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## Manual RHGSE Operator Check List

### Installing the cable onto the Zephyr RHGSE

- 1.) Position RHGSE parallel to aircraft and with cable lined up with Lubridryer cable entry point
- 2.) Check slip load of Rotatub Clutch with spring scale at hole in Rotatub, static breakaway load should be 2-3 pounds max. **Caution: If the slip load of the Rotatub is too high, the cable will be wrapped too tightly around the spooler causing it to rise too quickly and wrap at the top of the spooler too fast. It may come out of the Spooler Rotatub interface. If this happens the operator must stop immediately before the cable is damaged.**
- 3.) Turn on aircraft power to hoist system
- 4.) Open MagSens cover (**Caution do not let cover pop open uncontrolled**), Open Lubridryer cover, and Open Capstan cover.
- 5.) Extend 18-20 feet of cable from the hoist, being careful to not kink cable or allow the cable to get caught on the machine. Keep cable clean.
- 6.) Place the hook end in the Spooler so that the cable is exiting hook assembly upwards.
- 7.) Position the cable in the Lubridryer and close the latch.
- 8.) Position the cable in the MagSens head (if applicable) and close the latch.
- 9.) Pull the cable tight and start to wrap the cable around the capstans starting from the lower innermost groove and then the upper innermost groove in a counter clockwise rotation.
- 10.) Continue two more wraps around the lower and then the upper capstan, while checking to insure the cable is tight around the capstans and in the proper groove.
- 11.) Pull the cable tight and release the upper Exit Roller Lever by pulling the lever out with one hand and pulling the pin up with the other hand. Allow the Exit Roller to capture the cable in the outermost groove. If required position the cable under the Exit roller
- 12.) Pull the Lower Pressure Roller lever out and pull up the retaining pin. Allow the pressure roller to capture the cable on the innermost groove of the lower capstan roller.



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- 13.) Lift the hook out off the top of the spooler and place the cable between the upper and lower guide rollers so that the cable drops into the spacer between the spooler and Rotatub in a clockwise rotation. Note: The Rotatub spins in a clockwise direction when extending.
- 14.) Place the cable into the slot of the spooler, and feed the remainder of the cable into the inside of the spooler; while insuring that the cable sits comfortably in the bottom of the slot in the side of the spooler and loosely around the base of the spooler and between the two guide rollers.
- 15.) Place the hook with the cable exiting the hook assembly downwards into the spooler and lay the hook assembly on top of the spooler being careful not to allow the cable to enter the slot area. **Caution: If the cable is not allowed to start wrapping at the bottom of the Spooler and Rotatub interface then it may not have enough space to wrap properly around the spooler, and may come out of the Spooler Rotatub interface. If this happens the operator must stop immediately before the cable is damaged.**
- 16.) Turn on the indicator power switch. (If needed 'zero' indicator by using a small flat head screw driver in the zero port).
- 17.) Ensure brake band is disengaged (brake lever lying horizontal).
- 18.) Attach and set up the MagSens system (if applicable).
- 19.) Ensure capstan clear cover is closed and latched securely.
- 20.) **To extend using aircraft hoist power;** Push in on the manual crank handle, rotate the manual crank handle clockwise locking it onto the pin, continue manually rotating the crank handle and watch the first three turns of the capstans to insure the cable stays tight on the capstans.



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Operating Notes and **Cautions** for extending the cable:

- Use a steady speed with the manual crank handle matching aircraft hoist speed, frequent starting and stopping causes the cable to wrap too tight around the spooler or to become slack between the hoist and RHGSE.
  - Always scan the cable wrapping in the Rotatub and the operation of the hoist and position of the cable, be prepared to stop quickly if required.
  - Use caution when extending to the full out position to be sure the hoist limit switches stop the hoist before the cable is pulled off the drum.
- 1) **To retract the cable under load:** Disengage manual crank handle by rotating counter clockwise a small amount and letting go of the handle. The handle will spring away from its lock pin.
  - 2) Start retracting the hoist cable using aircraft hoist power.
  - 3) Raise the brake lever to vertical.
  - 4) Adjust the retracting load by rotating the brake adjuster knob clockwise for increased load and counter clockwise for decreased load. The indicator will display the load in lbs. or kg.
  - 5) If loads reaching 600 lbs. are reached be careful not to lift the RHGSE off of the ground. Place your foot on the base plate of the RHGSE equipment when approaching 600 lbs. to stabilize. Once 600 lbs. is reached and not exceeded remove your foot and continue retracting.

Operating Notes and **Cautions** for retracting the cable:

- If the cable rides to the top of the Rotatub, use slow speed and push the cable down into the space between the Rotatub and the Spooler to remove the cable from the Rotatub in order to adjust the slip load of the Rotatub clutch.
- When approaching the end of the cable look down into the Rotatub and visually acquire the cable, go slow and stop the cable when the last turn is pulled up out of the Rotatub.
- Do not adjust the load when stopped or at a slow speed, use a steady intermediate speed when adjusting the load.
- It is a good practice to reduce the retracting load to 100 lbs. prior to finishing the retracting run.



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### Removing the cable from the Zephyr RHGSE

- 1.) Disengage the brake lever.
- 2.) Turn off the indicator.
- 3.) Open the capstan cover.
- 4.) Open the tension roller arms and move the pins to hold them open
- 5.) Open the Lubridryer cover.
- 6.) Unwrap the cable from the capstans and use care to keep the cable clean and in front of the RHGSE and not entangled in any part of the RHGSE.
- 7.) With a gloved hand hold the cable and carefully retract the cable into the hoist and check the last length.
- 8.) Exit and save the MagSens data and analyze it. (If applicable)
- 9.) Lift the hook and cable out of the Rotatub and Spooler and place hook on top of spooler, such that the hook is down and the cable is exiting the hook assembly upwards.
- 10.) Perform a thorough visual inspection of the cable just above the ball end.
- 11.) Stow the hook assembly properly against the bell mouth of the hoist.
- 12.) Close the MagSens cover, remove the MagSens Head from the RHGSE, and store it in its case. (If applicable)
- 13.) Move the RHGSE to its storage area
- 14.) Return the MagSens system to its storage area. (If applicable)