIEF)

2. // INTERNAL CHASSIS GND

3. CONNECT TO CHASSIS GROUND ONLY IF NO PRESSURE SWITCH IS USED.

PIN#	COLOR	JOYSTICK WIRES
1	BLACK	GROUND
2	RED	BEATERS
3	BLUE	DOOR UP
4	DRANGE	DOOR DOWN
5	YELLOW	SPOUT UP
6	BR□WN	SPOUT DOWN
7	RED/BLACK	
8	BLUE/BLACK	
9	□RANGE/BLACK	
10	YELLOW/BLACK	FLOOR FORWARD
11	BROWN/BLACK	FLOOR REVERSE
12	BLACK/RED	
13	BLUE/RED	
14	□RANGE/RED	
15	YELLOW/RED	BRAND FLOOR F/C COIL +
16	BROWN/RED	COIL -
17	BLACK/BLUE	BRAND X FEED COIL +
18	RED/BLUE	X FEED COIL -
19	□RANGE/BLUE	
20	YELLOW/BLUE	FEED LIGHT
21	BROWN/BLUE	
22	BLACK/ORANGE	X-FEED SOLENOID
23	RED/ORANGE	PRESSURE SWITCH
24	BLUE/ORANGE	
	YELLOW/ORANGE	

LOCATION	PART NO.	DESCRIPTION
S1	5485A2	ON/OFF TRIGGER SWITCH
25	676-3000	□N/□N SWITCH
23	676-3015	ON/OFF/MOM SWITCH
S4, S5	676-3010	MDM/DFF/MDM SWITCH
26	8002	N.C. PRESSURE SWITCH OPTIONAL
CR2-CR4 73980		RELAY, 12V
CR1	8045A	IGNITION SOLENOID (OPTIONAL)
S7	4747	LIGHTED SWITCH

Kirby Mfg Inc. **ELECTRICAL SCHEMATIC** BALE WAGON - II BRAWN BY SIZE PART NUMBER BW-038 DESIGNED BY: SCALE: 1:1 VEIGHT: lbs

SCALE HEAD
SEE NOTE-1 AND 2



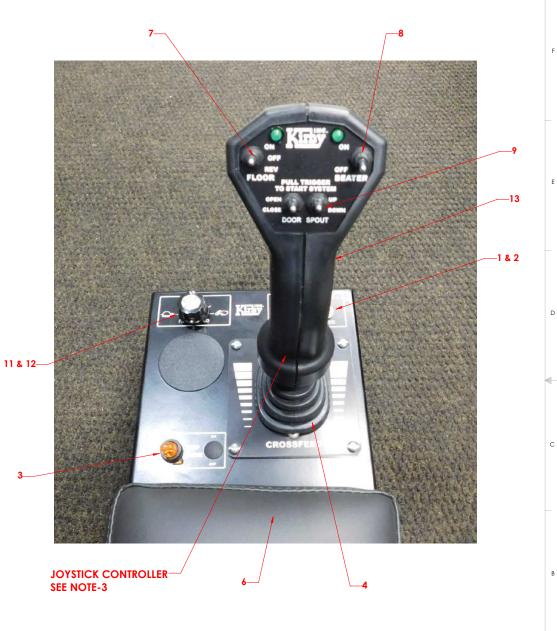
COMMON SPARE PARTS FOR JOYSTICK CONTROLLER

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION				
1	1	4745	CIRCUIT BREAKER, 10-AMP (FEED LIGHT)				
2	1	4748	CIRCUIT BREAKER, 15-AMP (JOYSTICK)				
3	1	4747	SWITCH, AMBER, DUCK BILL				
4	1	5485E	JOYSTICK, SINGLE AXIS				
5	3	73980	* RELAY, 12V				
6	6 1 22102F		ARMREST PAD, JOYSTICK BOX				
7	1	676-3015	SWITCH, ON/OFF/MOM				
8	1	676-3000	SWITCH, ON/OFF				
9	2	676-3010	SWITCH, MOM/OFF/MOM				
10	1	5484C	* DRIVER CARD, DOUBLE OUTPUT				
11	1	70097794	KNOB, POTENTIOMETER				
12	2	70117610	POTENTIOMETER, 10K OHM				
13	1	5485A2	TRIGGER SWITCH				

* NOT SHOWN

NOTES:

- 1 UNIT SERIAL NUMBER NEEDED FOR ALL PART ORDERS.
- 2 TO ORDER A SCALE HEAD (EZ 2500V), USE PART NO. 5280.
- 3 TO ORDER A CABLE KIT FOR SCALE HEAD, USE PART NO. 5282.
- 4 TO ORDER CABLE (15') FOR SCALE HEAD J-BOX, USE PART NO. 5282B
- 5 TO ORDER POWER CORD (10' 4-WIRE) FOR SCALE HEAD, USE PART NO. 5282C.
- 6 TO ORDER A COMPLETE JOYSTICK CONTROLLER ASSEMBLY, USE PART NO. BW-0016. FOR INDIVIDUAL COMPONENTS, USE SPARE PARTS LIST SHOWN ON DRAWING.



		Notes:			Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941		K	irb	yc.	
				JOB #:	DESCRIPTION					
					MATERIAL:	TRUCK CAB				
	DIMENSIONS ARE IN INCHES		DATE	NAME	MATERIAL P/N:	1	CON	IPONEN	15	
PROPRIETARY AND CONFIDENTIAL ORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF	TOLERANCES: FRACTIONAL±	DRAWN BY:	8-11-17	MCCLURE	FINISH:	SIZE PART NUMBER				REV.
MANUFACTURING INCORPORATED. ANY REPRODUCTION IN PART OR A! ME WITHOUT THE WRITTEN PERMISSION OF KIRBY MANUFACTURING PORATED IS STRICTLY PROHIBITED.	ANGULAR: MACH BEND TWO PLACE DECIMAL	DESIGNED BY:			VENDOR:	С		BW-03	9	na.
PORATED IS STRICTLY PROPIBILED.	THREE PLACE DECIMAL ±	APPROVED BY:			VENDOR P/N:	SCALE: 1:2	WEIGHT:	lbs	SHEET 1 C	OF 1
A .	2			2				1		



P/N KM07



P/N KM35

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

! BE CAREFUL

- 1. KEEP ALL SHIELDS IN PLACE.
- 2. STOP ENGINE BEFORE LEAVING OPERATOR'S POSITION TO ADJUST, LUBRICATE, CLEAN OR UNCLOG MACHINES, UNLESS OTHERWISE SPECIFICALLY RECOMMENDED IN THE "OPERATOR'S MANUAL".
- 3. WAIT FOR ALL MOVEMENT TO STOP BEFORE SERVICING THE MACHINE.
- 4. KEEP HANDS, FEET AND CLOTHING AWAY FROM POWER DRIVEN PARTS.
- 5. KEEP OFF EQUIPMENT UNLESS SEAT OR PLATFORM FOR OPERATION AND OBSERVATION IS PROVIDED.
- 6. KEEP ALL OTHERS OFF.
- 7. USE FLASHING WARNING LIGHTS WHEN OPERATING ON HIGHWAYS EXCEPT WHEN PROHIBITED BY LAW.
- 8. MAKE CERTAIN EVERYONE IS CLEAR OF MACHINE BEFORE STARTING ENGINE OR OPERATION.

 KM 10

P/N KM10



P/N KM27

		Notes:			Kirby Mfg Inc. P.O. BOX 989 MERCED CA 95340 PH (209)723-0778 FX (209)723-3941			Kirb	y Y	
					JOB #: MATERIAL:	DI	ESCRIPTI			
	_				MATERIAL P/N:	_		DECALS - I		
MANAGEMENT AND CONTROLLED	DIMENSIONS ARE IN INCHES		DATE	NAME						
PROPRIETARY AND CONFIDENTIAL NFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF	TOLERANCES: FRACTIONAL±	DRAWN BY:			FINISH:	SIZ	E PAI	RT NUMBER		REV
P MANUFACTURING INCORPORATED. ANY REPRODUCTION IN PART OR AS HOLE WITHOUT THE WRITTEN PERMISSION OF KIRBY MANUFACTURING PROPRIETED IS STRICTLY PROHIBITED.	ANGULAR: MACH BEND TWO PLACE DECIMAL	DESIGNED BY:			VENDOR:	c	:	BW-040)	
RPORATED IS STRICTLY PROPIBILED.	THREE PLACE DECIMAL ±	APPROVED BY:			VENDOR P/N:	SCA	ALE: 3:2	WEIGHT: Ibs	SHEET	1 OF 1



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

A 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 KM44

P/N 4613

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

P/N KM62



P/N KM18

NOTE: UNIT SERIAL # NEEDED FOR ALL PART ORDERS

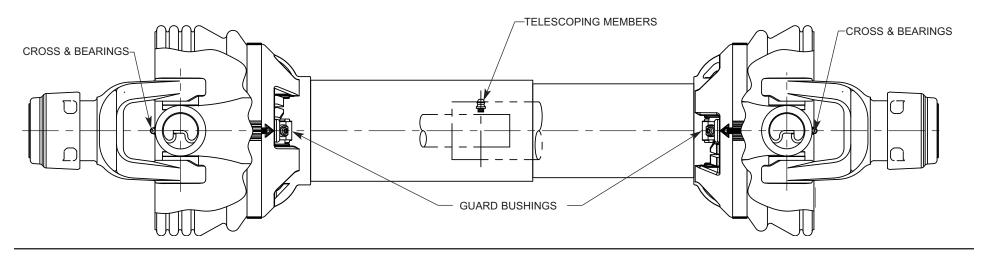
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THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF KIRBY MANUFACTURINS INCORPORATED. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF KIRBY MANUFACTURING INCORPORATED IS STRICTLY PROHIBITED.	1

				PH (209)723-0778 FX (209)723-3941	1 1-1/
				JO8 #:	DESCRIPTION
				MATERIAL:	DECALS - II
IN INCHES		DATE	NAME	MATERIAL P/N:	
	DRAWN BY:			FINISH:	SIZE PART NUMBER DAVI Q 43 REV.
H BEND :	DESIGNED BY:			VENDOR:	c PART NUMBER BW-041 REV.
CIMAL ±	APPROVED BY:			VENDOR P/N:	SCALE: 3:2 WEIGHT: Ibs SHEET 1 OF 1



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.

	STANDARD	EXTENDED LUBE	LEVER
LOCATION	INTERVAL	INTERVAL	ACTION PUMPS
CROSS & BEARINGS	*8 HRS.	50 HRS.	5
TELESCOPING MEMBERS	8 HRS.	50 HRS.	8-10
C€ & NON-ROTATING GUARD BUSHINGS (1000 RPM MAX.)	8 HRS.	50 HRS.	5
*CONSTANT ANGLE APPLICATIONS MAY REQUIRE A LUBE INTERVA	L 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

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 8-Stud Hubs 10-Stud Hubs 10-Stud Hubs



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.

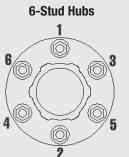
Step 2. Tighten all outer cap nuts to the recommended torque of 450 to 500 ft-lbs using the sequence shown at right.

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)



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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.

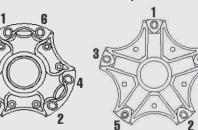
Recheck torque after first 50 to 100 miles of service or reference TMC RP 237A, "Torque Checking Guidelines For Disc Wheels" for individual fleet maintenance alternatives.

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

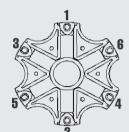
Tightening Sequence

5-Spoke Wheel





3-Spoke Wheel



Drive Studs and Hub Cap Bolt Torque

Recommended Dry Torque Values						
Description	Thread Size	Torque Requirements ft-Ibs 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-Ibs 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-Ibs Min/Max	Thread Size	Tighten/ Loosen	Torque Requirements ft-Ibs 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		



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