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The Operator's Reference Guide

Using this Guide

- This guide is a supplemental source of information for using and maintaining your SPYDERCRANE
- This guide is offered as a service to customers of Smiley Lifting Solutions
- This guide is NOT a replacement for your SPYDERCRANE's User Manual; if the information contained in this guide contradicts the User's Manual, the User's Manual is considered correct

Edition

- This DRAFT edition was published on 8 August, 2025

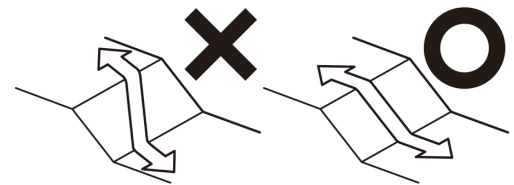
Cautions and Warnings (Travel/Transport)

Before Using

- ALWAYS wear the appropriate personal protective equipment (PPE) while operating or maintaining your SPYDERCRANE
- ALWAYS inspect your SPYDERCRANE before starting it and at regularly scheduled intervals
- ALWAYS correct inspection deficiencies
- ALWAYS travel (self-propel) your SPYDERCRANE in accordance with local movement and road-travel regulations and instructions
- NEVER operate your SPYDERCRANE with ANY of its panels or covers removed
- NEVER fuel, lubricate, or perform maintenance on your SPYDERCRANE while its engine is running
- ALWAYS run your SPYDERCRANE's engine in well-ventilated areas

While Using

- Your SPYDERCRANE has a narrow track, short wheelbase, and a high center-of-gravity; always travel your SPYDERCRANE slowly and deliberately
- ALWAYS travel your SPYDERCRANE with its upperworks STORED or configured for PICK-Ë-CARRY
- NEVER travel your SPYDERCRANE with a load attached UNLESS it is properly configured for PICK-Ë-CARRY
- When traveling over an obstacle (speed bump, cable tray, curb, etc.), ALWAYS hits the obstacle with BOTH tracks at the SAME TIME; ALWAYS approach obstacles at right angles
- ALWAYS use a ramp when attempting to travel over obstacles MORE THAN 6 inches tall
- When traveling on sloped terrain, ensure that your SPYDERCRANE is operating within its Travel Angle Limits
- When traveling on sloped terrain, ALWAYS orient your SPYDERCRANE so that you are on the HIGH SIDE (travel uphill BACKWARDS and downhill FORWARDS)
- NEVER make abrupt speed changes or turn your SPYDERCRANE while traveling on sloped terrain
- ALWAYS approach sloped terrain at a right angle; NEVER "crab" your SPYDERCRANE on sloped terrain
- ALWAYS chock the crawler tracks when parking your SPYDERCRANE on sloped terrain
- NEVER travel over sharp and abrasive surfaces, like jagged rocks, or with sharp debris, like nails or rebar
- NEVER allow passengers to ride on your SPYDERCRANE or use your SPYDERCRANE as a tow vehicle
- NEVER park/site your SPYDERCRANE in areas with dry brush or other flammable material
- MINIMIZE pivot turns and counter-turns, use rolling turns to the MAXIMUM EXTENT POSSIBLE



ALWAYS travel straight up, or down, sloped terrain;
NEVER try to "crab" your SPYDERCRANE

After Using

- ALWAYS inspect your SPYDERCRANE at the end of the working day and correct any deficiencies BEFORE using it again
- Keep your SPYDERCRANE as clean as possible
- ALWAYS remove the Ignition Key when leaving the SPYDERCRANE unattended
- If storing your SPYDERCRANE for extended periods, disconnect the 12V Battery
- Either shelter your SPYDERCRANE or use a weather-resistant cover when storing it

Cautions and Warnings (Deploying/Lifting)

Before Using

- ALWAYS inspect your SPYDERCRANE and ALL components used during the lifting operation, including rigging
- NEVER mute/disable any of the audible alerting/warning systems (including the Voice Warning System)
- ALWAYS maintain target safety distances from power lines; refer and adhere to all regulations concerning target safety distances and standoff distances for cranes while lifting
- NEVER perform lifting operations while the wind speed is at 22mph or higher
- NEVER allow personnel NOT part of the lifting team within your SPYDERCRANE's fall zone
- ALWAYS barricade the working area to prevent unauthorized personnel from approaching the lifting operation
- ALWAYS survey the ground conditions BEFORE deploying your SPYDERCRANE's outriggers
- NEVER deploy the upperworks unless the outriggers are properly deployed FIRST
- ALWAYS deploy your SPYDERCRANE's outriggers so that its crawler tracks are OFF THE GROUND, ALL FOUR outriggers are ON THE GROUND, and the carrier is LEVELED to within 0.5°

While Using

- NEVER operate your SPYDERCRANE with a non-functioning/bypassed Anti-Two-Block (A2B) System
- ALWAYS operate the crane controls in a slow, deliberate, and controlled manner
- NEVER exceed your SPYDERCRANE's Rated Load Capacity
- ALWAYS lift and lower loads in a straight line up and down, NEVER side-load the upperworks
- ALWAYS lift and lower loads to the ground SLOWLY and DELIBERATELY
- NEVER leave your SPYDERCRANE unattended while its upperworks are DEPLOYED
- NEVER use your SPYDERCRANE to hoist personnel unless it has been specifically configured for personnel lifting
- NEVER overfly personnel with an attached load
- ALWAYS keep the wire rope on the wire rope drum tight and orderly
- NEVER operate the winch if/when there are LESS THAN three wraps of wire rope on the wire rope drum
- NEVER operate your SPYDERCRANE when its hydraulic oil is at 176°F; IMMEDIATELY STOP movement when the hydraulic oil is nearing 176°F

After Using

- ALWAYS STORE the upperworks and outriggers at the end of the lifting operation
- NEVER perform post-use maintenance (including refueling) until your SPYDERCRANE's working components (engine, hydraulic system) have cooled to ambient temperature

Inspection Types

Inspection, Before Starting

Perform the *Before Starting Inspection* at the start of the workday or shift. This is quick visual inspection that DOES NOT require you to start or deploy your SPYDERCRANE. With practice, you can perform the Before Starting Inspection in under five minutes.

Inspection, While Using

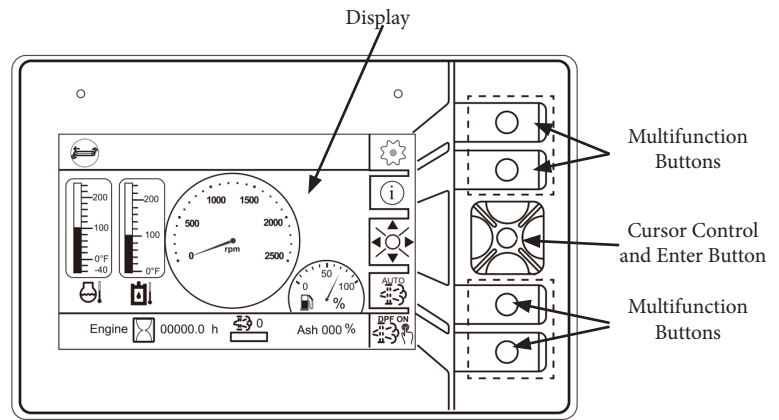
The *While Using Inspection* is observational and is used while operating the SPYDERCRANE.

Inspection, Wire Rope

The *Wire Rope Inspection* is a longer, more detailed inspection that applies specifically to the installed wire rope. It can be completed in conjunction with a wire rope lubrication service.

Engine Control Panel (ECP)

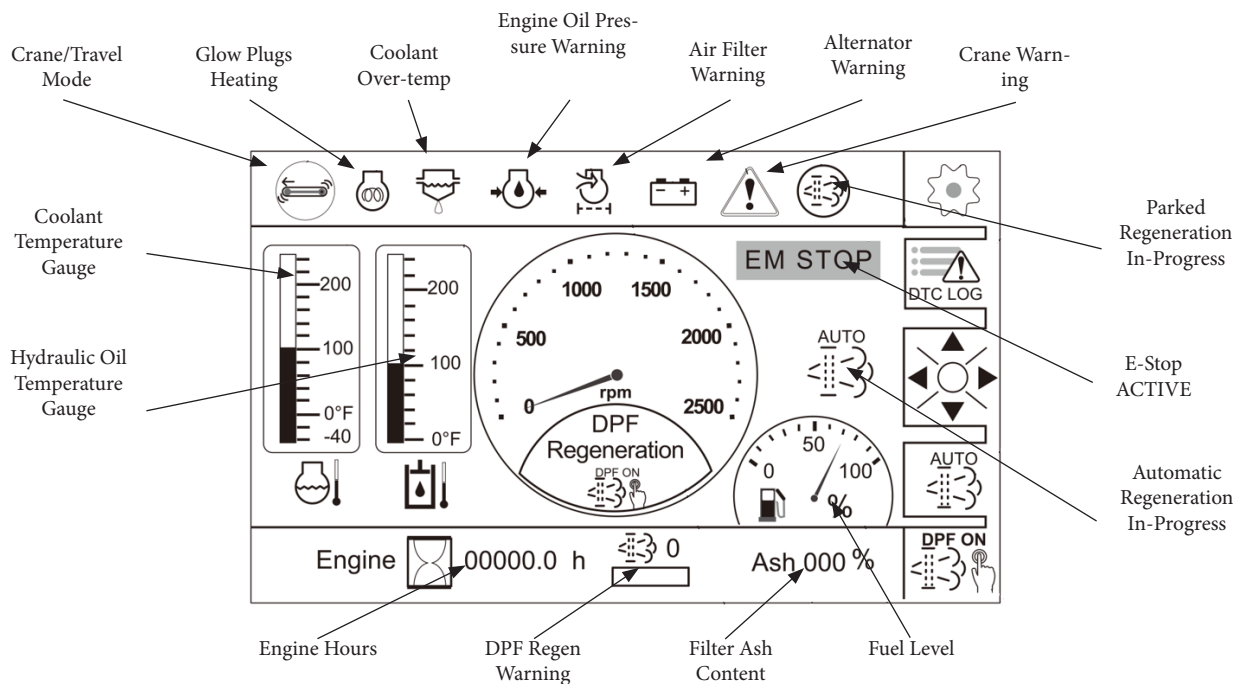
The **Engine Control Panel (ECP)** is your interface with the URW1006's **Engine Control Unit (ECU)**.



The ECP is protected by a lockable weather cover

Main Screen

After starting your URW1006's engine, the **Main Screen** will appear on the ECP's display.



The ECP Main Screen with Info and Warning Icons

Icon	Meaning
Crane/Travel Mode	Indicates whether the SPYDERCRANE is in Crane Mode or Travel Mode
Glow Plugs Heating	Appears when glow plugs are being heated and turns off when plugs are ignition temperature
Coolant Over-temp	Appears when coolant temperature reaches threshold temperature; idle/shut-down the engine immediately
Engine Oil Pressure Warning	Appears when engine oil pressure has dropped below safe levels
Air Filter Warning	Appears when air flow has become restricted; immediately shut-down and inspect air filter
Alternator Warning	Appears when there is something wrong with the electrical charging system
Crane (General) Warning	Appears whenever there is an error within the crane system
Parked Regen In-Progress	Engine is running Parked DPF Regeneration; operating the SPYDERCRANE (traveling, deploying, lifting) during the regen will terminate the regen process
E-Stop Active	Indicates that one or more of the Emergency Stop Switches are ACTIVE
Auto Regen In-Progress	Indicates that Automatic DPF Regeneration is in-process

Icon	Meaning
Fuel Level	The indicated fuel-level
Filter Ash Content	Indicates the particulate (ash) level of the Diesel Particulate Filter; at 100%, the DPF MUST be replaced
DPF Regen (Level) Warning	Indicates the DPF regen-required level; regen can be run at Level 1, 2, or 3; at Level 4 Parked Regeneration CANNOT be run
Engine Hours	Indicates engine runtime in hours and tenths of hours
Hydraulic Oil Temperature Gauge	Displays hydraulic oil temperature
Coolant Temperature Gauge	Displays coolant temperature

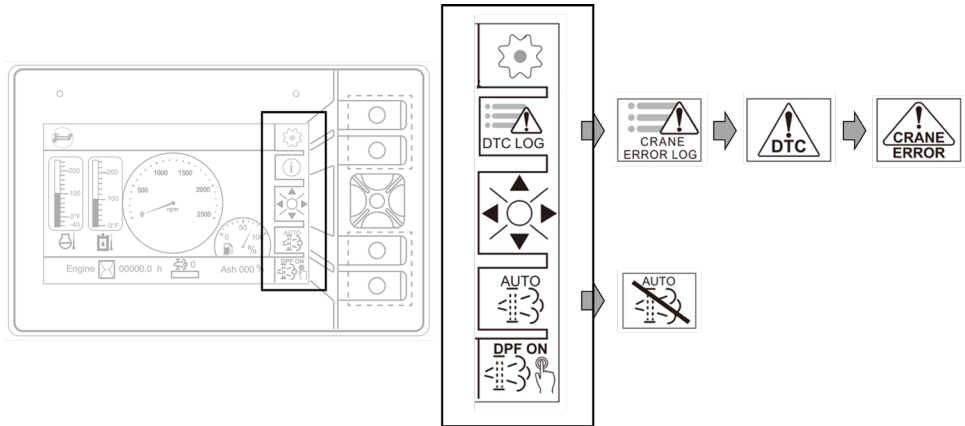
Selectable Options

• Settings

- Press this button to go to the **Settings Screen**

• Error/Log

- Press this button to cycle between the **DTC (engine) Log** and the **Crane Error Log**
- If there is a critical error, the icon will be replaced by the **DTC Error** or **Crane Error Icons**



ECP Main Screen Selectable Options

• Automatic Regen Available

- When displayed, the ECU will run an **Automatic Regen** at programmed intervals; if crossed-out the function is disabled

• Execute Regen

- Press this button to start a **Parked Regen**

DPF Regeneration

- The ECU monitors the particulate matter (PM) level of the engine and sets regeneration intervals, based on the soot level in the **Diesel Particulate Filter (DPF)**.
- There are two DPF Regen Types:

• Automatic Regen

- Triggered at **PM Level 1** and **2** and takes roughly 10 minutes
- Will not interfere with normal operations but it will cause the exhaust to run much hotter; make sure you are not operating over or around flammable material

• Parked Regen

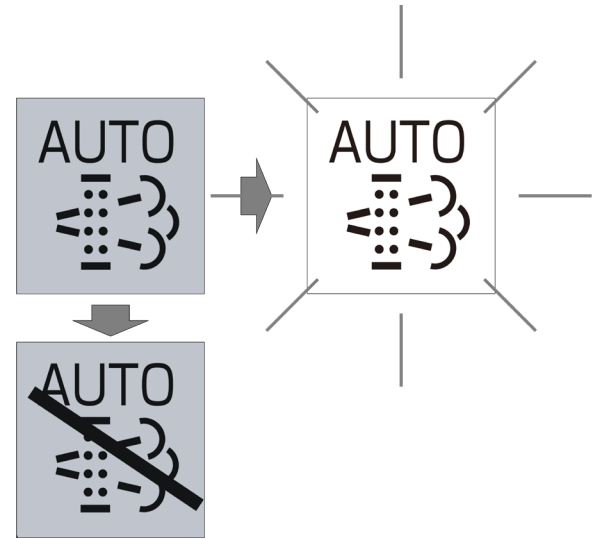
- At **PM Level 3**, you **MUST** perform a **Parked Regen**
- Before executing the regen, cease all travel, outrigger, and crane activity and allow the ECU to complete the 20-30 minute regen cycle
- Using **ANY** of the SPYDERCRANE's functions will interrupt the Parked Regen and it will need to be re-started

• Forced Regen

- If you **DO NOT** run a Parked Regen and allow the DPF to reach **PM Level 4**, normal regeneration is no longer possible and an SLS technician will need to execute a **Forced Regen**, using a dedicated tool set
- A Forced Regen may take your SPYDERCRANE out of service for an extended period of time
- At **PM Level 5**, the DPF must be replaced

Procedure: Automatic DPF Regen

- Auto Regen is a background process that the ECU will command when it detects soot buildup in the **Diesel Particulate Filter (DPF)** and the engine has warmed up to its normal operating temperature
- Auto Regen is run while the DPF is at **Particulate Matter (PM) Level 1 or 2**
- During Auto Regen, the engine will run hotter in order to burn off the soot in the DPF; make sure you are NOT parked over or near flammable material
- The Auto Regen Icon on the ECP Ops Screen will light up brightly while the Auto Regen is in progress



The Auto Regen Icon will light up during the Auto Regen; pressing the Auto Regen Icon will change it to the Inhibit Auto Regen Icon

1. Executing the Auto Regen

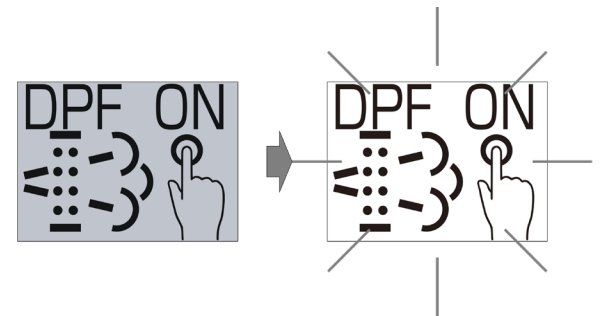
- Continue normal operations during the Auto Regen
- If possible, allow the Auto Regen to complete, this should take roughly 10 minutes
- DO NOT shut down the engine until the regen is complete

2. Inhibiting Auto Regen

- Pressing the ECP Button next to the Auto Regen Icon will trigger cancel the Auto Regen and prevent it from being run
- While the Auto Regen is disabled, the Auto Regen Icon will change to the Auto Regen Inhibited Icon
 - Repeatedly canceling Auto Regen will allow the soot build-up in the DPF to rise to PM Level 3, which **REQUIRES** a Parked Regen to correct

Procedure: Parked DPF Regen

- The Parked Regen is NOT automatic and **MUST** be commanded
- You **MUST** cancel all operations and allow your 1006 to run the Parked Regen uninterrupted
- When the Parked Regen Icon on the ECP Ops Screen highlights in yellow, you **MUST** command a Parked Regen as soon as possible
- During the Parked Regen, the engine exhaust runs **MUCH** hotter than normal and may produce white smoke, you **MUST** inspect the ground that your 1006 is sited and confirm there is no flammable material and that the area is well-ventilated
- DO NOT delay running the Parked Regen, if the DPF reaches PM Level 4, the Parked Regen will no longer be possible and an SLS Technician will need to perform a Forced Reset



When the DPF lights up in bright yellow, you **MUST** start a Parked Regen as soon as possible

1. Executing the Parked Regen

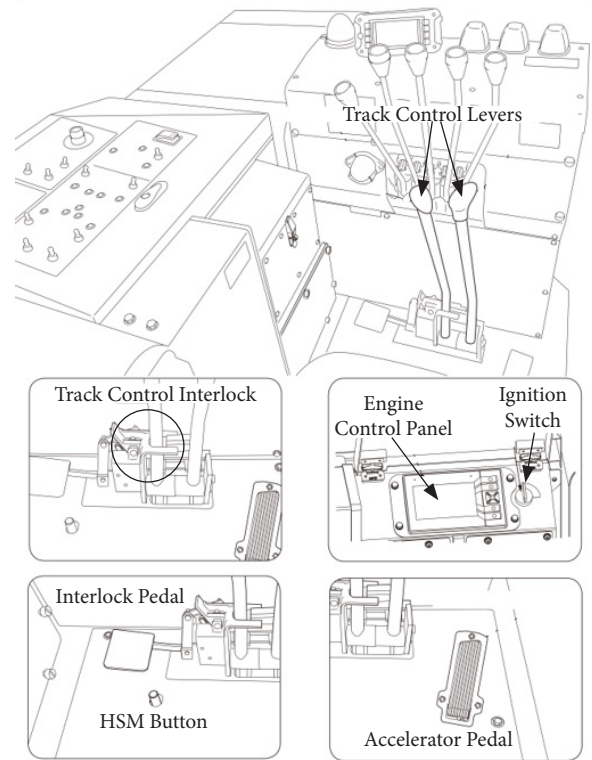
- Complete any operations in-progress, then **STORE** the upperworks (you can leave the outriggers **DEPLOYED**)
- **CONFIRM** that your 1006 is parked in a well-ventilated area and the ground is cleared of any flammable material
- Release the Track Control Interlock to lock the Track Control Levers and **DO NOT** touch any control (travel, outrigger, or crane)
- Press the Parked Regen Button and **STAY** with your 1006, **DO NOT** leave it unattended
 - The Parked Regen will take between 20 and 30 minutes

2. Post Regen Operations

- Once the Parked Regen is complete, allow the engine to run for another 5 minutes before turning it off

Procedure: Travel the SPYDERCRANE

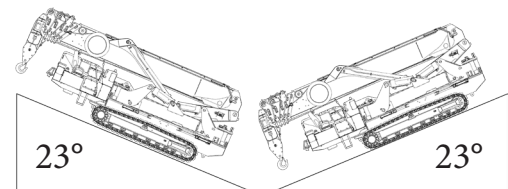
1. Turn and hold keyed Ignition Switch to the START position until the engine starts and runs
2. Press and hold down the **Travel Control Interlock Pedal** to release the **Track Control Levers**
3. Deflect the Track Control Levers to turn the **Drive Sprockets** of the **Crawler Track Drive System**
4. To increase traveling speed, press down on the **Accelerator**
5. To activate **High-Speed Mode (HSM)**, press and hold down the **HSM Button**
6. While in HSM, the SPYDERCRANE cannot turn or travel uphill
7. Release the Track Control Levers to halt the SPYDERCRANE; the drive sprockets are self-braking



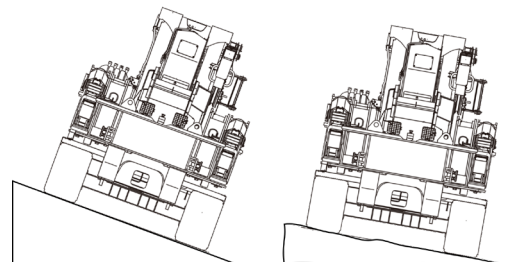
The controls used to start and travel the URW1006

Travel Limits

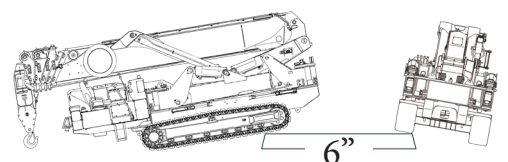
- Fore-and-Aft Travel Angle Limit is **23°**
- Side-Side Tilt Limit is **20°** on prepared surfaces and **10°** on loose earth
- Travel straight up and down sloped terrain; NEVER attempt to turn while on sloped terrain
- When traveling uphill, travel BACKWARDS to place yourself on the HIGH SIDE of the SPYDERCRANE; when traveling downhill, travel FORWARDS for the same reason
- Your SPYDERCRANE can mount and travel over obstacles (curbs, speed bumps, cable trays, etc.) up to 6-inches high
- You CANNOT use your URW1006 as a tow vehicle or tow the URW1006 on its crawler tracks
- Your URW1006 can perform pick-and-carry operations ONLY when it is properly configured



The fore-and-aft Travel Angle Limits of the URW1006



The URW1006 can be tilted up 20° while traveling on prepared surfaces and 10° while traveling over loose earth



You can travel the URW1006 over obstacles of NO MORE THAN 11-inches

Deploy

Procedure: Pre-Deploy the Outriggers

1. Site the SPYDERCRANE

2. Stow the Deployment Pins for all four outriggers

3. Pre-Deploy Outriggers #1 and #4

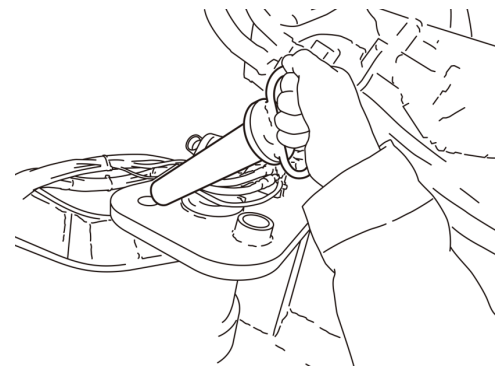
- Place SPYDERCRANE into **Outrigger Mode**
- Toggle the **Deployment Order Switch** until **POSITION** lamp is ON
- Set **Outrigger Control Switch (OCS) #1** and **#4** to EXT
- Pull **Outrigger Control Lever** until Outriggers #1 and #4 are fully extended

4. Pre-Deploy Outriggers #2 and #3

- Set OCS #1 and #4 to center-position and **OCS #2** and **#3** to EXT
- Pull Outrigger Control Lever until Outriggers #2 and #3 are fully extended

5. Pin the Outriggers

- Pull all four Deployment Pins from stowage and into the outrigger
- Confirm ALL FOUR **PIN SET** Lamps are ON



Make sure that the Deployment Pin seats fully into the Outrigger Base; confirm that ALL FOUR Pin Set Lamps are ON

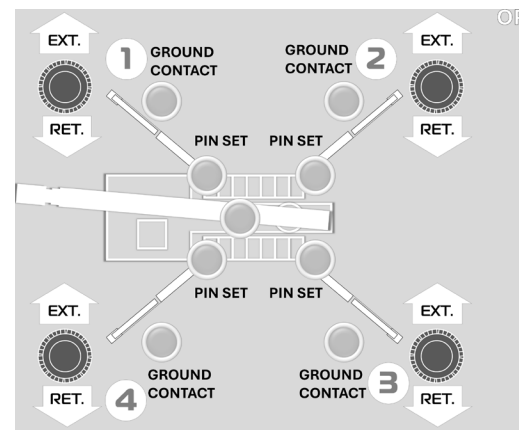
Procedure: Deploy the Outriggers

1. Set the Deployment State

- If using the NOT-EXT (Not-Extended) Deployment State, go to Step 2
- Press the Deployment Order Switch until the **HORIZONTAL** lamp is ON
- Set OCS #1-#4 to EXT, then pull the Outrigger Control Lever until ALL FOUR outriggers are at the desired length-setting

2. Deploy

- Press the Deployment Order Switch until the **VERTICAL** lamp is ON
- Pull the Outrigger Control Lever until ALL FOUR outriggers are grounded and the crawler tracks are OFF the ground
- Check the Operation Mode Panel and confirm that ALL FOUR **GROUND CONTACT**, **PIN SET**, and **BOOM STORED** Lamps are ON (9 lamps in total)
- Confirm that the Load Moment Indicator (LMI) powers up



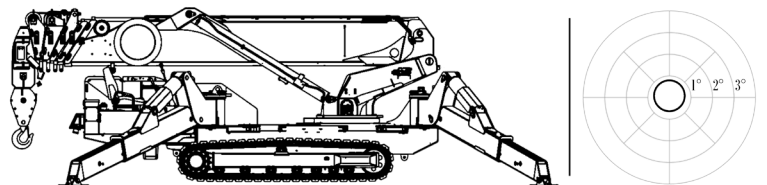
If ALL 9 green lamps are ON, the outriggers are properly DEPLOYED and the boom is STORED

3. Level the SPYDERCRANE

- EXTEND and RETRACT the outriggers in pairs until the air bubble is CENTERED in the **Bubble Level**

4. Check the Deployment and CONFIRM THAT:

- All FOUR OUTRIGGERS are grounded
- BOTH CRAWLER TRACKS are OFF the ground
- The air bubble in the Bubble Level is CENTERED



You MUST VISUALLY CONFIRM that the outriggers are GROUNDED, the crawler tracks are OFF the ground, and the URW1006 is LEVEL

5. Set to Crane Mode

- Press the Crane/Outrigger Mode Switch to CRANE

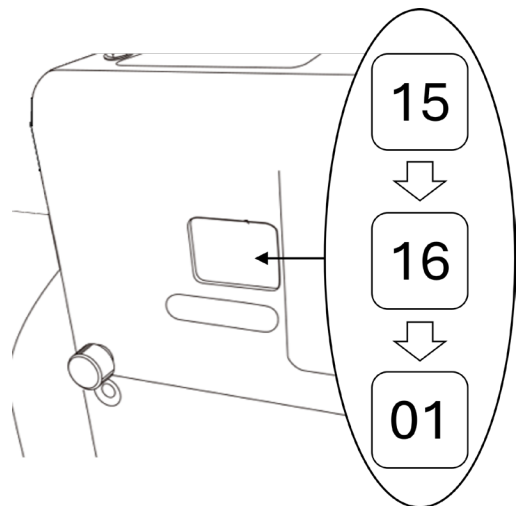
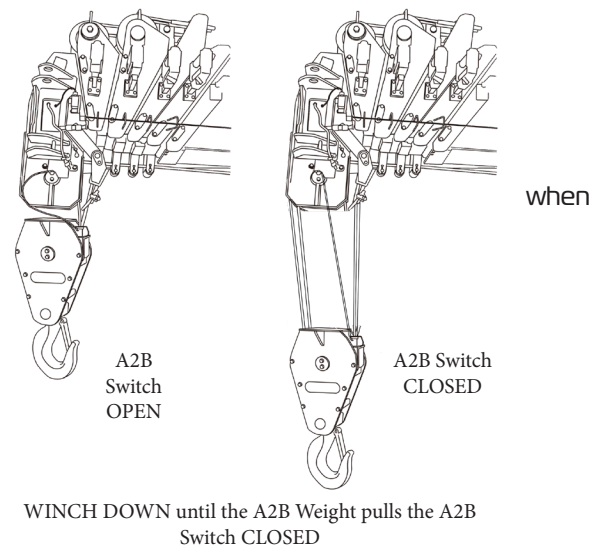
Procedure: Deploy the Upperworks

1. Deploy the Hook Block

- WINCH DOWN until the A2B Weight is hanging freely and CLOSING the A2B Switch
 - If the LMI is ON and READY, the Two-Block Alert will CEASE the A2B Switch is CLOSED

2. Deploy the Boom

- Command BOOM UP until the CMU Code 01 is displayed
 - During the BOOM UP, the Code Indicator will display CODE 15, then 16, then Code 01



Once the CMU Code Indicator displays Code 01, the boom is DEPLOYED

Crane Mode, Crane Control

Crane Control Levers (left-to-right)

1. Slew Control Lever

- Push FORWARD to SLEW COUNTERCLOCKWISE
- Pull BACK to SLEW CLOCKWISE

2. Telescope Control Lever

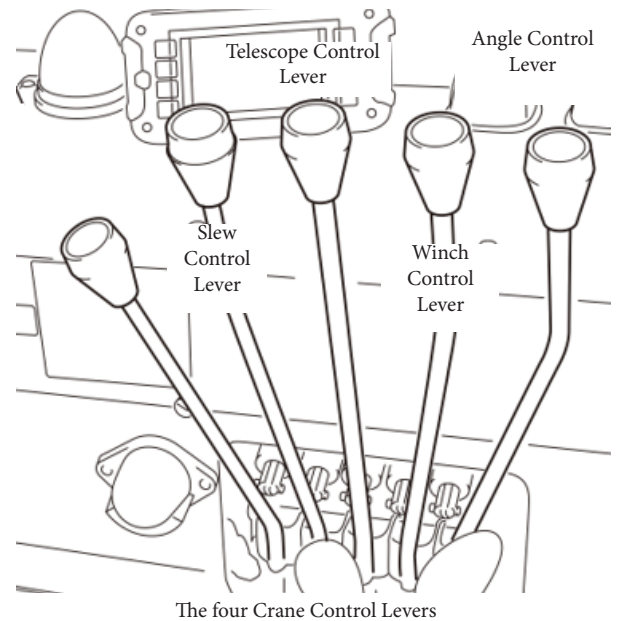
- Push FORWARD to BOOM OUT
- Pull BACK to BOOM IN

3. Winch Control Lever

- Push FORWARD to WINCH DOWN
- Pull BACK to WINCH UP

4. Angle Control Lever

- Push FORWARD to BOOM DOWN
- Pull BACK to BOOM UP



Controlling Crane Function Speed

The crane control levers are progressive; meaning that the further you deflect a lever out of its center-position, the faster the associated crane function will move.

Procedure: Use Winch HSM

Winch High-Speed Mode (HSM) is used to increase the hoisting speed of the URW1006 when carrying loads of LESS THAN 440 lbs.

DO NOT use the Winch HSM while the hook block is carrying a load

1. Check the Load and Block

- Confirm that targeted load is LESS THAN 440 lbs.
- Confirm that the hook block is NOT carrying a load BEFORE activating Winch HSM

2. Use Winch HSM

- Press and hold the HSM Button, then make crane commands

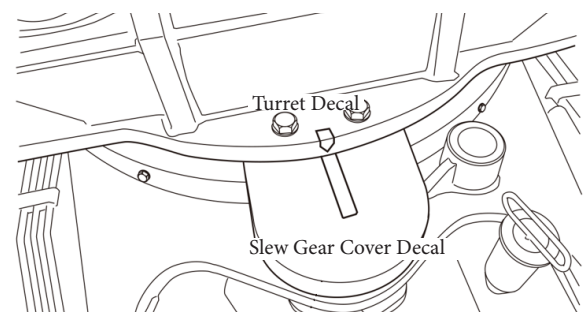
Procedure: Store the Upperworks

1. Ready the Upperworks

- SLEW until the Boom Stored Line Decals are lined up
- Fully-retract the boom and WINCH UP until the block is JUST BELOW the A2B Weight

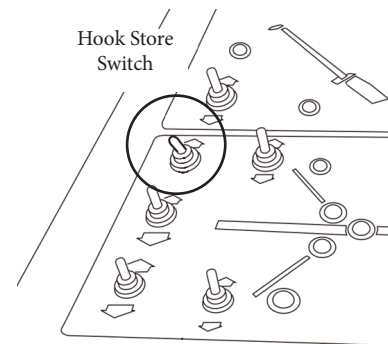
2. BOOM DOWN to FKO

- Command BOOM DOWN until the CMU activates CODE 15 and BOOM DOWN is disabled



3. Execute the Hook Store Function

- Press and hold the Hook Store Switch
- The hook block will rise until it locks tightly against the boom tip
- Then, the boom will SLOWLY BOOM DOWN to until it is stored



The Hook Store Switch is the yellow temporary-toggle at the right edge of the control panel

Crane Mode, Remote Control

Remote Control Switches (left-to-right)

1. Slew Control Switch

- Push UP to SLEW COUNTERCLOCKWISE
- Press DOWN to SLEW CLOCKWISE

2. Telescope Control Lever

- Push UP to BOOM OUT
- Press DOWN to BOOM IN

3. Winch Control Lever

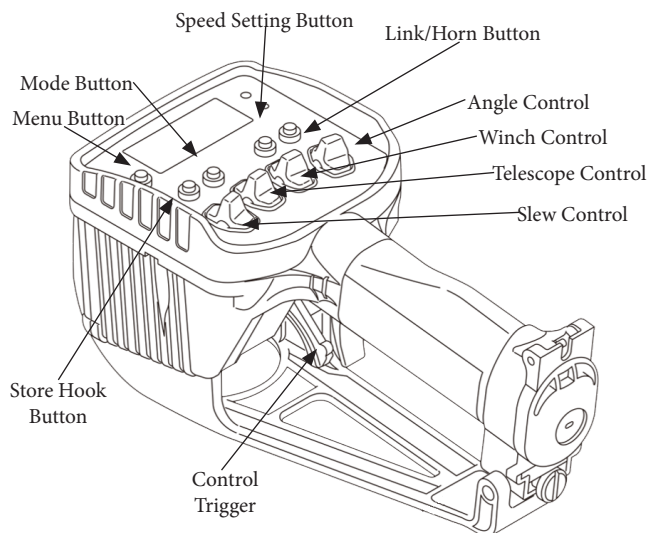
- Push UP to WINCH UP
- Press DOWN to WINCH DOWN

4. Angle Control Lever

- Push FORWARD to BOOM DOWN
- Press BACK to BOOM UP

5. Control Trigger

- While holding selected command, SLOWLY pull back on the Control Trigger to EXECUTE
- The further you pull back, the faster the crane will move



The Remote-Controller (switches and buttons)

Procedure: Link the Remote Controller

1. Place the SPYDERCRANE into Remote Control

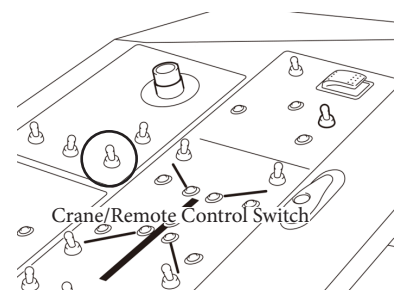
- With the SPYDERCRANE running, press the *Crane/Remote Control Switch* to REMOTE

2. Turn on the Remote Controller

- Make sure the *Remote Controller E-Stop* is in the OFF position
- Turn the keyed *Power Switch* to the ON position

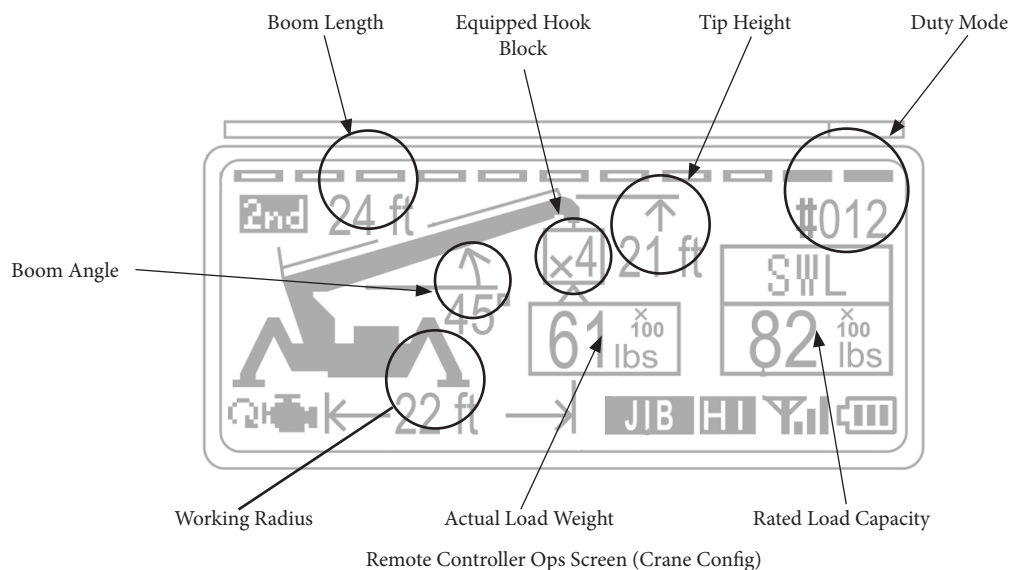
3. Link the Remote Controller

- Repeatedly press the *Link/Horn Button* until the horn sounds



The Crane/Remote Control Switch is the yellow temporary-toggle in the upper right group of switches in the control panel

Remote Controller Display (Ops Screen)



The **Operations (Ops) Screen** is displayed once the Remote Controller is linked

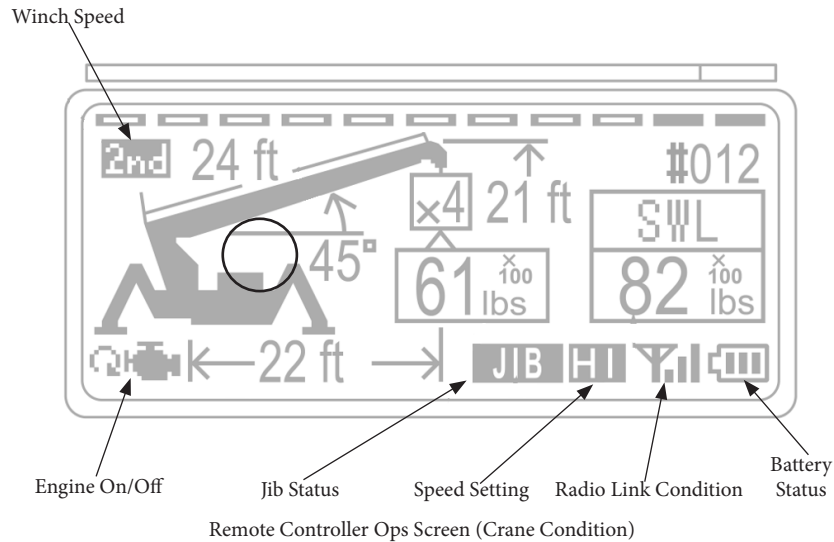
The **crane configuration data blocks** of the Ops Screen:

- **Boom Angle**
 - The angle of the boom from 00° to 80°
- **Boom Length**
 - Measured in feet from the hinge pin to sheave pin
- **Working Radius**
 - The horizontal distance between the slew center and hook center, measured in feet
- **Tip Height**
 - The vertical distance between the sheave pin and the ground
- **Duty Mode**
 - The Duty Mode of the SPYDERCRANE; set when readying the LMI
- **Actual Load Weight**
 - The measured weight being supported at the sheave pin (gross load)
 - Multiply displayed number by 100
- **Rated Load Capacity (Safe Working Limit)**
 - The SPYDERCRANE's Rated Load Capacity, based on its configuration
 - Multiply displayed number by 100
- **Equipped Hook Block**
 - The installed hook block, set when readying the LMI
 - Defined by parts-of-line
- **Load Bar**
 - Displays the difference between the Actual Load Weight and Rated Load Capacity as a percentage



The Load Bar spans the top of the screen

The **crane condition data blocks** of the Ops Screen:



- **Winch Speed**

- This refers to whether the Winch is in High Speed Mode (HSM)
- If the “2nd” is displayed, the winch is in HSM
- If nothing is displayed, the winch is running at normal speed

- **Engine On/Off**

- This icon will tell you if the SPYDERCRANE’s engine is running

- **Jib Status**

- Indicates whether the Jib has been installed
- It will read “JIB” if the Jib is installed and “MAIN” if the Jib is NOT installed

- **Speed Setting**

- You can cycle the SPYDERCRANE Speed Setting from “HI,” to “MD,” to “LO” (high, medium, and low)

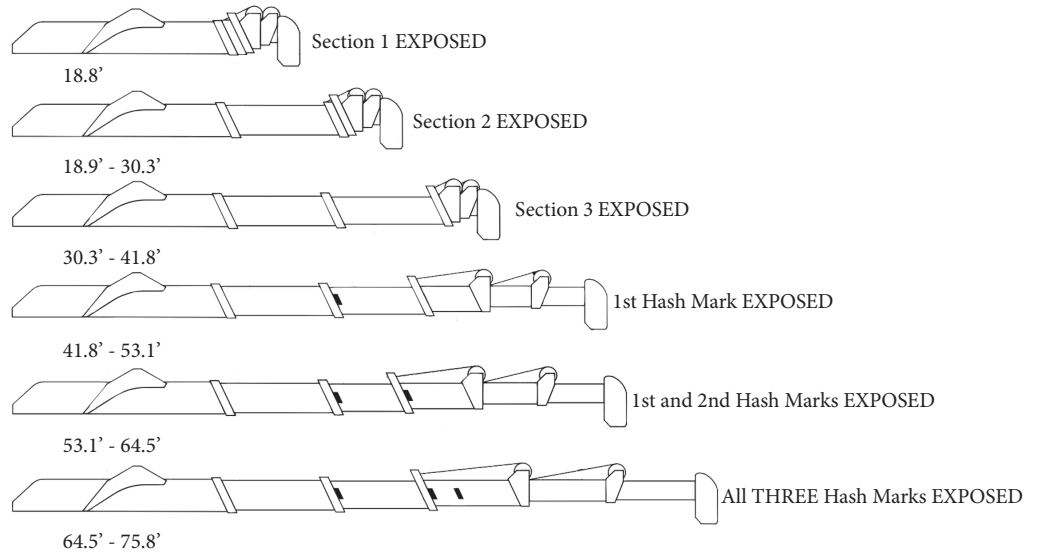
- **Radio Link Condition**

- More bars = better condition; if the connection is broken will display an “X”

- **Remote Controller Battery Status**

Boom Stages

Refer to the length of your SPYDERCRANE's boom by its indicated **Boom Stage**



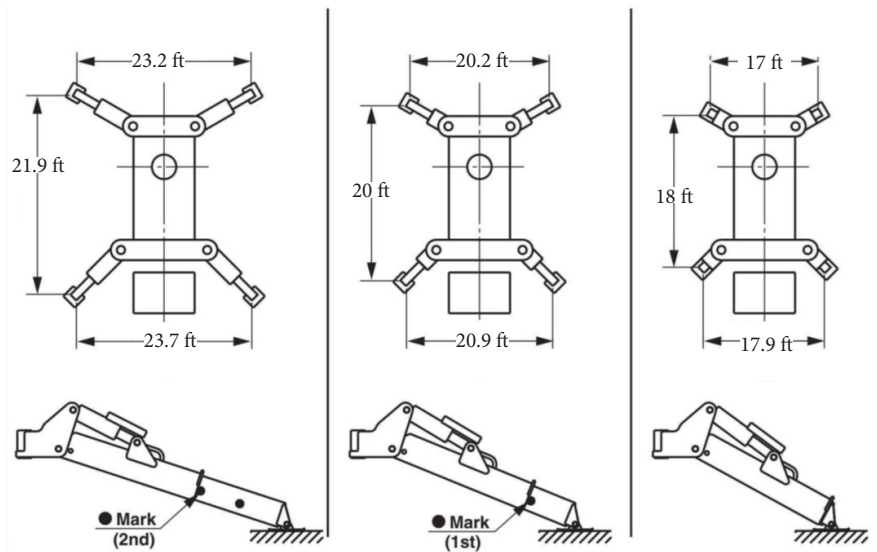
Outrigger Length Settings and Deployment States

Your SPYDERCRANE's outriggers can be set to one of three length-settings

The length-setting of the **SHORTEST** outrigger becomes the SPYDERCRANE's **Deployment State**

The **SMALLER** the Deployment State, the less room your deployed SPYDERCRANE takes up **BUT** the **LESS** it can safely lift

Deployment States directly affect your SPYDERCRANE's **Rated Load Capacity**



If only ONE mark is visible, the outriggers is HALF-EXT, if BOTH marks are visible, the outrigger is MAX-EXT

Load Charts

Boom Rated Load Charts

RATED LOADS

BOOM SECTION 1

WORKING RADIUS (ft.) 8 9.8 10 11 13 14 15

RATED LOAD (lbs) OUTRIGGERS MAXIMUM 22350 22350 22000 19760 16750 14510 12210

EXTENDED HALFWAY 22350 22350 22000 18750 15390 13640 11770

TO MINIMUM 22350 22350 21930 17920 14160 12760 11330

BOOM SECTION 1+2

WORKING RADIUS (ft.) 8 9.8 11 13 14 17 20 23 26.5

RATED LOAD (lbs) OUTRIGGERS MAXIMUM 22350 22350 19760 16780 15440 12220 9490 7550 4930

EXTENDED HALFWAY 22350 22350 18640 15760 14320 11390 8610 6670 4270

TO MINIMUM 22350 22350 17900 14340 13130 9500 7080 5350 3500

BOOM SECTION 1+2+3

WORKING RADIUS (ft.) 13 16 20 23 26 30 33 37.9

RATED LOAD (lbs) OUTRIGGERS MAXIMUM 12950 10910 8490 6900 5360 3880 3350 2510

EXTENDED HALFWAY 12950 10910 8480 6570 4910 3560 2790 2070

TO MINIMUM 12950 10510 7690 5680 4130 2790 2130 1340

BOOM SECTION 1+2+3+4

WORKING RADIUS (ft.) 16.5 20 23 26 33 36 39 43 46 49.3

RATED LOAD (lbs) OUTRIGGERS MAXIMUM 8650 7470 6580 5670 3670 3080 2440 2030 1840 1630

EXTENDED HALFWAY 8650 7470 6580 5670 3670 2860 2290 1800 1510 1190

TO MINIMUM 8640 7230 6020 4920 2800 2190 1670 1190 850 520

BOOM SECTION 1+2+3+4+5

WORKING RADIUS (ft.) 20 26 33 39 46 49 53 56 59 60.6

RATED LOAD (lbs) OUTRIGGERS MAXIMUM 6410 5200 3910 2880 2060 1750 1480 1280 1080 970

EXTENDED HALFWAY 6410 5200 3910 2880 1860 1560 1210 970 770 660

TO MINIMUM 6390 4770 3190 2130 1330 1070 720 440

BOOM SECTION 1+2+3+4+5+6

WORKING RADIUS (ft.) 26 33 39 46 53 59 65 71.9

RATED LOAD (lbs) OUTRIGGERS MAXIMUM 4750 3690 2880 2170 1810 1410 1000 630

EXTENDED HALFWAY 4750 3690 2880 2010 1290 810 510

TO MINIMUM 4750 3460 2440 1570 960 550

RATED LOADS

BOOM SECTION 1

WORKING RADIUS (ft.) 8 9.8 10 11 13 14 15

RATED LOAD (lbs) OUTRIGGERS MAXIMUM 11330 11330 11330 11330 11330 11330 11330

EXTENDED HALFWAY 11330 11330 11330 11330 11330 11330 11330

TO MINIMUM 11330 11330 11330 11330 11330 11330 11330

BOOM SECTION 1+2

WORKING RADIUS (ft.) 8 9.8 11 13 14 17 20 23 26.5

RATED LOAD (lbs) OUTRIGGERS MAXIMUM 11330 11330 11330 11330 11330 11330 9490 7550 4930

EXTENDED HALFWAY 11330 11330 11330 11330 11330 11330 8610 6670 4270

TO MINIMUM 11330 11330 11330 11330 11330 9500 7080 5350 3500

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BOOM SECTION 1+2+3+4

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EXTENDED HALFWAY 8650 7470 6580 5670 3670 2860 2290 1800 1510 1190

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BOOM SECTION 1+2+3+4+5

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EXTENDED HALFWAY 6410 5200 3910 2880 1860 1560 1210 970 770 660

TO MINIMUM 6390 4770 3190 2130 1330 1070 720 440

BOOM SECTION 1+2+3+4+5+6

WORKING RADIUS (ft.) 26 33 39 46 53 59 65 71.9

RATED LOAD (lbs) OUTRIGGERS MAXIMUM 4750 3690 2880 2170 1810 1410 1000 630

EXTENDED HALFWAY 4750 3690 2880 2010 1290 810 510

TO MINIMUM 4750 3460 2440 1570 960 550

Jib Rated Load Charts

NOT-EXT Outriggers

Jib Stage 1

Tilt Angle

0° 20° 40° 60°

80° 2310 1980 1650 1450

70° 2310 1980 1650 1450

60° 1650 1430 1270 1160

50° 770 700 590

40°

30°

20°

10°

0°

Prohibited Zone

NOT-EXT Outriggers

Jib Stage 2

Tilt Angle

0° 20° 40° 60°

80° 2310 1490 990 770

70° 2310 1490 990 770

60° 1430 1050 720 610

50° 660 550 550

40°

30°

20°

10°

0°

Prohibited Zone

HALF-EXT Outriggers

Jib Stage 1

Tilt Angle

0° 20° 40° 60°

80° 2310 1980 1650 1450

70° 2310 1980 1650 1450

60° 2200 1650 1270 1160

50° 1030 990 990

40° 550 550 500

30°

20°

10°

0°

Prohibited Zone

HALF-EXT Outriggers

Jib Stage 2

Tilt Angle

0° 20° 40° 60°

80° 2310 1490 990 770

70° 2310 1490 990 770

60° 1650 1050 720 610

50° 880 720 550

40° 390 390 390

30°

20°

10°

0°

Prohibited Zone

MAX-EXT Outriggers

Jib Stage 1

Tilt Angle

0° 20° 40° 60°

80° 2310 1980 1650 1450

70° 2310 1980 1650 1450

60° 2200 1650 1270 1160

50° 1650 1250 990

40° 720 660 550

30°

20°

10°

0°

Prohibited Zone

MAX-EXT Outriggers

Jib Stage 2

Tilt Angle

0° 20° 40° 60°

80° 2310 1490 990 770

70° 2310 1490 990 770

60° 1800 1050 720 610

50° 1250 720 550

40° 550 480 440

30°

20°

10°

0°

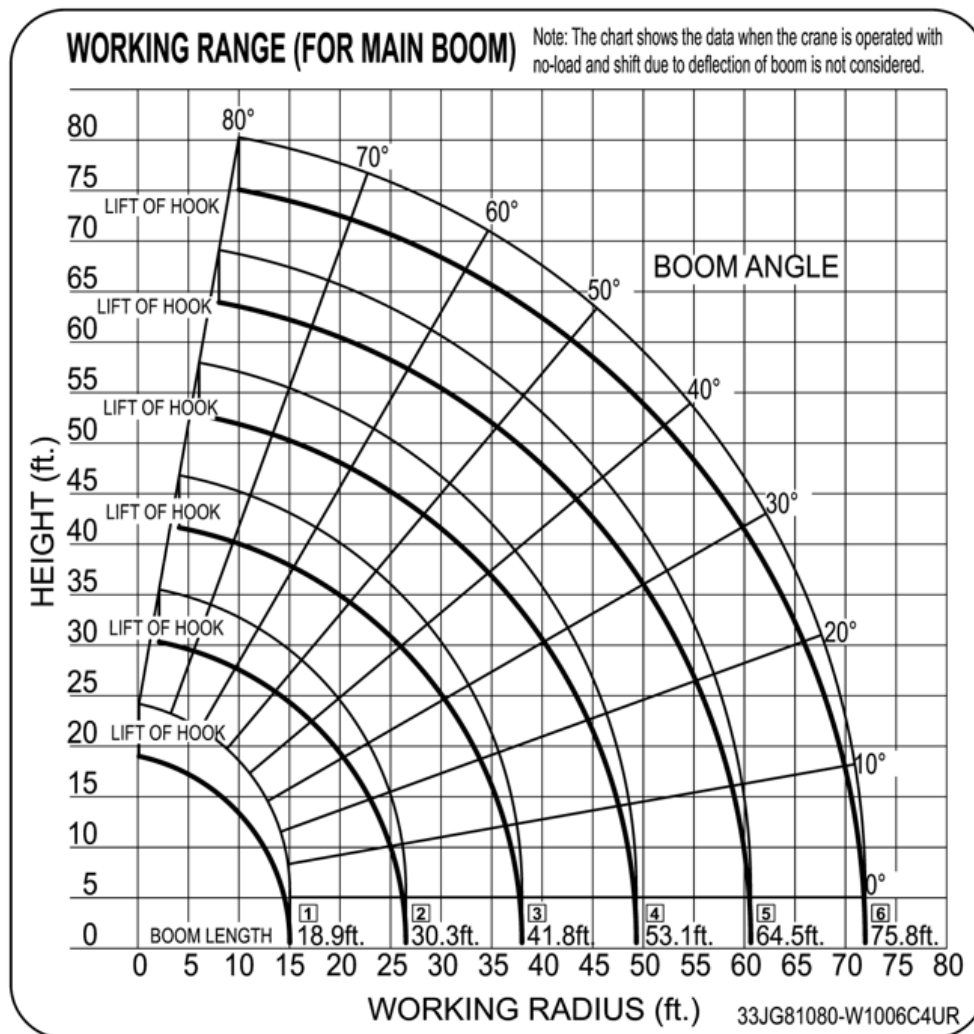
Prohibited Zone

Pick & Carry Rated Load Chart

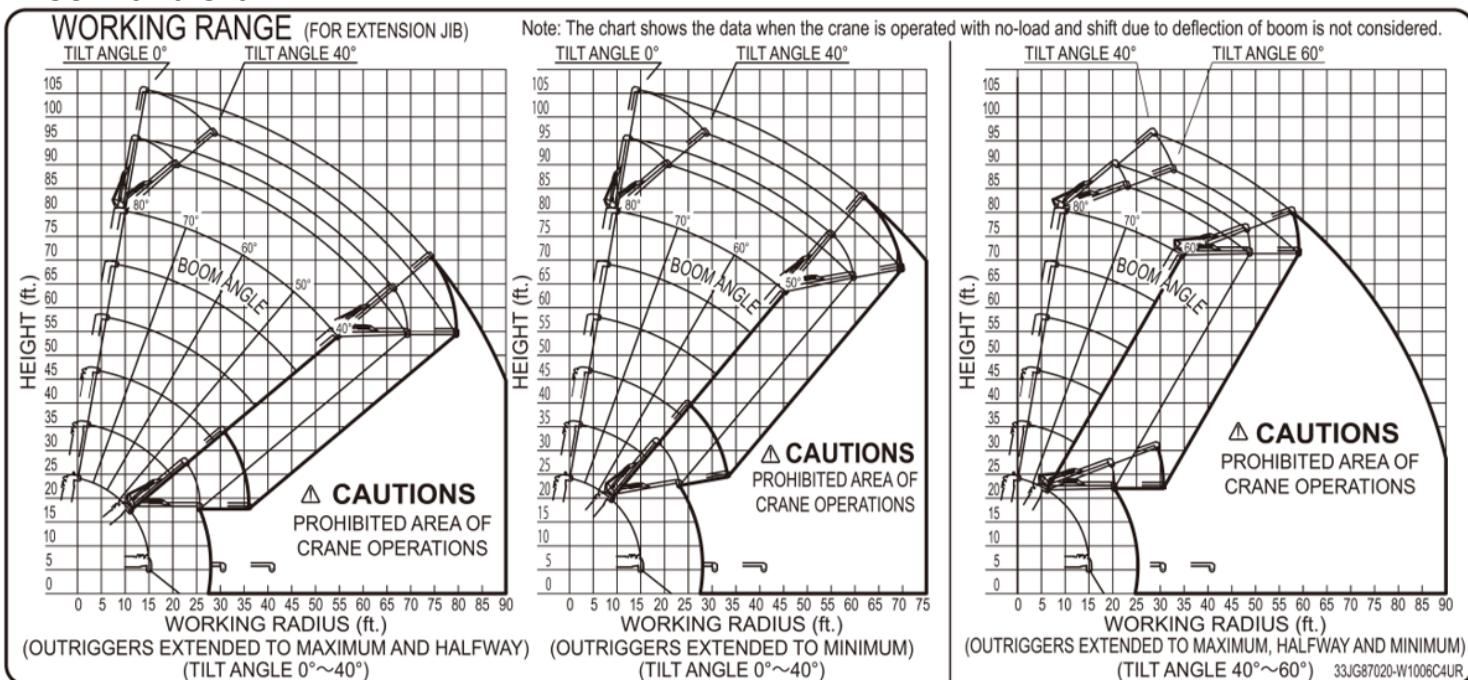
	Outriggers Deployed (but off the ground)	Outriggers Stored
Rated Load Capacity	3300 lbs.	1650 lbs.
MAXIMUM Working Radius	8.2 ft.	8.2 ft.
Boom Stages	Stage 1 and 2	Stage 1 and 2

Working Range Diagrams

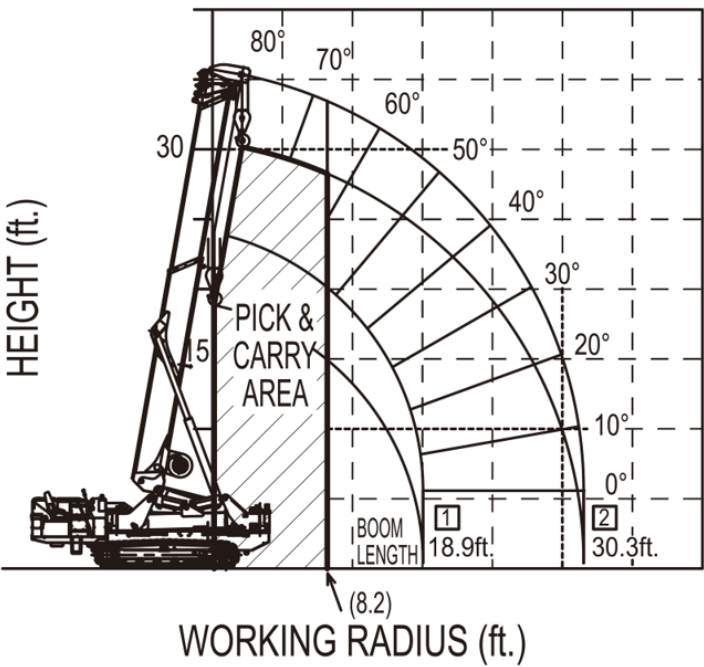
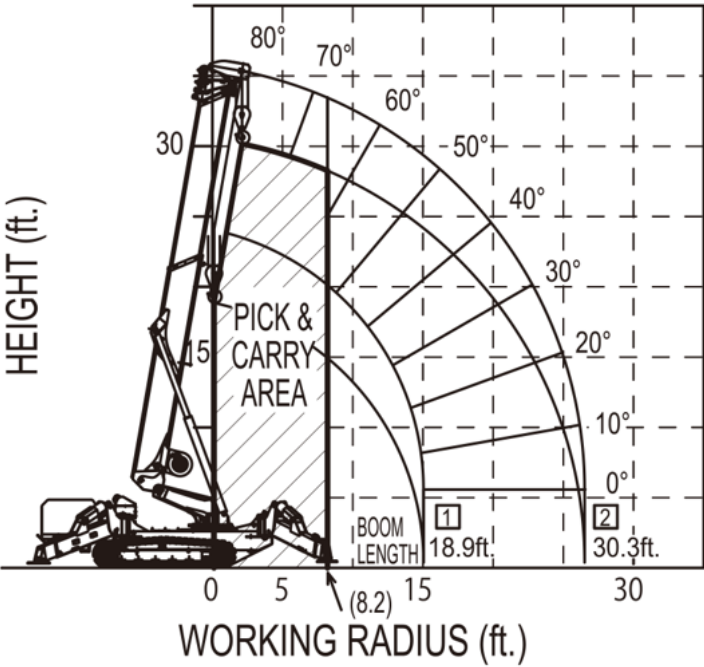
Boom Only



Boom and Jib



Pick & Carry, Outriggers DEPLOYED and STORED



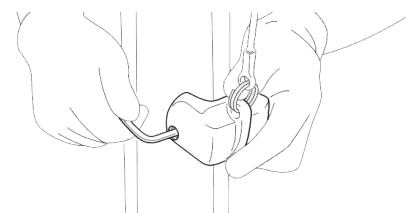
Procedure: Remove the 4-Part Hook Block

1. Ground the Hook Block

- Place the boom over-the-front or over-the-side at approximately 10°
- WINCH DOWN until the hook block is ALMOST on the ground
- BOOM DOWN to ground the block and lower the boom tip to a comfortable working height

2. Release the A2B Weight

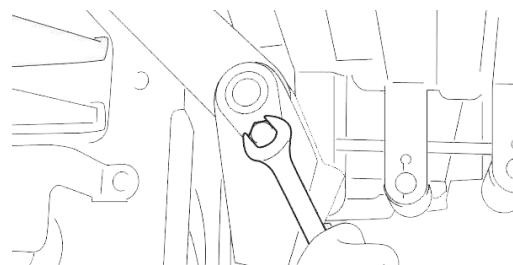
- Use a 5mm Allen wrench to remove the **A2B Weight** pin and roller to release the wire rope
- Re-install the pin and roller



Release the A2B Weight

3. Dismount the Wire Rope Socket

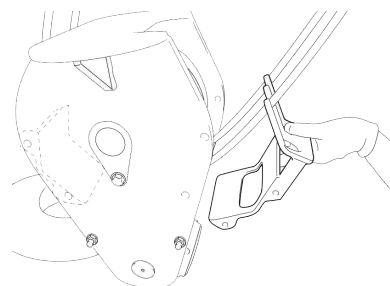
- Use a 19mm wrench to remove the **Wire Rope Socket Pin Bolt**
- Pull out the **Wire Rope Socket Pin** to dismount the Wire Rope Socket



Dismount the Wire Rope Socket

4. Remove Hook Block Wire Rope Guides

- Use a 17mm wrench to remove the eight bolts and washers securing the **Hook Block Wire Rope Guides**
- Pull the released guides off the block and set aside



Remove Hook Block Wire Rope Guides

5. Release the Boom Tip Wire Rope Guides

- Un-clip, then remove the **Large Wire Rope Guide Pin**
- Reach into the Boom Tip and un-clip, then remove the **LEFT SHEAVE Wire Rope Guide Pin**

6. Un-Reeve the Hook Block

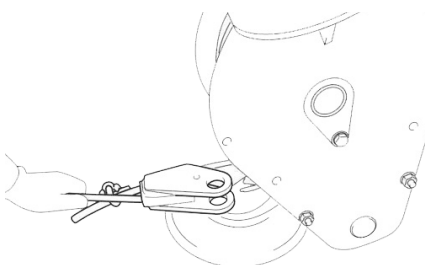
- Pull the Wire Rope Socket through the hook block to un-reeve the **LEFT Hook Block Sheave**
- Reach into the Boom Tip and rotate the **Left Wire Rope Guide** to open a gap above the guide, then un-reeve the **Left Boom Tip Sheave**
- Pull the Wire Rope Socket through the Boom Tip and Hook Block until it is hanging over the Right Boom Tip Sheave



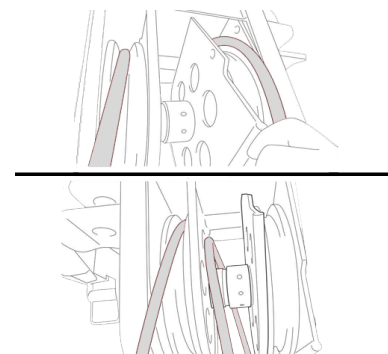
Release Boom Tip Wire Rope Guides

7. Install the Wire Rope Guides

- Re-install the Hook Block Wire Rope Guides and Left Sheave Wire Rope Guide



Un-Reeve the Hook Block

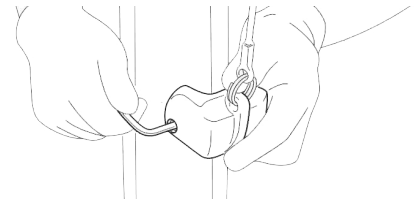


Un-Reeve the Left Boom Tip Sheave

Procedure: Install the 1-Part Hook Block (Boom)

1. Install the A2B Weight to the Wire Rope

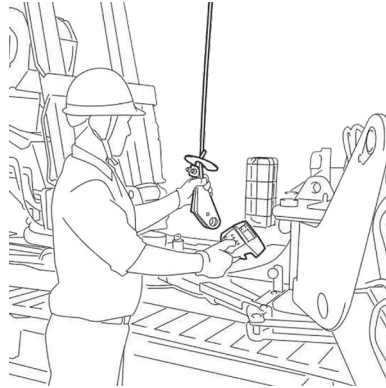
- Use a 5mm Allen wrench to remove the roller and pin from the **A2B Weight**, then re-install around the wire rope



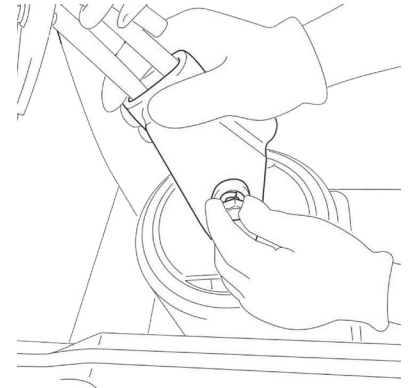
Install the A2B Weight

2. Position the Wire Rope Socket

- With the **Wire Rope Socket** dismounted and hanging off the **RIGHT Boom Tip Sheave**, **BOOM UP** and **BOOM OUT** to lift the socket off the ground (**WITHOUT WINCHING UP**)
- Maneuver the un-grounded Wire Rope Socket onto the **STORED 1-Part Hook Block**



Position the Wire Rope Socket



Install the 1-Part Hook Block

3. Install the 1-Part Hook Block

- Place the Wire Rope Socket onto the **Socket Tab** on the top of the 1-Part Hook Block, then attach the two with the Wire Rope Socket Pin
- Use a 19mm wrench to install the Wire Rope Socket Pin Bolt to fasten

4. Deploy the 1-Part Hook Block

- WINCH UP** to pull the 1-Part Hook Block out of its Storage Basket

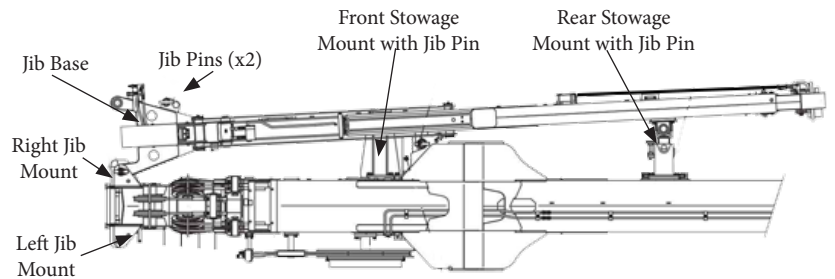
Procedure: Install the Jib

1. Position the Boom

- Ensure that the boom is fully retracted and lowered to **BA00°**

2. Install the RIGHT Jib Mount

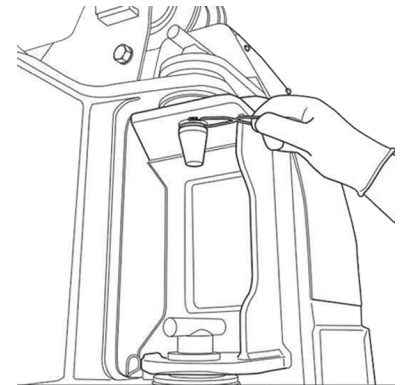
- Un-clip and remove the **Jib Pin** from the **Rear Jib Stowage Mount**
- Pivot the stowed jib on the **Front Jib Stowage Mount** and line up the **RIGHT SIDE** of the **Jib Base** with the **Right Jib Mount**
- Insert and clip the removed Jib Pin through the **BOTTOM Jib Mount Hole**
- Remove the Jib Pin from the Front Jib Stowage Mount and insert it through the **TOP Jib Mount Hole**



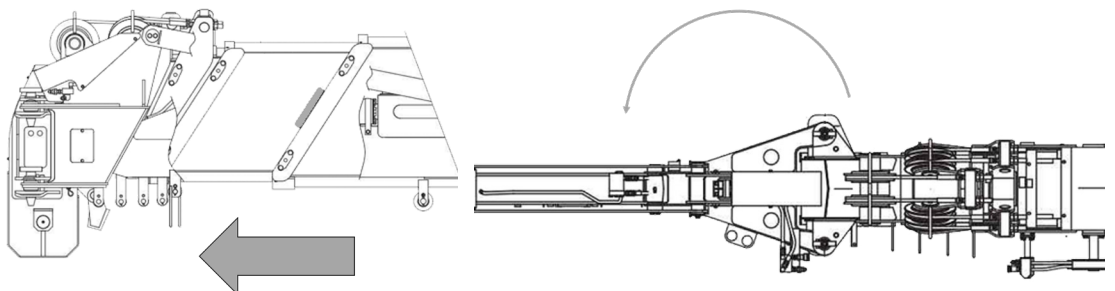
The STOWED Jib, seen from above

3. Install the LEFT Jib Mount

- BOOM OUT** until the **Jib Installed Decal** on Boom Section 1 is visible
- Swing the jib into the **LEFT Jib Mount**, then install the Jib Pins stored on the left side of the jib to secure the **Jib Base** to the Mount



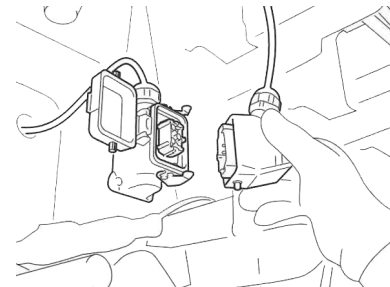
Install the RIGHT Jib Mount



Install the LEFT Jib Mount

4. Connect the Jib A2B Switch

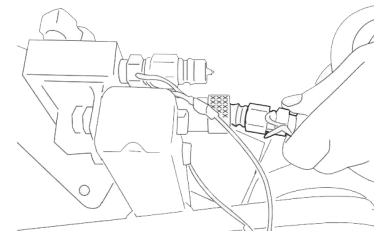
- Remove the **Jib A2B Connector** from its storage bracket
- Plug the connector into the **A2B Socket**



Connect the Jib A2B Switch

5. Connect the Jib Hydraulics

- Remove the **Hydraulic Hose Retention Pin** to release the hoses
- Reeve both hydraulic hoses through the hose reeving rollers on the boom
- Connect the hoses to the Hydraulic Hose Connectors on the side of the jib



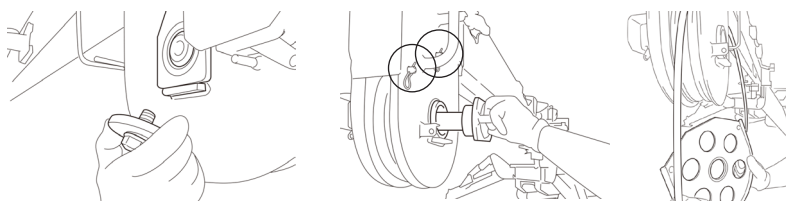
Connect the Jib Hydraulics

6. (Optional) Set the Jib Length

- Un-clip and remove the **Jib Extension Pin**, pull the **Jib Extension** OUT using the grab handles at the Jib Tip, then install and clip the extension pin

7. Reeve the Jib (1-Part Hook Block)

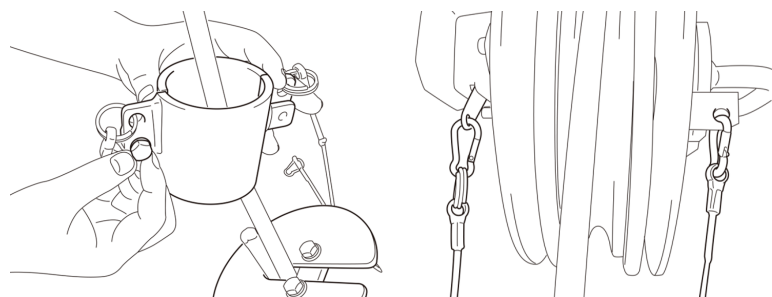
- Use a 24mm wrench to remove the **Sheave Pin Bolt** then remove the **Sheave Pin**
- Un-clip and remove the two **Wire Rope Guide Plate Pins**
- Push the **LEFT Wire Rope Guide Plate** off the **Sheave Pin Axle** and lower it out of the Jib Tip
- Reeve the **Wire Rope Socket** through the wire rope guides on the bottom of the Jib, then loop the wire rope over the **Jib Sheave**
- Install the Left Wire Rope Guide Plate and the Wire Rope Guide Plate Pins



Reeve the Jib

8. Install the Jib A2B Weight

- Retrieve the **Jib A2B Weight** from the **Storage Box**
- Clip the A2B Weight to Jib Tip and **Jib A2B Switch**
- Assemble the two halves of the weight around the wire rope



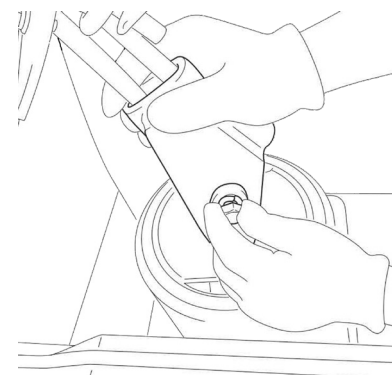
Install the Jib A2B Weight

9. Position the Wire Rope Socket

- Un-ground and maneuver the **Wire Rope Socket** onto the **STORED 1-Part Hook Block**

10. Install the 1-Part Hook Block

- Place the Wire Rope Socket onto the **Socket Tab** on the top of the 1-Part Hook Block, then attach the two with the **Wire Rope Socket Pin**
- Use a 19mm wrench to install the **Wire Rope Socket Pin Bolt** to fasten the Wire Rope Socket Pin



Install the 1-Part Hook Block

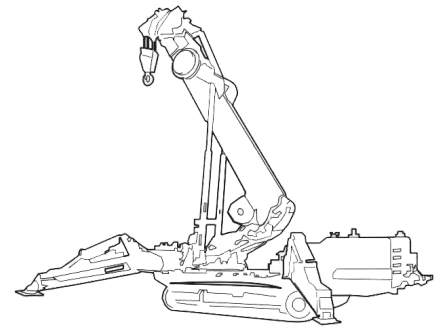
11. Deploy the 1-Part Hook Block

- WINCH UP to pull the 1-Part Hook Block out of its Storage Basket

Procedure: Configure for Pick and Carry

1. Maneuver the Upperworks

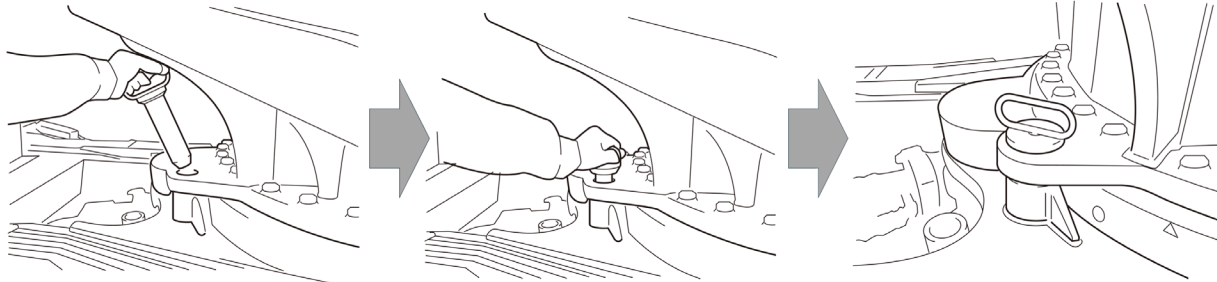
- Raise the boom to 50° and fully retracted
- SLEW the boom until it is centered between Outriggers #2 and #3



Maneuver the Upperworks

2. Lock the Slew Gear

- Make VERY SMALL SLEW corrections to line-up the **Carrier-Side Lock Pinhole** with the **Turret-Side Lock Pinhole**
- Pull the **Slew Gear Lock Pin** from its **Stowage Ring** and insert it through the pinholes



Lock the Slew Gear

3. Confirm PC Mode

- BOOM UP until the indicated working radius is LESS THAN 8.6'
- Confirm that the **PC Mode Lamp** turns ON and the LMI displays **Duty Code 41 (Pick-and-Carry)**

4. Retract the Outriggers

- Place the SPYDERCRANE into **Outrigger Mode**
- Vertically RETRACT all four outriggers until they are high enough to clear any obstacles
- Place the SPYDERCRANE into **Crane Mode**

5. Switch Between Pick and Carry Operations

- Use the **Crane/Travel Switch** to switch between **Crane** and **Travel Mode**, as needed