



TRIPLE BARREL TAGLINE

MAINTENANCE AND OPERATION MANUAL



A LEADER IN RESEARCH, TECHNOLOGY & INNOVATION DRIVING YOUR BUSINESS FORWARD

This product is manufactured, sold, and serviced by IPS CRANES. We work with our customers to create the best products for the job that are smarter, safer, and more efficient with a lower environmental impact.

IPS CRANES offers the parts for your equipment needs to maximize your uptime, including aftermarket parts for existing taglines. Our professional engineers and seasoned sales team can help you troubleshoot and find solutions while saving you money. IPS also offers 24/7 on- and off-site service and support, and free technical support over the phone. For all parts needs, service, or operation questions, please contact IPS CRANES.



OUR PROMISE TO YOU

- INDUSTRY LEADING INNOVATION
- EASE OF OPERATION & MAINTENANCE
- BEST IN CUSTOMER SERVICE
- IMPROVED SAFETY

OUR FAMILY OF BRANDS INCLUDES



IPS CRANES is a certified women-owned business

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TRIPLE BARREL TAGLINE

ADVANTAGES

Taglines provide constant, positive tension on the clamshell bucket to hold it steady while it is suspended in the air, regardless of boom angle. The IPS CRANES Triple Barrel Tagline is fully automatic after installation and functions in conjunction with boom operation.

ASSEMBLY

IPS makes it easy! The IPS CRANES Triple Barrel Tagline is shipped full assembled and consists of a drum, cable, spring-loaded cylinders, and a fairlead. Once received, the unit is ready to us on all lattice boom cranes.

FIGURE A.

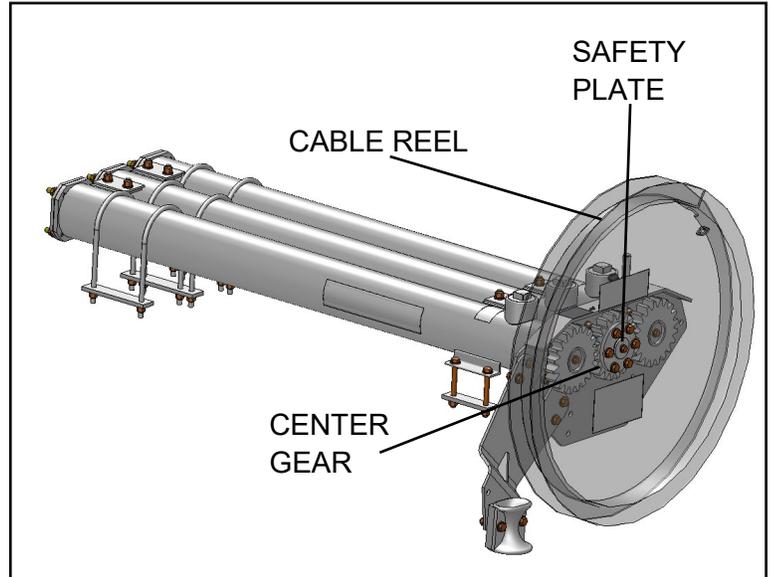
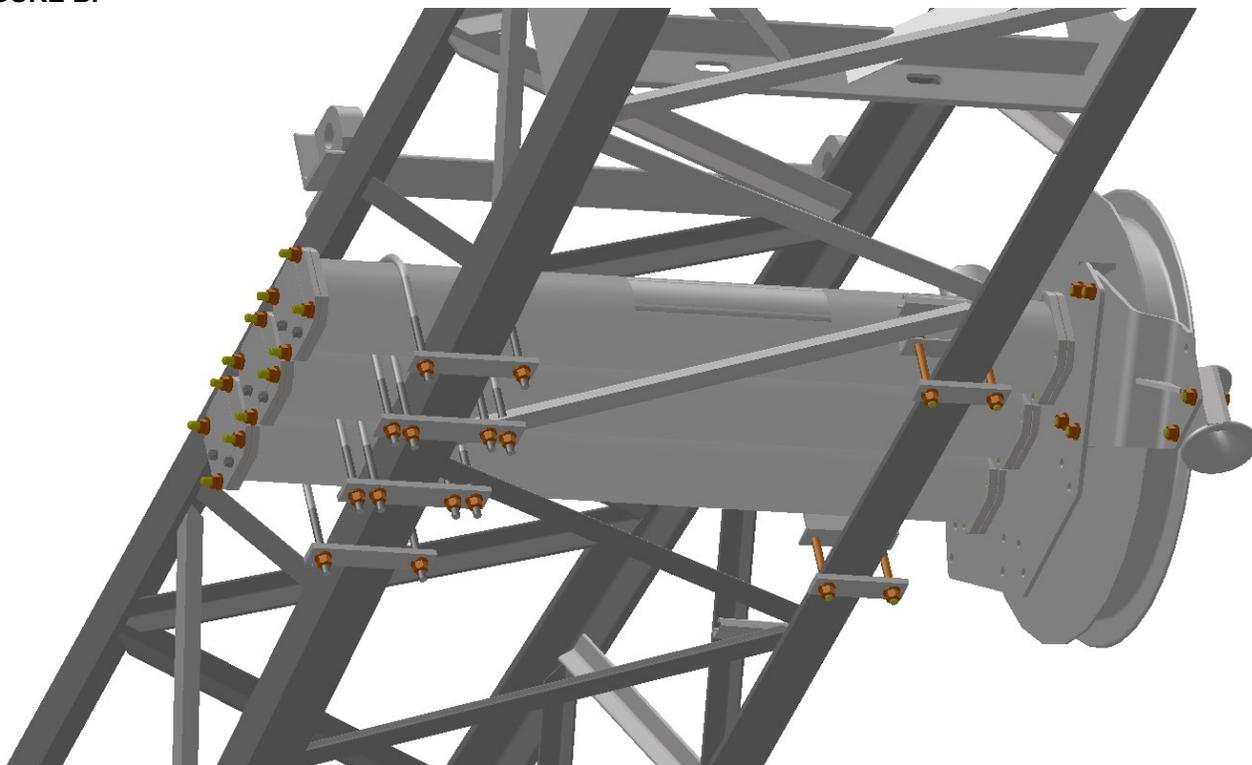


FIGURE B.

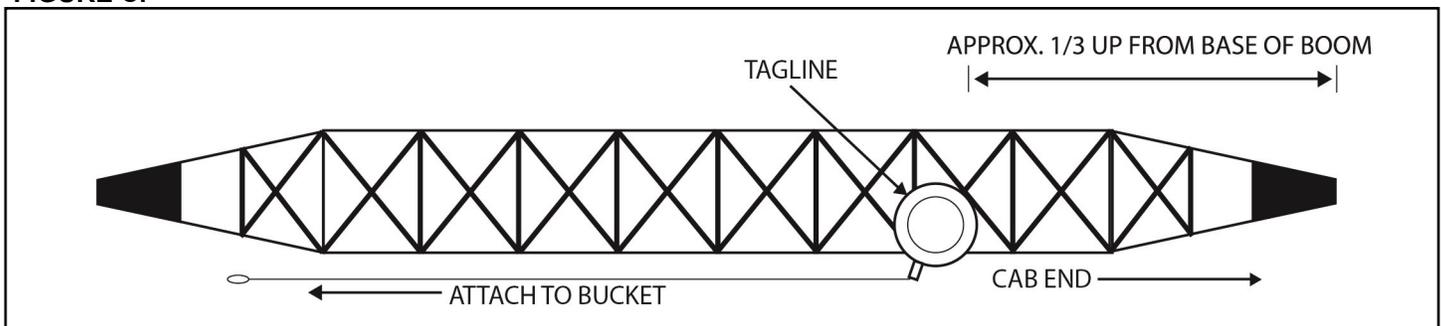


Mount the tagline with the cable reel on either side of the boom or within the structure itself. Mounting the tagline within the boom structure is dependent on the size of the cable reel and the inside diameter of the boom.

IMPORTANT: ALWAYS INSTALL THE TAGLINE ON THE OPPOSITE SIDE OF THE OPERATOR'S CAB.

When mounting the cable reel outside of the boom, mount it approximately 1/3 of the way up from the base of the boom (Figure C). Set in position between the upper and lower lacings (Figure B). The tagline will mount with the cable reel on either side of the boom. Materials for securing the tagline to the boom—U-bolts with plates, nuts, and lock washers—are included with the tagline. In-depth instructions for installing the tagline on the left and right sides of the boom are described below.

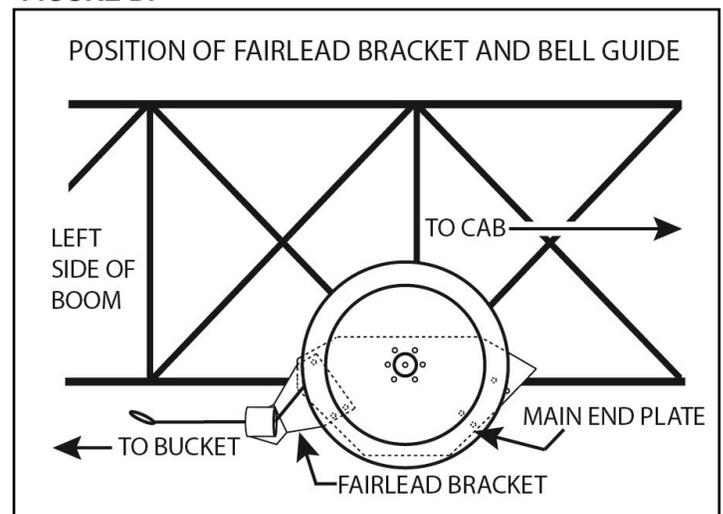
FIGURE C.



MOUNTING THE CABLE REEL ON THE LEFT SIDE OF THE BOOM

To mount the cable reel on the left side of the boom, lower the crane boom and bucket to ground level. Secure the unit so that the center edge of the main end plate near the perimeter of the cable reel is on the ground side and parallel to the horizontal running edge of the lowered boom structure. The fairlead bolts to the main end plate and points in the direction of the bucket (upper boom end). Secure the fairlead with the four cap screws. The three bolt holes at the opposite end of the fairlead provide a choice of two positions for attaching the cable guide. Use the position that permits the cable to travel smoothly through the guide to the bucket.

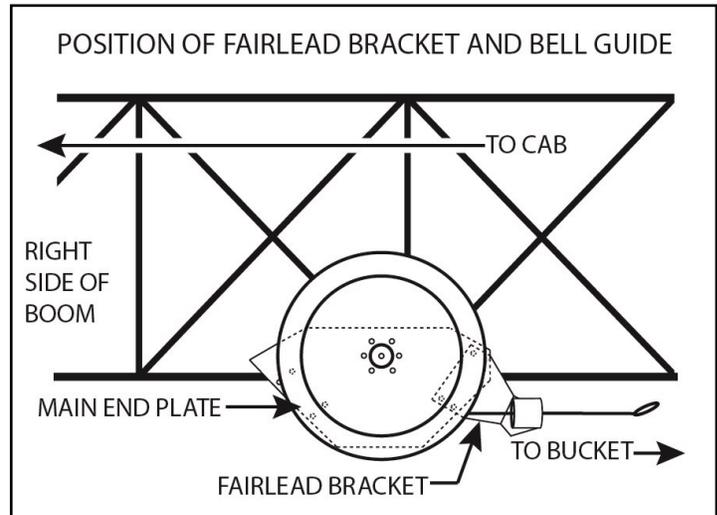
FIGURE D.



MOUNTING THE CABLE REEL ON THE RIGHT SIDE OF THE BOOM

To mount the cable reel on the right side of the boom, lower the crane boom and bucket to ground level. The cable will have to be directed around the reel and back out the underside toward the bucket. Secure the unit to the boom so that the center edge of the main end plate near the perimeter of the cable reel is on the ground side and parallel to the horizontal running edge of the lowered boom structure. The fairlead bolts to the main end plate and points in the direction of the bucket (upper boom end). Secure the fairlead with the four cap screws provided. The three bolt holes at the opposite end of the fairlead provide a choice of two positions for attaching the cable guide. Use the position that allows the cable to travel back and forth smoothly through the guide to the bucket.

FIGURE E.



SECURING THE CABLE TO THE BUCKET WITH THE TAGLINE MOUNTED OUTSIDE THE BOOM

When the tagline is mounted on the boom (either side), the cable remains hooked in the original position on the reel. Instructions for securing the cable to the bucket are specific to the model and are included below. Reference the set of instructions that pertains to the model of your tagline.

MODELS 3402 AND 3403

When IPS CRANES Triple Barrel Tagline models 3402 and 3403 are mounted outside of the boom, follow the instructions below to secure the cable to the bucket.

CAUTION: USE TWO PEOPLE TO PERFORM THESE STEPS IF MORE THAN THREE REVOLUTIONS OF INITIAL TENSION IS REQUIRED. ENSURE THE DOG RATCHET IS ENGAGED IN THE GEAR.

1. Engage the dog ratchet by turning the reel enough to drop it into place in the gear mechanism.
2. Rotate the reel counterclockwise a minimum of three complete revolutions from the neutral position.
3. Unhook the cable from the reel and pass it through the cable guide.
4. Pull the cable out along the lowered boom, and attach the cable end to the bucket.
5. Disengage the dog ratchet by turning the reel counterclockwise enough to release it from the gear mechanism. The tagline is now functional and ready for pre-operation testing.

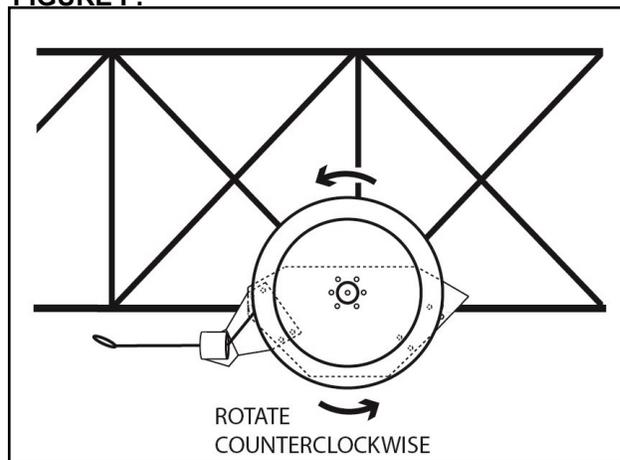
MODELS 3553 AND 3554

When IPS CRANES Triple Barrel Tagline models 3553 and 3554 are mounted outside of the boom, follow the instructions below to secure the cable to the bucket.

CAUTION: USE TWO PEOPLE TO PULL OUT THE CABLE AND ATTACH IT TO THE BUCKET IF THE REEL HAS BEEN TURNED MORE THAN SIX REVOLUTIONS.

1. Engage the dog ratchet by turning the reel enough to drop it into place in the gear mechanism.
2. Rotate the reel counterclockwise a minimum of six complete revolutions from the neutral position (Figure F).
3. Unhook the cable from the reel and pass it through the cable guide.
4. Pull the cable out along the lowered boom and attach the cable end to the bucket.
5. Disengage the dog ratchet by turning the reel counterclockwise enough to release it from the gear mechanism. The tagline is now functional and ready for pre-operation testing.

FIGURE F.



MOUNTING THE CABLE REEL INSIDE THE BOOM

Installing the entire triple barrel tagline within the boom structure is limited to booms with large interior diameters. If you are unsure whether your tagline model will fit inside your crane's boom, please contact IPS CRANES before proceeding with the installation.

There is no preferred method to secure the tagline to the boom. Several workable methods may be improvised depending on the type of boom in operation. In the majority of installations, supports are installed across the boom with the tagline housing bolted or welded to these supports.

Install the unit within the lower third of the boom with the small end plate pointing toward the cab and so that the tagline housing is parallel to the angle of the boom height. The exterior flat side of the cable reel is on the ground side and parallel to the horizontal lacing across the boom. The fairlead bolts to the main end plate with the four cap screws provided. There are multiple configurations to mount the fairlead to the fairlead arm and the fairlead arm to the main end plate. Three bolt holes provide a choice of two positions for attaching the guide to the fairlead, or the guide may be attached to the side of the boom. Line up the tagline, fairlead, and guide in the position that allows the cable to travel back and forth smoothly through the guide.

SECURING THE CABLE TO THE BUCKET WITH THE TAGLINE MOUNTED INSIDE THE BOOM

When the tagline is mounted inside of the boom, the cable remains hooked in the original position on the reel. Instructions for securing the cable to the bucket are specific to the model of the tagline and are included below. Reference the set of instructions that pertains to the model of your tagline.

MODELS 3402 AND 3403

When IPS CRANES tagline models 3402 and 3403 are mounted inside of the boom, follow the instructions below to secure the cable to the bucket. Use two people to do this.

1. Engage the dog ratchet by turning the reel enough to drop it into place in the gear mechanism.
2. Rotate the reel counterclockwise a minimum of three complete revolutions from the neutral position (no tension).
3. Unhook the cable from the reel and pass it through the guide.
4. Pull the cable out along the lowered boom, and attach the cable end to the bucket.
5. Release the dog ratchet by turning the reel counterclockwise enough to release it from the gear mechanism. The tagline is now functional and ready for pre-operation testing.

MODELS 3553 AND 3554

When IPS CRANES tagline models 3553 and 3554 are mounted inside of the boom, follow the instructions below to secure the cable to the bucket. Use two people to do this.

1. Engage the dog ratchet. Turn the reel enough to drop the ratchet into place in the gear mechanism.
2. Rotate the reel counterclockwise a minimum of six complete revolutions from the neutral position (no tension).
3. Unhook the cable from the reel and pass it through the guide.
4. Pull the cable out along the lowered boom, and attach the cable end to the bucket.
5. Release the dog ratchet by turning the reel counterclockwise enough to release it from the gear mechanism. The unit is now functional and ready for pre-operation testing.

Performing the pre-operation test before using the tagline at a job site ensures that it will function properly. Reference the instructions below to perform the test.

PRE-OPERATION TEST INSTRUCTIONS

During the pre-operation test, observe the tagline to confirm that the crane hoisting and closing lines do not twist enough to cross over and foul operations. Reference the steps below to perform the test.

1. Position the crane boom over the ground at approximately 35 degrees.
2. Raise the clamshell bucket to maximum height.
3. Drop the bucket to the ground in a fully open position.
4. Load and close the bucket.
5. Raise the bucket at least 15 feet while swinging it through a 45-degree arc.
6. Drop the load and return the bucket to its original position.
7. If the tagline and bucket function smoothly and without hindrance, the unit is ready for work. If the hoisting and closing lines twist, additional tension is required. Reference the instructions below to add tension.

ADDING TENSION

If the tagline fails the pre-operation test, additional tension is required. Reference the instructions below to add tension.

CAUTION: THE REEL MUST BE HELD IN A STATIONARY POSITION WHILE THE CABLE IS WOUND AROUND IT. THE DOG RATCHET IN GEAR ACCOMPLISHES THIS, BUT THE REEL MAY ALSO BE HELD IN A STATIONARY POSITION BY HAND.

1. Lower the boom to ground level.
2. Engage the dog ratchet by turning the reel enough to drop it into place in gear.
3. Using two people, turn the cable reel counterclockwise and release enough slack in the cable to allow one additional turn of cable around the reel.
4. After completing an additional turn around the reel, disengage the gear mechanism by turning the reel counterclockwise enough to release the dog ratchet.
5. Repeat the pre-operation test.

This section provides safety and maintenance information under normal operating conditions. Be sure to reference this section to ensure safe operation and function of the tagline.

DISENGAGING THE CABLE FROM THE BUCKET AND OTHER LOADS

Follow the steps below when disengaging the cable from the bucket and other loads. Use two people to do this.

1. Lower the bucket to ground level.
2. Engage the dog ratchet.
3. While wearing protective gloves, one person unhooks the cable end and grasps the cable firmly with both hands.
4. The other person disengages the dog ratchet and stands by the reel ready to re-engage the dog ratchet should the other person lose grip on the cable.
5. The first person slowly walks in the cable as it winds around the reel.

IMPORTANT: IF THE TENSION REMAINING ON THE SPRING INSIDE THE HOUSING IS MORE THAN SIX REVOLUTIONS OF THE CABLE REEL, OR IF IN DOUBT ABOUT HOW MUCH TENSION REMAINS ON THE SPRING, USE THREE PEOPLE TO DISENGAGE THE CABLE FROM THE LOAD. ONE PERSON DISENGAGES THE DOG RATCHET AND STANDS BY THE REEL WHILE THE OTHER TWO PEOPLE (WHILE WEARING PROTECTIVE GLOVES) WALK IN THE CABLE. RE-ENGAGE THE DOG RATCHET AFTER THE CABLE IS WOUND UP ON THE REEL.

INSPECTION FOR WEAR OR DAMAGE

Inspect the cable guide and the cable itself for routine wear. Replacing worn parts ensures the safe operation of the tagline. If the cable has visibly frayed ends or shows any other signs of wear, replace it. Replace the guide if a pronounced groove is apparent. Call IPS CRANES with any parts needs, and be sure to have the model and serial number for your tagline handy to ensure timely service.

STORING THE TAGLINE

It is not necessary to drain oil from the tagline housing for brief periods of inactivity. However, if the tagline is going to be inactive for a long period of time, lubrication oil should be drained from the housing.

To drain:

1. Remove the drain plugs on the end plate.
2. Tilt the unit to drain any oil still left in the barrel.
3. Replace the drain plug.

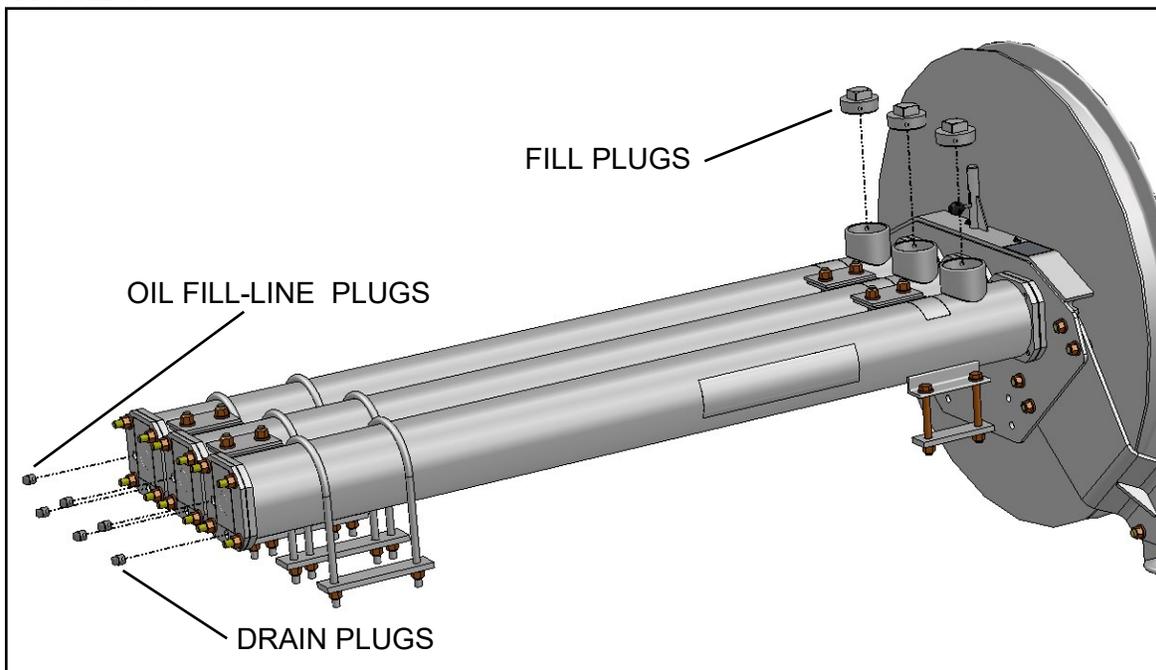
CAUTION: ALWAYS STORE THE TAGLINE IN A HORIZONTAL POSITION TO PREVENT OIL FROM LEAKING THROUGH THE OIL SEAL.

TAGLINE LUBRICATION

The tagline should be lubricated quarterly, and before starting a new job, using SAE 90 heavy oil. Lubrication instructions can be found below and on the decal posted on the tagline barrel. Reference Figure G.

1. Remove the 3-inch oil fill plug on the barrel near the cable reel and the 1/2-inch oil fill-line plugs on the end plate.
2. Add oil per the decal guide located on the tagline housing until the oil level lines up with the plug holes on the end plate. Do not fill past the oil fill-line holes.
3. Replace the plugs when finished.

FIGURE G.



After some time, parts of the tagline may become worn and will require replacement. This section describes the necessary steps to release spring tension so that the tagline can be safely disassembled. Use whichever method best suits the type of mount and the condition of the unit.

CAUTION: ALL TENSION MUST BE RELEASED FROM THE COIL SPRINGS INSIDE ALL THREE TAGLINE BARRELS BEFORE THE TAGLINE CAN BE DISASSEMBLED. SEE THE INSTRUCTIONS BELOW ON HOW TO PROPERLY RELEASE SPRING TENSION.

METHOD 1: RELEASING SPRING TENSION WITH THE CABLE REMAINING ON THE REEL

Reference the instructions below to release spring tension with the cable remaining on the reel. Use two people to do this.

CAUTION: THIS METHOD IS NOT RECOMMENDED WHEN THE TAGLINE IS MOUNTED INSIDE OF THE BOOM.

1. Lower the boom to ground level.
2. While the tagline is still hooked to the bucket, the first person holds the reel in place while the second person removes one loop of cable from the reel.
3. Then, the first person turns the reel clockwise one revolution to take up the cable slack, reducing tension on the spring by one turn.
4. Repeat until all tension on the springs inside all barrels is released.
5. The tagline is ready for disassembly.

METHOD 2: RELEASING SPRING TENSION WITH THE CABLE REMOVED FROM THE REEL

Reference the instructions below to release spring tension with the cable removed from the reel. Use two people to do this.

CAUTION: BEFORE ATTEMPTING TO REMOVE THE CABLE, THE REEL MUST BE SECURED IN A STATIONARY POSITION. THE CABLE REEL MUST BE IN WORKING CONDITION FOR THIS METHOD.

1. Lower the boom to ground level.
2. Engage the dog ratchet. Turn the reel enough to drop the ratchet into place in the gear mechanism.
3. With the ratchet holding the reel in place, unwind all cable and detach the end from the reel. Completely remove the cable from the area.
4. Disengage the dog ratchet. Turn the reel counterclockwise enough to release the ratchet from the gear mechanism.
5. Permit the reel to spin freely until all tension is released and the reel stops rotating.
6. The tagline is ready for disassembly.

With all tension released from the coil springs, the tagline is ready to be disassembled. The tagline can remain secured to the boom, or it can be removed entirely to be disassembled on a work bench. Removing the tagline may require burning off the U-bolts. When the tagline is remounted, the U-bolts will need to be replaced.

CAUTION: ALL TENSION MUST BE RELEASED FROM THE COIL SPRINGS INSIDE ALL THREE BARRELS BEFORE THE TAGLINE CAN BE DISASSEMBLED. SEE THE INSTRUCTIONS ON PAGE 10 TO PROPERLY RELEASE SPRING TENSION.

TAGLINE DISASSEMBLY

CAUTION: IF DISASSEMBLING ON A SURFACE OTHER THAN THE BOOM, THE TAGLINE MUST BE SECURED WITH C-CLAMPS OR AN EQUIVALENT.

To disassemble the tagline, follow the steps below. To reassemble the tagline, reverse these steps.

1. Remove the cap screw and safety plate.
2. Remove the six cap screws securing the cable reel to the main gear.
3. Remove the cable reel.
4. Remove the center gear and square key.
5. Remove the cap screw and safety plate from both secondary gears.
6. Remove the secondary gears and square key.
7. Remove the twelve hex nuts (there are four on each barrel) that hold the main end plate to the tagline housing.
8. Remove the main end plate.
9. If necessary, dismantle the fairlead bracket from the main end plate.
10. Remove the center left-hand bearing and the two outside right-hand bearings. Each bearing contains a tagline oil seal, an oilite bushing, a shear pin, and a gasket. If the bearing sticks, clean the shaft with an emery stick or file.
11. Remove the shaft with the coupling from each barrel.
12. Remove the end plate, thrust washer, and gasket from each barrel.
13. Remove the tube with the male coupling and propeller from each barrel.
14. Remove the coil springs from either end of the tagline housing.

SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS

IPS CRANES's Triple Barrel Taglines are manufactured in four models to accommodate various sized buckets and booms. Each model is engineered to have sufficient cable pullout with the required positive tension to provide full control of the bucket in operation. Tagline model specifications and manufacturer's recommendations for different buckets and booms are given in below.

Description	Approx. Weight (Pounds)	Barrel Length (Inches)	Recommended Bucket Size (Yards)	Recommended Boom Length (Feet) Application	Cable Pullout From Neutral (Feet)
IPS CRANES Model 3402 Triple Barrel Tagline with 20" Reel	1,174	60	4 to 8	80	90
IPS CRANES Model 3403 Triple Barrel Tagline with 30" Reel	1,211	60	3 to 5	100	125
IPS CRANES Model 3553 Triple Barrel Tagline with 30" Reel	1,382	78	3 to 5	For digging 100 ft below grade	200
IPS CRANES Model 3554 Triple Barrel Tagline with 40" Reel*	1,432	78	4 to 5	For digging 100 ft below grade	259

*This model is available with a heavier coil spring wire for jobs requiring greater tension.

Bucket size: 5 yd. to 10 yd.; medium depth digging to 60 ft. below grade. Cable pullout from neutral: 180 ft.