

SECTION 4.0

INSPECTION

INSPECTION

My father, (God rest his soul) was a bridge structural steel inspector for the highway department for the State of Indiana and his primary job was to inspect steel bridges. His most valuable tools were his eyes, his mind and the patience to thoroughly and visually inspect every part.

The same goes true in inspecting the **STO-AWAY** Power Crane. **DO NOT RUSH** the inspection. Take the time to really look at each component that is outlined below.

AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE
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I. Your **STO-AWAY** Bumper crane should perform uniformly and predictably. You should not have to fight to make it work.

II. The cable should feed out with minimal resistance. You should not have to yank and fight with the hook.

III. It is very important to inspect every component of the **STO-AWAY** Bumper crane.

The biggest factor is how clean and lubricated you keep your **STO-AWAY** Bumper crane. The **cleaner**, the **better**. Note: Keep in mind that **grease is cheap** when compared to the cost of down time and the price of replacing parts and labor.

Also, if you work and drive in a dirty, muddy, or snow rich environment, we strongly recommend updating your **STO-AWAY** Bumper crane with a **W.R. Kit**. (If it doesn't already have one)

This option keeps the crane, winch and cable much cleaner than the standard models. The **W.R. kit** is a bolt on kit that can be easily installed; just call your representative or the factory for more details on this option.

INSPECTION REPORT

STO-AWAY POWER CRANES, INC. recommends that an Inspection Report be made and a copy kept with the crane for future reference.

All parts that are damaged or operate poorly must be replaced with STO -AWAY POWER CRANES, INC. repair parts. (Section 11 Parts). It is the responsibility of the Owner or Operator of the STO-AWAY Power Crane to determine when parts are in need of replacement.

Make sure that the cause of the damage is removed or properly corrected. If you are unable to determine the cause, or if you need technical assistance, please contact the STO-AWAY POWER CRANES service department at 1-800-622-9797.

You are welcome to use the example on the following page. If you have your own report, we require that the same type of information be logged on your report.

INSPECTION REPORT

Crane's Serial # _____ Vehicle # _____

Date: _____ Inspector's Name: _____ Mileage: _____

USE SECTION 4.4 (THE COMPLETE INSPECTION CHECK LIST) AND SECTION 4.5 (INSPECTING LIFTING CABLE) TO THOROUGHLY COMPLETE THE INSPECTION REPORT BELOW.

STEPS	RESULTS	REMEDY
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INSPECTION REPORT

Crane's serial # _____

Vehicle # _____

DATE: _____ INSPECTOR'S NAME: _____ MILEAGE: _____

STEPS

RESULTS

REMEDY

SECTION 4.5 STEP 1		
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COMPLETE INSPECTION CHECK LIST

Perform this check list:

- A.** After installing the unit
 - B.** Every 3,000 miles
 - C.** Noticing poor performance
- 1.** Check to see how clean the crane is, if there is a layer of dirt, mud, or road salt on the crane, cable, or winch drum then pressure wash it off and lubricate as outlined in the maintenance section.
 - 2.** With the crane in the stored position, inspect the lower mast pulley (sheaves) to see if it moves freely, look for dirt that may be between the side plates and the pulley. Also, look to see if there is any grease between the pulley and the side plates, if not, then grease that pulley. (See maintenance section) Check the aircraft keeper on the pulley pins, this keeper should be firmly in place and not deformed in any fashion. If you have the **posi stop/posi lock option**, then look at the notched lock collar at the bottom. Look for badly bent tabs or deformed slots. Also look at the posi stop block, if this block shows signs of being bad, then you have an operator who is misusing the crane.
 - 3.** Check the upper mast pulley, this pulley should also move freely without excessive play and be lubricated. Also, check the clevis pin's air craft keeper, it should be firmly in place and not deformed.
 - 4.** Go to the side that the crane is hinged on (usually passenger side) and look at the hinge pin. Check to see if it's locked in place, it shouldn't show signs of being worn or have any play at all.
 - 5.** Check out the winch motor and the cable on it, note that the way the cable is laying on the drum, all of the cable should be between the two ends of the aluminum drum - not outside of the drum.
 - 6.** Also, the winch drive should be firmly bolted to its mounting plate on the bumper, if not then tighten it.
 - 7.** Check the outrigger leg for straightness and ease of use
 - 8.** Check the electric connections on the drive unit, they should not be loose. It is wise to coat the stud and wire lugs with a layer of silicone in order to resist corrosion.

9. Check all the power control leads from the bumper leading back to the control solenoid. Check for cracked insulation, potential rubbing spots, and bad cable ties.
10. Check all the mounting bolts for tightness:
- A. Bumper to mounting brackets
 - B. Mounting brackets to truck frame
 - C. Check any and all welds placed on the mounting brackets and the truck's frame for cracks.
11. Setup the mast only - insert the mast lock pin completely
12. Check to see if the mast rotates freely, it should not wobble. If the top of the mast wobbles, you have a crane that has been misused or overloaded.
13. Operate the posi lock, it should move firmly and smoothly. The locking lever should stay down when pressed down and stay up when pulled up. If the lever doesn't, then the ball plunger screw needs to be adjusted in.
14. Check the end boom pulley, clamp pin, and aircraft keeper for unusual appearance. Note: the end pulley movement will be in the range from rotating free with a small amount of side play (1/16" or less for steel cable) to a slight resistance, but you still should be able to move it with your thumb.
15. Check the boom's support arm, clevis pin, and keeper. Both the clevis pin and support arm should be straight. If either is bent, then the crane was overloaded. **CHANGE THEM**
16. Place the boom on each working height settings. Lock in the safety cotterless pin completely; try to pull the support arm off the height setting. If the arm comes free then adjust the stop on that height setting.
17. Check all electrical connections under the hood; look for corrosion, cracked wires, potential rubbed wires, and bad cable ties.

INSPECTION CHECK LIST FOR LIFTING CABLE

There is no way to predict how long your cable will last. The biggest factor on a cable's life is how clean and lubricated you keep it.

The steel cable used by **STO-AWAY** is an Aircraft 7 x 19 rating, galvanized aircraft cable with a minimum breaking strength of 4,200 lb. for 3/16" diameter and 5,600 lb. for 7/32" diameter.

The dielectric rope used on some special models is a nylon jacketed 5/16" Kevlar rope with a minimum breaking strength of 9,000 lb.

Follow these guidelines when the cable requires changing:

Step 1. Closely inspect the hook and the safety latch for any deformities.
Example: twisted hook body, bent hook tip, and non-operable safety latch.

Step 2. Completely feed out the entire lifting cable or rope, note the level of difficulty in extracting the cable. The greater the difficulty the more likely the cable needs to be replaced.

Step 3. Examine the complete length of the cable for the following:

- A. Excessive corrosion
- B. Frayed sections - **BOTH STEEL AND KEVLAR MODELS**
- C. Flat spots on steel cable
- D. Kinks
- E. Deeply cut or missing nylon jacket exposing Kevlar inner core