

LARGE TRACTOR SPLITTING SYSTEM



Product No. AT31000

OPERATING INSTRUCTIONS



Complete Splitting System shown with Attachments

CE COMPLIANT



WARNING: READ INSTRUCTIONS COMPLETELY PRIOR TO USE

INTRODUCTION:

This manual contains information to help you to learn about the safe and proper use of the AT31000 Large Tractor Splitting System. The instructions included in this manual are not necessarily all-inclusive. K-Line® cannot anticipate all conceivable or unique situations. You must make sure all conditions and procedures do not jeopardize your personal safety.

DISCLAIMER: All information, images, and specifications contained in this manual are based on the latest information available at the time of publication. K-Line® reserves the right to make changes at any time without notifying any person or organization of such revisions or changes. K-Line® is not liable for incidental or consequential damages (including lost profits) in connection with the furnishing, performance, or use of this material. If necessary, obtain additional information from the vehicle manufacturer.

SAFETY PRECAUTIONS:

Before using the AT31000 Large Tractor Splitting System, read, understand, and follow the safety precautions and operating instructions outlined in this manual. This equipment must be operated by qualified personnel. The operator must be familiar with the vehicle this tool is being used on

- ☞ If the operator cannot read English, operating instructions and safety precautions must be read and discussed in the operator's native language.
- ☞ Si el operador no puede leer inglés, las instrucciones de operación y las precauciones de seguridad deberán leerse y comentarse en el idioma nativo del operador.
- ☞ Si l'utilisateur ne peut lire l'anglais, les instructions et les consignes de sécurité doivent lui être expliquées dans sa langue maternelle.

SAFETY ICON TERMINOLOGY

The following safety icons can be found within this manual.

Personal Protection/Important Information



Read the Manual



Eye Protection



Ear Protection



Face Protection



Inspect Equipment

Prohibited Action



No Smoking



Do Not Weld

Hazard Avoidance



Crushing Hazard



Crushing Hazard (Foot)



Crushing Hazard (Hand)



Pinch Point



Fire Hazard



Safety Alert Symbol



Slipping Hazard



Tripping Hazard

PERSONAL PROTECTION/IMPORTANT INFORMATION

WARNING



To avoid personal injury or death, carefully read and understand all instructions before attempting to operate any equipment or tools. Do not operate or work on a machine unless you read and understand the instructions and warnings in this and all other applicable manuals.



To prevent possible damage to your hearing, always wear ear protection when working around noise generating tools.



To avoid eye injury, always wear protective glasses or face shield. Make sure no one can be injured by flying objects or debris when using tools or working on a component.



Clean up all leaked or spilled fluids immediately. Oil, fuel, or cleaning fluid leaked or spilled onto any hot surfaces or electrical components can cause a fire, resulting in personal injury or death.



Personal injury can result from slips or falls. DO NOT leave tools or components laying around the work area. Clean up all spilled fluids immediately.

PROHIBITED ACTION



To avoid serious or fatal injury, only use the AT31000 Large Tractor Splitting System for its intended purpose, which is supporting specific tractor sections during removal and installation.



To avoid serious or fatal injury, do not exceed the Working Load Limit (WLL) of 10,000 lbs for any component being supported by the AT31000 Large Tractor Splitting System.

HAZARD AVOIDANCE

WARNING



Inspect prior to each use for dents, cracks, bends, or worn parts. If damage is found, discontinue use until inspected and released by an approved inspector at the dealership.



The complete AT31000 Large Tractor Splitting System weighs approximately 1100 lbs. Personal injury can result from dropped tooling. Use caution when transporting, installing, removing, and storing the tooling.



Personal injury can result from pinch points. Use caution when assembling, installing, and removing the AT31000 Large Tractor Splitting System.



Personal injury or death can result from improper use of this tool and supporting of the vehicle. Make sure the AT31000 Large Tractor Splitting System is securely attached to the vehicle before removing any hardware and splitting the vehicle. Do not work beneath any supported tool.



Potential pinch points. To avoid serious injury, DO NOT place your hand or any part of your body between the AT31000 Large Tractor Splitting System and the tractor components.

WARNING



To avoid damage to the tooling, do not weld on the components. Do not modify the AT31000 Large Tractor Splitting System in any way by welding, heating with a torch, drilling, machining, or grinding.

OBJECTIVE:

The AT31000 Large Tractor Splitting System is designed to be a safe and effective tool for the maintenance, service and repair of midsize to large tractors. Please take a few minutes to review this user's guide in order to familiarize yourself with all of the included components of the Large Tractor Splitting System, Instruction Procedures and Safety Warnings.

⚠️WARNING!: *Potential Crush Hazard! DO NOT work beneath load.*

- ➡ *Be sure load is secure.*
- ➡ *Keep load centered in stand.*
- ➡ *Follow maximum capacity ratings.*

CAUTION: *DO NOT operate/use this splitting system without reading and completely understanding the Owner's and Instruction Manual FIRST!!*

SYSTEM CONTENTS:

PART No.	DESCRIPTION	QTY
AT31001	Fold-Down Splitting Stand	1
AT31002	Stationary Stand	1
AT31003	Counter Balance Stand Assembly	1
AT31004	Side Mounting Plate Attachment (set of 2)	1
AT31005	Jack Plate Attachments (set of 2)	1
AT31006	Euro Cradle Attachment	1
AT31007	Extension Jack Blocks	2
AT31008	Washer	6
AT31009	Jack Block	4
AT31011	Wrench	1
AT31013	Extension Arm	6
AT31015	Horizontal Side Mount Plates (set of 2)	1
AT31016	3" Extension Jack Block	2
AT31017	9" Extension Jack Block	2



⚠️WARNING!: Your Large Tractor Splitting System requires a small amount of assembly before use!!

Your Large Tractor Splitting System was shipped to you with one wheel removed in order to fit into a slightly smaller shipping container and save on shipping costs. This wheel **must** be properly installed before first use in order to prevent personal injury or property damage.

The wheel that was removed came from the AT31001 Fold-Down Splitting Stand. Locate this stand, the wheel, and the included allen wrench. Refer to Figure 1 for proper reassembly.

1. Remove one shaft collar from the axle where the wheel was removed using the included allen wrench.
2. The wheel and washer/spacer must go inbetween the frame rails.
3. Line up the holes in the frame rails, the spacer, and the wheel bearing and insert axle through all of the holes.
4. Re-Install the shaft collar on the axle and tighten using the included allen wrench.
5. Put one to two pumps of grease in the bearing of the wheel after installation.

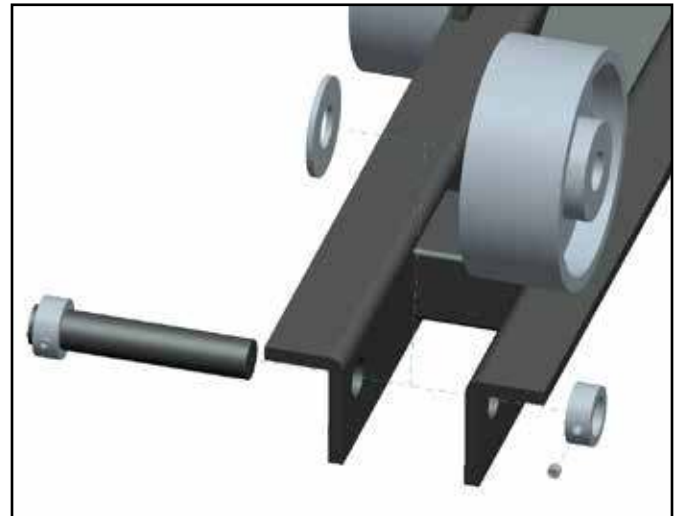


Figure 1

COMPONENTS:

Each complete AT31000 Large Tractor Splitting System kit will contain the following components (all of which can be purchased individually):

AT31001 FOLD-DOWN SPLITTING STAND

This stand can be folded down, by removing the nut from the connection point, allowing easier placement of the stand underneath the middle of the tractor. Full instructions for this procedure can be found later in this manual. The Fold-Down Splitting Stand also contains a drive axle, with a 22mm hex end. This stand also has the 22mm hex drive axle. A wrench, not included in the kit, can be used on this axle to ease movement of the split tractor.



AT31002 STATIONARY STAND

This stand contains spring loaded wheels that allow for easy maneuvering into place, and then retract when loaded to increase stability. This stand also provides clearance to allow the Fold-Down Splitting Stand or the Balance Attachment Stand to be used within inches of the Stationary Stand.



AT31003 COUNTER BALANCE STAND

This stand is designed to be used on its own or with the Fold-Down Splitting Stand, connected via the Connecting Tube included with the Balance Attachment Stand. The two stands, locked together, move as a single unit with the Balance Attachment Stand under the front of the tractor – eliminating the need to remove the front tractor weights.

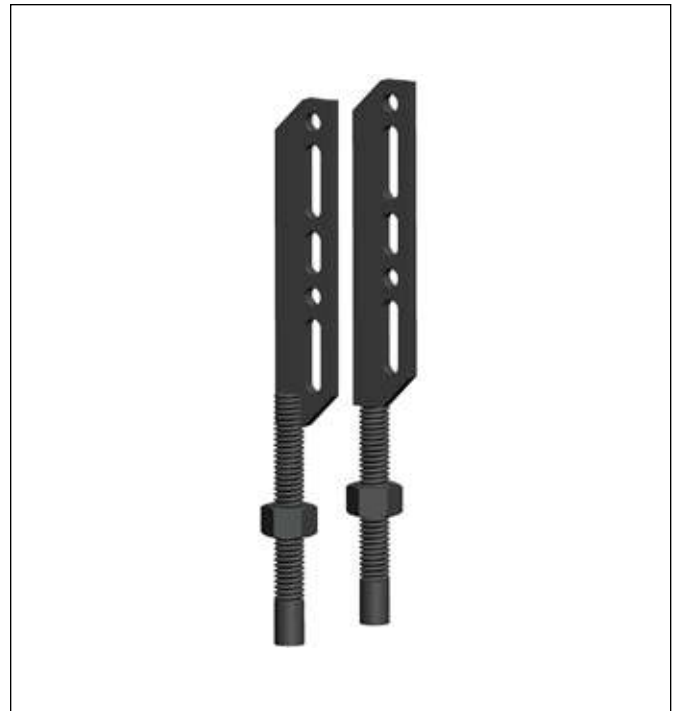


AT31004 SIDE MOUNTING PLATE

ATTACHMENT (2)

These plates are designed to attach to the side of the frame of a majority of tractors. Due to the diversity of hole and thread sizes, the bolts and washers used to secure the Side Plate Attachments to the tractor are not supplied with the kit. These are to be supplied by the service facility working on the tractor.

NOTE: Use high grade bolts (Grade 8 Recommended) and hardened washers to mount the Side Plate Attachments to the tractor.



AT31005 JACK PLATE ATTACHMENT (2)

These Single Plate Attachments can be used as a set or individually (it is recommended to use these as a set to spread the load on the stand). They can be positioned independently, anywhere on the Cradle as necessary for many different loading situations.



AT31006 EURO CRADLE ATTACHMENT

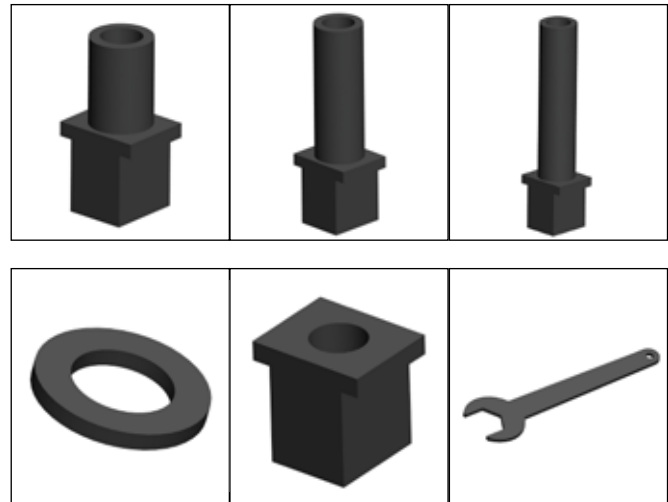
The Euro Cradle Attachment can be placed in several places on the Cradle and can be loaded in many ways. It uses a double bar design that allows it to be bolted to the underside of the frame through the middle of the two bars to provide a secure mount. Due to the diversity of hole and thread sizes, the bolts and washers used to secure the Euro Cradle Attachment to the tractor are not supplied with the kit. These are to be supplied by the service facility working on the tractor.



NOTE: Use high grade bolts (Grade 8 Recommended) and hardened washers to secure the Euro Cradle Attachment to the tractor.

**AT31007 (2), AT31016 (2) &
AT31017 (2) EXTENSION JACK BLOCKS
AT31008 WASHER (6), AT31009 JACK
BLOCKS (4), AT31011 WRENCH (1)**

The Jack Blocks and Extension Jack Blocks can be used on any of the stands with any of the attachments. The Extension Jack Blocks are provided to compensate for the lower clearance of the Balance Attachment Stand. The Washers are provided to be placed in between the Jack Block and the attachment inserted into them. The Wrench provided is used to turn the large nuts on each of the attachments to provide a fine height adjustment.



AT31013 EXTENSION ARM (6)

The Extension Arms are designed to be used with any of the primary stands to increase the range. Remove the cradle from the stand, install the extension arms, install the pin to lock the extension in place, then reinstall the cradle on to the extensions.

⚠️WARNING: *Never use more than one set of extensions per stand. This would create a very unstable & dangerous situation.*



**AT31015 HORIZONTAL SIDE MOUNT
PLATES, SET OF 2 (1)**

The Horizontal Side Mount Plates are similar to the AT31004 Plates, but with a horizontal slot for mounting to the tractor vs. a vertical pattern. They are designed to attach to the side of the frame of the majority of tractors. Due to the diversity of hole and thread sizes, the bolts and washers used to secure the Euro Cradle Attachment to the tractor are not supplied with the kit. These are to



be supplied by the service facility working on the tractor.

NOTE: *Use high grade bolts (Grade 8 Recommended) and hardened washers to secure the Euro Cradle Attachment to the tractor.*

SPECIFICATIONS:

Part #	Description	Height Range**	Load Limit
AT31001	Fold-Down Splitting Stand	14.85" - 48.25	10,000 lbs
AT31002	Stationary Stand	14.85" - 48.25" (Wheels retracted)	10,000 lbs
AT31003	Balance Attachment Stand	14.85" - 48.25"	10,000 lbs

**Height range was derived from using the Jack Blocks and the Euro Cradle at its lowest point on the cross bars of each stands frame to obtain the lowest height, and the Extension Jack Blocks and Single Plate Attachments at its highest point on the Cradle at the highest holes to obtain the highest height. Side Plate Attachment height range will vary from tractor to tractor based on the mounting holes on the frame of the tractor.

USE AND INSTRUCTIONS: IMPLEMENTING THE STANDS

CAUTION: *The tractor that is to be serviced must be located on a flat, level, and hard surface. Clean up any debris on the floor in working area to increase ease of movement of loaded stands.*

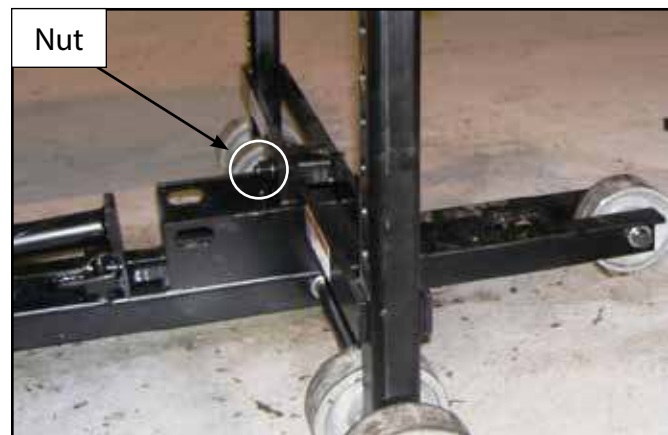
NOTE: *Remove all necessary items prior to preparing to split a tractor, i.e. the cab, wheels/tires, hood, etc. An individual may prefer to leave the wheels/tires on the tractor while completing the tractor split to share the tractor weight and reduce risk of overloading the splitting stands. If chosen to do so, chocks **MUST BE** used on the tires to prevent undesired movement of the tractor and possible equipment damage and/or serious personal injury.*

STEP 1:

Place the stand in the desired location, it is recommended to place the stand near the splitting point.

1. If using the Fold-Down Splitting Stand, the nut can be removed from the assembly, and the uprights can be folded down to make it easier to place the stand under the tractor. Once in place, lift the uprights back into place, reinstall the nut, and tighten the nut down securely.
2. If using the Stationary Stand or the Balance Attachment Stand, roll it into place. Either stand may be tilted in order to clear lower hanging tractors.

NOTE: *If the operator desires to use the Fold-Down Splitting Stand and Balance Attachment Stand together, it is recommended to place the Fold-Down Splitting Stand first. Then the connecting tube can be installed on the Fold-Down Stand using the locator pins and Lynch pins. The Balance Attachment Stand can then be slid onto the connecting tube. When in place the locking bolt on the Balance Attachment Stand should be used to “lock” the two stands together to assure uniform movement.*

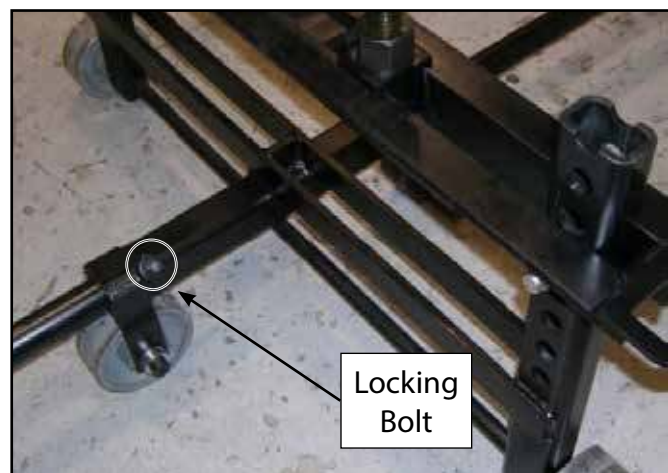


Step 1: Image 1



Step 1: Image 2

The Connecting Tube, Locating Pins and Lynch Pins of the Fold-Down Splitting Stand.



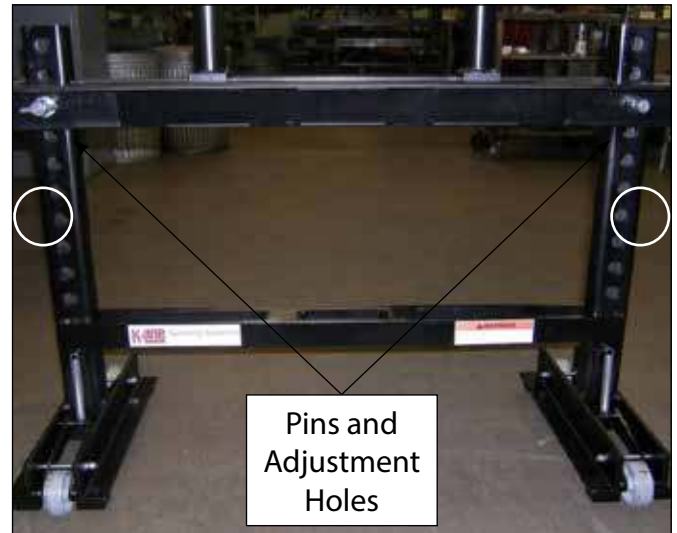
Step 1: Image 3

The Connecting Tube slid through the Balance Attachment Stand and “locked down”.

NOTE: *All three stands can be used without the Cradle by placing the attachments in the crossbars of the base. This can gain a lower clearance for use on smaller tractors.*

STEP 2:

1. Place the desired attachment, adjusted to its lowest setting, in the Cradle or onto the crossbars of the base if not using the Cradle.
2. If using the Cradle, adjust it to its highest point possible with the attachment under the desired lifting point. This adjustment is made by removing the two pins, lining up the holes in the Cradle with the desired hole setting on the uprights, and reinserting the pins to lock the Cradle in place. To gain additional cradle height, a single set of extensions may be used per stand. Pins must be used to lock the extensions to the stand base.



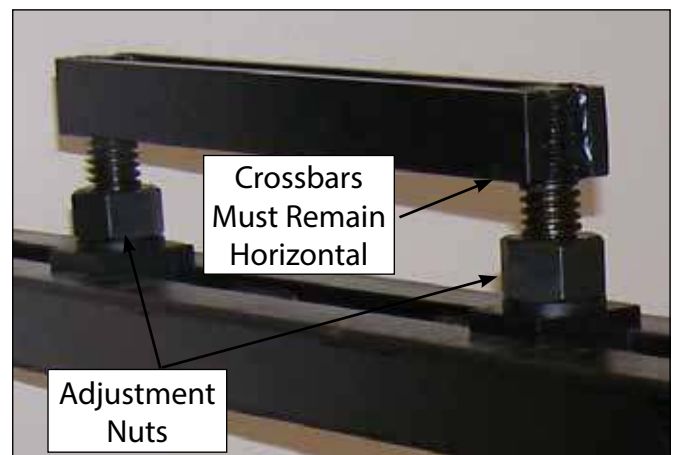
Step 2: Image 1

⚠️WARNING!: *Adjustment Pins MUST go through the holes in the Cradle and uprights of all stands. DO NOT rest the Cradle on top of the Pins.*

⚠️WARNING!: *Never use more than one set of extensions per stand. This would create a very unstable & dangerous situation.*

STEP 3:

1. Verify that the planned lifting point is strong enough to support the weight of the tractor.
2. If using the Euro Cradle or the Single Plate attachments, place them in line with the desired lifting point, and, by hand, turn the large nut(s) on the attachment to adjust the height until the attachment contacts the tractor.



Step 3: Image 1

NOTE: *If using the Euro Cradle attachment be sure that the crossbars of the attachment remain as close to horizontal as possible. Ignoring this could result in an unstable loading condition, damage to the tractor or splitting stands, and possible injury to the operator.*

3. If using the Side Plate attachments, adjust the height by turning the large nuts, until the holes in the attachment's plate line up with the threaded holes on the side of the tractor frame. Insert the bolts with washers and tighten them to their normally specified torque rating.

NOTE: *It is recommended to use a minimum of two bolts per attachment plate.*

NOTE: *Use high grade bolts (Grade 8 Recommended) and hardened washers to secure the Euro Cradle Attachment to the tractor.*

REPEAT STEPS 1-3 WITH EACH STAND BEFORE PROCEEDING WITH STEP 4.

STEP 4:

1. Using the wrench included in the kit, turn the adjustment nut(s) on the attachments to slowly put weight onto the stands. Adjust the height only enough to load the stands while not applying unnatural stress to the tractor at the splitting point.
2. After all stands have been loaded, the operator can proceed with completing the tractor split. All bolts, nuts and other fasteners may be removed to enable the split at this time.

STEP 5:

1. After the tractor and surrounding area is prepped for the tractor to be split, the drive axle of the Stands (or another method) can be used to move part of the split tractor. To use the drive axle use a 22mm wrench on either end of the long axle of the stand. This will drive the center set of wheels to move the stand(s) and split tractor.

NOTE: *Be sure to double check that the tractor is fully prepared to be split, and that there is nothing blocking movement of the split tractor. Serious damage to the tractor, the splitting stands, or to the operator could result. The tractor should only be split as far as required to safely service the tractor.*

⚠️WARNING!: **DO NOT** attempt to remove any of the bolts, nuts, or fasteners that hold the tractor halves together until all weight of the tractor is fully supported by the splitting stands and the stability of the setup is verified. Failure to do so may result in damage to the tractor, splitting stands and/or serious personal injury.

⚠️WARNING!: Loads can be unstable and heavy! The operator **MUST** either leave the wheels/tires installed on the tractor or use axle stands to add stability to the tractor/stands and share the weight of the tractor. This reduces stress on the stands and reduces risk of overloading the stands.

⚠️WARNING!: Extreme caution should be exercised while working near/ around a split tractor.

PROCEED WITH NECESSARY REPAIRS

REMOVING THE STANDS

CAUTION: *Make sure that nothing will be blocking the movement of the tractor as it is reassembled. Double check that the tractor is properly prepped to be rejoined.*

STEP 1:

1. After the tractor is prepped to be rejoined, move the two parts of the split tractor back together.
2. Using the drive axle (or another method), use a 22mm wrench on either end of the long axle of the stand. This will drive the center set of wheels to move the stand(s) and split tractor.
3. Reinstall all bolts and fasteners onto the tractor to rejoin the two parts. Also reinstall the wheels/tires if they were removed.

NOTE: *Only after the tractor is completely rejoined, should the following steps be completed.*

STEP 2:

After the tractor is rejoined, wheels/tires reinstalled, and the splitting stands are no longer required to support the tractor, removal of the stands can begin.

1. The wrench included in the kit can be used to lower the attachments enough so that they are no longer supporting any weight of the tractor.

NOTE: *If using the Side Mount Plate Attachment, use the wrench to lower them to the point where they are no longer load bearing, and only then remove the bolts fastening them to the tractor.*

2. Remove the attachments from the stands to ease the removal of the stands and gain clearance. If using the Cradle, that may be lowered to gain more stand removal clearance. This can be done by removing the two pins, moving the Cradle down a lower setting, lining up the holes, and reinstalling the pins.

STEP 3:

With the attachments removed from the stands, and the Cradle lowered to gain clearance, the stands can be removed from underneath the tractors.

If using the Stationary Stand or Balance Attachment Stand, it may be required to tilt them slightly to clear the frame of the tractor.

If using the Fold-Down Splitting Stand, it can be folded down using the same process as before, to create a lower clearance and ease in removing the stand from beneath the tractor. The nut can be removed and the uprights can be folded down. Once removed from under the tractor, the uprights should be raised and the nut reinstalled to prevent loss of the nut.

COMMON CONFIGURATION OF SPLITTING STANDS:



ALWAYS USE EXTREME CAUTION WHEN WORKING WITH LARGE TRACTORS AND SUBSTANTIAL WEIGHT AS IN THIS CIRCUMSTANCE.

K-LINE[®] IS NOT RESPONSIBLE FOR DAMAGE/INJURY RESULTING FROM USE OF THIS PRODUCT.

Declaration of Conformity

Name of Manufacturer	K-Line Industries, Inc.
Contact Information of the Manufacturer	315 Garden Ave. Holland, MI, USA 49424 tel: 1-800-824-5546 fax: 1-800-528-9138 email: cservice@klineind.com
Trade Name, Model Number, and Serial Number of the Tool (where applicable)	31000 Large Tractor Splitting System (and all subcomponents)
Description of the Tool	The tools in the System aid in splitting large tractors when necessary for service. WLL of 10,000 lbs limits the size of tractors.

The construction, testing, and certifying of the tool is in accordance with the following Directive and Standards:

2006/42/EC – Machinery Directive
EN 12100-1:2003 +A1:2009 – Safety of Machinery
EN 12100-2:2003 +A1:2009 – Safety of Machinery
EN 1494 – Mobile or moveable Jacks

CE Certified in 2012

President  (Tom Knowles)

COO/Engineering Manager  (Chris Rosich)

November 30, 2012



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