



4015 S. Freeway • Fort Worth, Texas • 76110-6353 U.S.A. • P: 817-927-8486 • F: 817-927-8716 • www.watsonusa.com

WATSON

DRILL RIGS

WATSON 4400

WARNINGS AND CAUTIONS

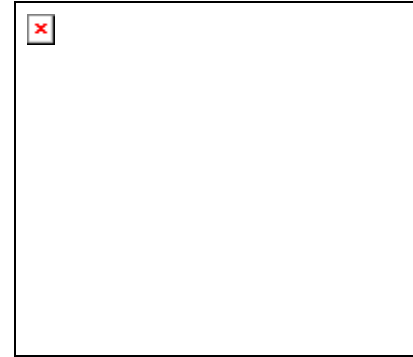
SUPPLEMENT

**Do not attempt to operate the
Watson 4400 until you have read
and understood this entire supplement.**



OVER 60 YEARS OF FIELD PROVEN PERFORMANCE AND DEPENDABILITY

(v2008.0710)



The stated information in this Safety Manual may be viewed on our company website at <http://www.watsonusa.com/images/publicationspage.shtml>.

Please check periodically for newly published safety information.

**WATSON, INC.
4015 SOUTH FREEWAY
FORT WORTH, TX 76110
U.S.A.**

Telephone: (817) 927-8486

Toll Free: (800) 927-8486

Fax: (817) 927-8716

E-mail: sales@watsonusa.com

Watson 4400 Warnings and Cautions Supplement

v2008.0710

The following DANGERS, WARNINGS, CAUTIONS, and NOTES are provided to prevent serious injury or death, minor injuries and/or property damage. Please read and understand the “Watson 4400 Warnings and Cautions Supplement” before operating the Watson 4400CM machine. In addition, please review the “Operator’s Safety Manual: Dangers Warnings Cautions” before operating the Watson 4400CM machine. Please ensure that all other personnel review these documents before interacting with the Watson 4400CM machine.

For general Warnings and Cautions that pertain to the operation of drilling equipment, please refer to the Watson “Operator’s Safety Manual: Dangers Warnings Cautions” booklet. If you do not have a copy, please contact Watson and request a copy. Both publications are also available on the Watson website at <http://www.watsonusa.com/publicationspage.shtml>

If you have any safety concerns or questions that are not covered by this manual, please contact Watson Inc. at 1-800-927-8486.



[Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.]

General:

- Before daily operation of the rig begins, perform all daily inspections to ensure that the rig is in proper operating condition. This includes but is not limited to proper operation of the swing and track alarm, electrical kill switch and the pilot kill (armrest) system.
- At no time shall the pilot system be left operational without qualified personnel in the operator’s position.
- Ensure that all personnel that come within 50 feet of the machine are familiar with the drilling process and the machine’s operation and movement.
- Ensure that all overrides are turned off before and during operation of the rig. Overrides are provided for maintenance and testing purposes only.

- The setup mode (switch located on the dash) should only be enabled during specific steps of the setup operation. Enabling at other times could result in accidental retraction of power pins and release of pinned components. Serious machine damage, injury and/or death could result.
- Keep all objects and personnel clear of the space between the hydraulic tank and counterweight when the rig is in operation. If slide frame is slid in, objects/personnel in this space will be crushed.
- Kill the pilot system and consult Watson if any errors or warnings appear on the computer screen. Be sure to note details of the message and the circumstances under which it arose. Messages may be due to sensors or electrical system problems, which can cause unpredictable behavior of the machine.
- Keep all objects and personnel clear of the space between the rotating frame and mast foot when the rig is in operation. If the foot is retracted or extended, objects/personnel in this area will be crushed or impacted by the foot.
- Keep all objects and personnel clear of the central platform (between the mast and the kelly winch) when the rig is in operation. Wire rope(s) operate in this area and can act unpredictably.
- Keep all objects and/or personnel clear of the rotary, kelly bar, counterweight and/or gearing when the rig is in operation or during assembly, disassembly or maintenance.
- The machine should not be operated under any circumstance if swing system problems or failure are suspected. Doing so could result in uncontrolled swinging and/or overturning of the machine.
- When tracking on unlevel terrain with the counterweight in place and mast down, ensure that the slide frame is fully extended, the header is retracted and the kelly bar and rotary are positioned on the lower portion of the mast. Failure to observe these restrictions may lead to instability of the machine.
- Do not boom down without first retracting the header and lowering the kelly to the lower portion of mast. Failure to retract the header and lower the kelly could cause instability of the machine.
- Do not approach any unspooled cable or attempt to respool cable onto winches without consulting Watson for proper procedure and completely assessing the cause of the unspooling. Ensure that the inner kelly or tool is not hung up. If the kelly is hung and suddenly releases, it could lead to an unexpected re-tensioning/movement of the cable.
- Use fall protection whenever climbing on any non-decked portion of the rig. Rig surfaces can be very slippery, creating a fall hazard.

- Do not continue to operate the machine if any contact with electrical power lines is suspected. Critical safety functions and/or operating characteristics may be affected if the machine is/has been grounded against a power line. Operation of the machine with electrical damage could result in erratic or unexpected behavior. Contact Watson for evaluation.
- Do not swing the rig for any reason on slopes greater than 7 degrees. Failure to observe this restriction could result in uncontrolled swinging.
- Use caution when swinging on unlevel ground with the mast boomed up and the machine in the slide in position. The counterweight end of the rig is heavier in this instance and could overload the swing system. Before swinging, ensure that the machine is clear of obstacles and personnel through 360 degrees of rotation.
- Use caution when swinging on unlevel ground with the mast boomed up and without the counterweight installed. The mast end of rig is heavier in this instance and could overload the swing system. Before swinging, ensure that machine is clear of obstacles and personnel through 360 degrees of rotation.
- Never, at any time place head, hands, feet or any other object inside of the mast structure unless the machine is turned off. Moving parts within the mast can shear off foreign objects placed inside the mast.

Setup/Teardown/Transport:

- Check for loose objects on the mast, kelly bars and rotary prior to operation. Keep all non-operator personnel clear of the machine when the mast is being raised/lowered or kelly bars are being installed. Objects can fall from the mast, kelly and rotary in the raised position.
- Ensure that the extendable header is raised (if so equipped) when using the lower kelly crowd lock drilling position. Failure to do so will allow the kelly bar and header to collide.
- Ensure that the outer bar float control is disabled at all times unless the kelly bar and outer element (OE) swivel are securely in place. Failure to do so could cause the OE swivel sled to fall uncontrollably.
- Use extreme caution when installing the cylinder pin in the rotary positioning cylinder. Ensure that the outer bar float control is disabled (see previous warning regarding the float control). Ensure that the appropriate surfaces are clean and oil free before attempting to climb up on the rotary to install the cylinder pin. Proper fall protection and a suitable access ladder are required for installation of the pin.

- This machine does not have a mechanical houselock. Proper tie down of the upper unit of the machine is critical for transport. A minimum of four (4) properly sized boomer chains should be installed between the upper unit (above the bearing) and the trailer or carbody as well as four (4) chains between the lower unit and the trailer. Failure to properly tie down the machine for travel could result in shifting or swinging of the upper unit during transit.
- Ensure that the tracks are fully extended before swinging from the trailered position or raising the boom. Failure to extend the tracks fully before operation may cause instability of the machine.
- The machine has an offset center of gravity. When loading on a trailer, ensure that machine is shifted 4" from machine centerline towards the cab side (i.e., cab should be hanging farther off the trailer than the hydraulic cabinet side). Failure to observe this loading restriction could result in an unstable load.
- When attaching or removing assemblies that are held by power pins, make sure that the pins are completely retracted or extended as appropriate. Verify that any supporting cables are taut before beginning operation and when operation is complete. Partially engaged pins or slack lifting cables can lead to severe machine damage and/or dropped loads.

Drilling/Hoisting:

- Do not operate the machine with the mast up in wind gusts exceeding 50 mph (80 km/h). Do not use the machine to hoist free swinging loads (unconstrained kelly bar or any load on the service winch) in winds exceeding 25 mph (40 km/h). The size and configuration of any load being hoisted should be taken into consideration and may require further restrictions to operation when operating in high winds. Failure to observe this restriction could result in tipping of the machine and/or uncontrolled operation of the hoist or loss of hoist.
- Ensure that the rotary positioning cylinder retainer strap is securely in place before crowding with the rotary (as opposed to the normal kelly crowd system). Failure to do so could result in cylinder buckling and/or dropping of the rotary assembly.
- At no time shall the rig be left in any form of "auto" mode without the operator being actively engaged in the operation of the machine.



CAUTION

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

- Ensure that all personnel are familiar with the principles of rigging and hoisting materials before using the machine winches. Improper rigging and hoisting techniques can lead to cable and rigging failures even with loads below capacity.
- Disconnect the battery cables before performing any type of welding on the machine. Attach ground cable as close as possible to area being welded. Do not allow electrical current to pass through bearings of any type. Damage of the machine electronics and/or mechanical components could occur if these welding restrictions are not observed.
- When lowering the mast into rest, ensure that the kelly line has sufficient slack to bend around the winches and fall into middle area of the mast rest. A lack of sufficient slack can result in failure of the cable or sheaves.
- Ensure that the rotary travel strut is in place whenever moving the machine with the rotary hanging on the foot. Failure to install the travel strut could result in excessive swinging of the rotary.
- When raising or lowering the mast, ensure that the engine is at half throttle or more. If, during raising or lowering, a harmonic develops causing the machine to rock excessively, release the controls and wait for rocking to subside. Continue raising or lowering mast.
- If the mast foot is in the retracted position, have a spotter watch for interferences during any movement of the mast or sliding of the upper unit. Interferences between the mast foot and other parts of the machine can occur, causing serious machine damage. Watson recommends that the foot be removed if it is not necessary for operations.
- Ensure that the area under the rotary is free of obstructions and the foot is in place or the rail stops are properly extended before leaving machine for long periods of time. The rotary positioning cylinder does not have a 100% hydraulic lock and will leak down slowly over time, possibly traveling off of the end of the mast and/or causing damage to objects below.
- When tracking down hill, use a slow, controlled continuous movement rather than short stop/start movements. Repeated release and engagement of the track parking brakes under load will result in overheating and possible failure of the track motor brake system.
- Remove travel strut before booming up into vertical position.