



**SPARTAN
EQUIPMENT®**

Skid Steer

Concrete/Mortar Mixer

Operation Manual



Spartan Equipment
Joppa, MD 21085
1.888.888.1085
www.Spartanequipment.com

White Hyd. Motor Model
7011KIW8630AAAAB DT
Motor Ser #
Unit Ser #

Operating Instructions

Before Use:

Read all sections of this manual. There is operational and safety information you will need to ensure that the Concrete/Mortar Mixer operates properly and safely. If you have any questions, Spartan Equipment. We will be happy to provide the information you need.

Caution:

Extreme caution should be exercised when working around a mixer or any piece of equipment with rotating mixing paddles. The paddle rotation is very powerful and can crush an arm or pull a man into the tub. Always be careful to keep loose clothing clear of the paddles. Never stick a hand thru the screen regardless of whether or not the paddles are rotating. If it is necessary to reach into the drum for maintenance, first make sure the hydraulic lines are disconnected, and then raise the screen by removing the two bolts that secure the leading edge of the screen.

Loader Requirements:

Care must be taken not to exceed the load capacity of the skid-steer loader. It is strongly recommended, especially for elevated discharge applications, that a load chart be obtained from the skid-steer manufacturer that takes into consideration not only the weight of the empty mixer and the live weight of the concrete but also the increased horizontal and vertical centers of gravity of the Concrete/Mortar Mixer. However, for "on-grade only" concrete placement applications, experience has shown that a skid-steer with a minimum rated capacity of 1600 lbs. can generally handle the load.

The skid-steer loader must be equipped with auxiliary hydraulics to the front of the loader. Hydraulic hoses from the Concrete/Mortar Mixer drive motor to the auxiliary quick-disconnects are included, however the quick disconnect fittings are not included.

Auxiliary hydraulics requirements (high-flow kit not required) - 12 to
15 gpm flow - 2000 psi operating pressure

Attachment to loader - "Universal" Quick-tach (Bobcat compatible)

Installation:

The Concrete/Mortar Mixer mounts on the Universal Quick-tach of the loader after the bucket has been removed. When engaging the quick-tach, the mixer may have a tendency to roll forward. A helper standing beside the mixer can easily restrain it. Make sure quick-tach pins are fully engaged and Concrete/Mortar Mixer is properly attached to skid-steer loader.

Install the proper quick-disconnects to match up with the skid-steer auxiliary hydraulics quick-disconnects (not included with the mixer). Connect the hydraulic lines to the auxiliary hydraulics of the Skid-steer then check the paddle for proper rotation. With the Skid-steer auxiliary valve in the "locked on" or "detent" position, the paddles should be moving away from the operator. This way, when you are loading dry material the paddles will help pull material into the drum. If the paddles are not turning correctly, remove the quick-disconnects and reverse the hydraulic lines.

Concrete Mix Design

The Concrete/Mortar Mixer is a concrete mixer - not a grout mixer- all mix designs must have coarse aggregate of at least 3/8" or larger, but must not exceed 3/4".

Concrete strength is dependent on many factors, including but not limited to, type and gradation of fine and coarse aggregate, amount of cement and amount of water added to the mix as well as atmospheric conditions. It is the sole responsibility of the user to determine the proper quantities of the various concrete ingredients to produce the desired concrete strengths and qualities. Because there are so many variables beyond our control, Spartan Equipment accept any responsibility for concrete strength or durability but only offers the following as a rough guideline for a common mix design.

A mix of sand and " maximum size gravel with good gradation of fine and coarse aggregates can usually be ordered by the yard from a local supply yard. Using this type of aggregate mix, fill the Concrete/Mortar Mixer drum to a point indicated by the "top of the triangular paddle gusset" when a paddle is in a vertical position. Break two bags of cement into the mixer using the bag splitter on the grate and add water in steps to prevent getting the mix too wet. Give the paddles time to mix concrete thoroughly before placement - typically about 5 to 10 minutes depending on materials and slump. The top of the paddles should just break the surface for a full 9 cuft of wet concrete.

A good source for mix design information is your cement and aggregate supplier. In addition, his information should be more reflective of the specific material you are using.

Minimum slump recommended - 3"

Maximum coarse aggregate size - 3/4" (a minimum of 3/8" coarse aggregate size is required)

General Operation

Operation of the Concrete/Mortar Mixer requires two workers - a loader operator and a man on the ground. Also note, it is desirable to spray the mixer thoroughly with a release agent prior to use for easier cleanup.

Loading Materials & Mixing Concrete - The Concrete/Mortar Mixer can be loaded manually with a shovel or, aggregates can be scooped up with the mixer in a loader position, the latter being much faster and requiring far less physical effort. Before scooping up the aggregates, first engage the rotation of the paddles with the auxiliary hydraulic valve placed in the locked-on, detent position, and then use the bucket tilt-cylinders to tilt the mixer forward into a loader position. Scoop up materials as you would with a loader. More than one pass may be needed since material has to pass thru the grate. (Do not remove grate during any part of the loading, mixing, or concrete placing operation). Tilt mixer up to the vertical position with the top of the drum level with the ground

and check for the proper level of materials. If level is a little low, add a few shovels as needed or if level is too high, a small amount can be let out thru the side gate. Adjust paddle rotation speed with loader throttle for approximately 12 to 15 revolutions per minute for most effective mixing. Break cement bags into mixer using the built-in bag splitter on the grate. Add water in steps to prevent getting the mix too wet. Mix thoroughly before discharging concrete. Paddle rotation should continue at all times. Should the paddles hang up on an oversize rock they can be reversed to dislodge the rock. When reversing the paddles please make sure they come to a complete stop in the neutral position first before going into reverse. When the paddles are free, the auxiliary hydraulic valve should then be returned to "locked-on" position for continued operation.

Discharging Concrete - The concrete can be discharged thru the top of the mixer by using the loader tilt cylinders to tilt the drum forward. If more precise control is desired, the concrete can be discharged out the side of the drum using the lever operated lift gate. A chute is also provided for the side discharge. The mixer paddles should be kept rotating as this will aid in the efficient discharge of the concrete thru the top or out the side.

Clean up:

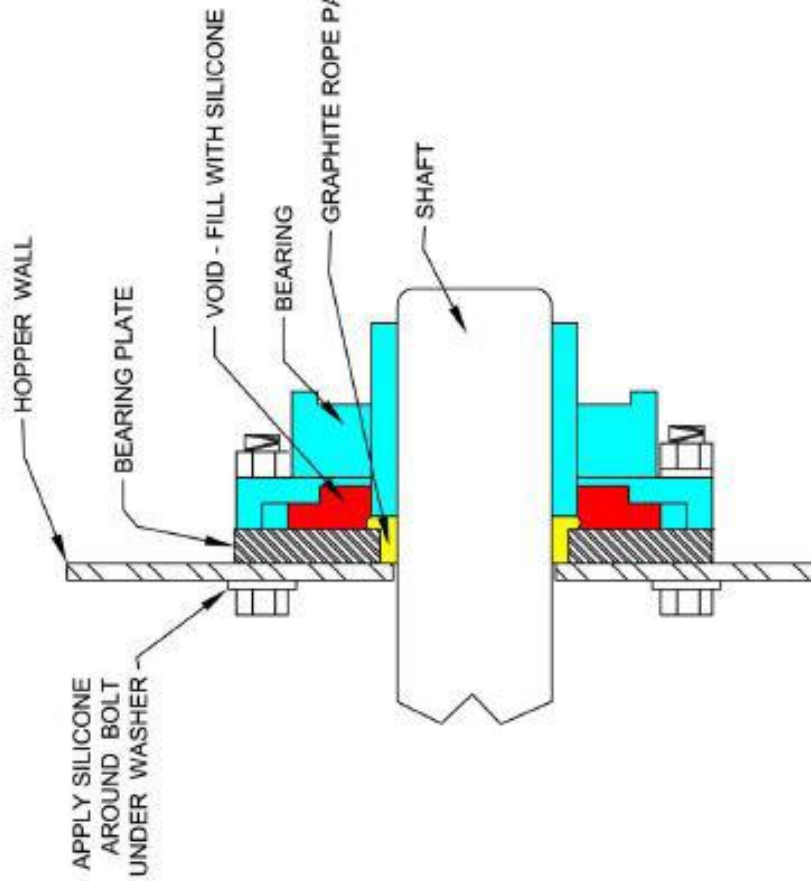
The mixer should be thoroughly cleaned with water as quickly as possible after use. Using a long handle brush, remove all concrete residue. If the mixer is cleaned thoroughly after each use, it will be much easier to maintain. The quick-disconnects should be covered to keep them clean and prevent contamination of the hydraulic fluid. Each time, after mixer is cleaned, apply grease thru the zerks on each end of the paddle shaft. This will clean the bearings and lubricate them for extended life.

Maintenance:

1. Check to make sure bearings are full of grease before use, then grease twice daily during operation, and after cleanup.
2. Check for loose bolts on a regular basis and tighten as necessary.
3. Check for hydraulic leaks on a regular basis and tighten or replace fittings, seals, or hoses as necessary.
4. Urethane Mixer Paddle Pads will wear with use. The pads are adjustable and reversible for extended life. Adjust pads for approximately **1 ½" gap between the pad and the drum.** When pads are worn beyond adjustment, replace with factory pads.
5. Two to three times each year check tension and lubricate chain, more frequently under heavy use.
6. Keep mixer clean.

INSTALLATION OF BEARINGS ON SCOOP-N-MIX

1. CLEAN SURFACE AREA OF HOPPER SIDE AND BEARING PLATE OF ANY OLD SILICONE AND CONCRETE OR GREASE.
2. POSITION BEARING PLATE OVER SHAFT
3. CUT TWO LENGTHS OF $\frac{3}{8}$ " GRAPHITE ROPE TO ENCIRCLE SHAFT.
4. USING THE BLADE OF A SCREW DRIVER OR SIMILAR TOOL PACK THE FIRST LENGTH OF GRAPHITE ROPE INTO THE CAVITY BETWEEN THE HOLE IN THE BEARING PLATE AND THE SHAFT. THE GRAPHITE ROPE IS SHOWN IN YELLOW.
5. ALTERNATING THE POSITION OF THE JOINT PACK THE SECOND PIECE OF GRAPHITE INTO THE SAME CAVITY AS WELL AS POSSIBLE.
6. FILL THE BEARING CASTING CAVITY ALL AROUND THE BUSHING FOR THE SHAFT WITH SILICONE AS SHOWN IN RED.
7. APPLY SILICONE AROUND THE BOLT UNDER THE WASHER BELOW THE HEAD AND INSERT THRU HOPPER WALL.
8. WHILE THE SILICONE IS STILL WET SLIDE THE BEARING ONTO THE SHAFT AND ATTACH WITH NUTS AND TIGHTEN.
9. REMOVE EXCESS SILICONE FROM AROUND THE OUTSIDE OF THE BEARING AND BOLTS.



Concrete/Mortar Mixer

Parts List

<i>Part No.</i>	<i>Description</i>
140-01	Body Assembly for Scoop-N-Mix
140-33	Chute for Scoop-N-Mix
140-36	Sprocket 15 Tooth 1½" bore
140-80B48DK	48 Tooth Sprocket for 2.25' Shaft w/DBL Key
140-38	Chain, #80 Roller Chain- 8 ft
140-38A	Chain Master link, #80
140-38B	Chain Half Link, #80
140-45	Paddle Inserts for Scoop-Mix
140-51	Hyd Hose ¾" for S-N-M Set of 2 in cover
140-51B	Hyd. Motor Nipple
140-52	Spring, Hyd Hose Support 9" w/clsd loop
140-65-SSDK-ASSY	Sprocket Side Dbl Keyed Paddle Shaft Weldment
140-65-IS	Idler Side Paddle Shaft Weldment
140-17-ASSY	paddle arm - 4 req. (paddle insert NIC)
140-66DK	Complete DK & Idler Shaft Weldments w/ Paddle Arm Assemblies. Includes paddle inserts
140-39	Shaft Seal for Scoop-N-Mix 18" long
140-80	Bearing, 4 bolt flange 2¼" ID for SNM
140-90	Hyd Motor for Scoop-N-Mix White Model DT-AB

< < < Spartan Equipment Limited Warranty > > >

Spartan Equipment's Concrete/Mortar Mixer is warranted to the original purchaser against defective workmanship and/or materials (when properly installed, used, and maintained) for a period of six months from date of delivery to the customer by an authorized Spartan Equipment Dealer or direct from Spartan Equipment. This warranty does not cover misuse, abuse, normal wear and tear, or accidental damage.

WARRANTY CLAIM NOTIFICATION: Product defects should be reported to the Spartan Equipment dealer from whom the product was purchased or to Spartan Equipment in writing promptly after discovery. Preferably photographs showing the defect should also be provided along with a written report of circumstances involved. Warranty claims not made within 30 days after discovery of the defect shall be null and void.

WARRANTY DETERMINATION: If a warranty claim is found worthy and made within the warranty period we reserve the right at our discretion to repair existing defects or to replace it with the same or current model free of charge or to issue a credit for the reasonable cost of repair or take possession of the equipment and issue reimbursement for the calculated value.

WARRANTY PROCEDURE: Upon notification, Spartan Equipment will determine if the product will need to be returned to Spartan Equipment for inspection or repair or if the Spartan dealer or other entity can be authorized to make the repair at his location or if circumstances dictate other solutions. Dealer or other entity repairs must have prior written authorization. Reimbursement will be at the current "Spartan Warranty Labor Rate" and will not include reimbursement for offsite travel. A Warranty Claim Form must be submitted within 45 days of warranty repair authorization to receive credit for repair.

A return authorization number must be obtained from Spartan Equipment before a product can be returned for inspection and/or warranty and that number must appear on the return shipping label. Upon inspection, Spartan Equipment will determine if the product is defective and if so, whether it will be repaired or replaced. Repair or replacement is at the discretion of Spartan Equipment. Transportation charges to Spartan Equipment are not covered under the warranty and must be prepaid by dealer or customer unless it is within the first two years of warranty. In which case, if evidence acceptable to Spartan Equipment, is provided that the product is defective and the return is from within the continental United States or Canada, Star will arrange for return shipment at Spartan Equipment' expense. Products found to be defective within the initial two year period and returned to Spartan Equipment for repair or replacement will be returned to the dealer or customer freight prepaid providing it is within the continental United States or Canada. Warranted products to be shipped outside the United States or Canada and those warranted after the initial 2 years will be shipped freight collect. Unwarrantable products will be returned freight collect at the request of the dealer or customer, otherwise they will be destroyed.

LIMIT A TION OF DAMAGES: Spartan's obligation under this warranty shall not include costs of installation, duty, taxes or any other charges whatsoever or any liability for direct, indirect, incidental or consequential damages or delay. Spartan's liability for any and all losses and damage to purchaser resulting from any cause whatsoever, including negligence or breach of form of warranty, express or implied, by Star, alleged damage for defective goods, irrespective of whether such defects are discoverable or latent, shall in no event exceed the purchase price of the particular goods. Products repaired or replaced under this warranty are warranted only for the remainder of the original warranty. Any improper use including operation after discovery of defective or worn parts not approved by Star or any alteration or repair by others in such manner as in Spartan's judgment affects the product materially and adversely shall void this warranty.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES (WHETHER WRITTEN, ORAL OR IMPLIED) INCLUDING WARRANTIES OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.