



QWIKEXTRACT® SYSTEM

THE KING OF KING PIN REMOVAL SYSTEMS

Instruction Manual





The use of an impact gun on this system is not permitted

Use of an impact gun will void warranty. The QwikeXtract® system has been designed to be used with a wrench or ratchet and has been engineered as such to safeguard against over torquing the cart and lifting the truck as opposed to just the wheel end.

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When unpacking, make sure the product is intact and undamaged. If any parts are missing or damaged, please phone 1-800-527-8492 as soon as possible.

VIDEOS AVAILABLE ON YouTube, SEE LINKS BELOW.

QwikeXtract® System Assembly

<https://www.youtube.com/watch?v=kUbYP-oh2qU&t=16s>

STEMCO QwikeXtract® in Two Minutes

https://www.youtube.com/watch?v=_XSUK1hidBA&t=36s

DISCLAIMERS

DISCLAIMER NOTICE

The use of a manufacturer's name, product number, and part description in this document is intended to assist our customers. Names referenced in this document may be trademarks or trade names of their respective manufacturers or suppliers and are not intended to show affiliation between STEMCO and the owners of those names.

Every effort has been made to insure the accuracy of the information shown in this document. However, STEMCO assumes no liability for any errors or omissions in the information provided.

STEMCO shall be entitled to make any changes to the system described in this manual for safety, technical, or commercial reasons.

WARRANTY

STEMCO warrants the parts contained in STEMCO Products to be free from defects in material and workmanship, under normal use and maintenance for a period of one year. This warranty shall be limited to replacing or allowing credit for the parts contained in the STEMCO products providing that notice of defects and proof is promptly given. This warranty does not apply to damage or to defects in any parts contained in the STEMCO products caused by misuse, neglect, accident, incorrect installation, alteration, or repair. THIS WARRANTY, AND THE MANUFACTURER'S OBLIGATION HEREUNDER IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. THE FOREGOING EXPRESSES ALL OF STEMCO PRODUCTS' OBLIGATIONS AND LIABILITIES WITH RESPECT TO THE QUALITY OF ITEMS FURNISHED BY IT, AND IT SHALL UNDER NO CIRCUMSTANCES BE LIABLE FOR CONSEQUENTIAL, INDIRECT, OR SPECIAL LOSSES OR DAMAGES OR LOST PROFITS.

WARNINGS

Any damage caused by failure to observe the instructions in this manual or by incorrect equipment use shall void the warranty and exempt STEMCO from all liability.

SYMBOLS USED IN THE MANUAL

	HIGH RISK Operation not recommended
	MANDATORY Operations or jobs that must be performed
	HAZARD Be especially careful

SAFETY INFORMATION

! READ ALL SAFETY WARNINGS AND INSTRUCTIONS

Failure to follow the warnings and instructions may result in serious injury. Save all warnings and instructions for future reference.

To ensure the greatest possible protection for employees in the workplace, the cooperative efforts of both employers and employees will help in establishing and maintaining a safe work environment.

In general, employers are responsible for:

- Performing a "hazard assessment" of the workplace and equipment to identify and control physical and health hazards.
- Identifying and providing appropriate ANSI-approved PPE for employees.
- Training employees in the use and care of the system and components.

In general, employees should:

- Wear approved PPE.
- Care for, clean, and maintain system.
- Inform a supervisor of the need to repair or replace components or system.

Normal shop practice should be exercised in the care and use of this system. Ensure a safe and complete set-up of the equipment has been performed before performing any work.

Check all equipment before each use to confirm all structures and components are in proper working order.

1. Study, understand, and follow all instructions before operating this device.
2. Use only on hard, level surfaces.
3. Before moving, be sure the load is secure.
4. Do not use slings or chains to lift any load with this device.
5. Do not allow load to swing or drop aggressively while lowering or moving.
6. Do not make any alterations or modifications to this system or any related components.
7. Follow capacities marked on the equipment identification plaque; capacity decreases as hub mount extensions are used.
8. Wear ANSI-approved safety glasses and work gloves during use.
9. Verify any replacement components have the same ratings and mounting points.
10. Inspect before every use; do not use if any parts are damaged.
11. Keep your work area clean and well lit.
12. Keep bystanders and visitors clear of operating area.
13. Stay alert. Do not use while tired or under the influence of drugs, alcohol, or medication.
14. Follow instructions in the maintenance section of this manual. Use of unauthorized parts or failure to follow instructions may void any applicable warranty.
15. Maintain labels; these labels carry important information.
16. Before use, read manufacturer's instruction manual for the object you will be repairing.
17. Industrial and commercial applications must follow OSHA requirements.

SAVE THESE INSTRUCTIONS

	During equipment operation and maintenance, follow all applicable safety and accident prevention procedures.
	The equipment must only be used by authorized and adequately trained personnel.
	This equipment must only be used for the purpose for which it was specifically intended. STEMCO disclaims all liability for all injuries and damage caused by incorrect use of the equipment.
	Accessories and replacement parts must only be fitted by authorized STEMCO personnel and original accessories and replacement parts must always be used.
	Removing or altering safety devices or the warning labels on the equipment can represent a cause of serious hazard and is an infringement of safety laws.
	Avoid unauthorized persons coming near the equipment during operation.

STAFF TRAINING

Failure to follow the warnings and instructions may result in serious injury.

To ensure the greatest possible protection for employees in the workplace, the cooperative efforts of both employers and employees will help in establishing and maintaining a safe work environment. Training employees in the use and care of the system and components should be a mandatory requirement assuring no technician(s) are injured during use.

QwikeXtract PINCH POINTS

The QwikeXtract system is made up of several heavy moving parts and components, therefore presenting the hazard of being pinched throughout the use of the system. Please take caution when using the system that extremities are kept free and clear of all moving components. Such moving parts include, but are not limited to: vertical post adjustments, adjustable yokes on threaded rods, oscillating cylinder tray, cylinder, casters, and rotating hub mount.

QwikeXtract PRESS HYDRAULIC CAUTION

Immense hydraulic forces present real hazards to personnel and equipment. Ensure a safe and complete set-up of the equipment has been completed before applying any hydraulic force. Check all equipment with each use. Leaking cylinders, damaged yokes, push rods, threaded rods, or fasteners should be replaced before use.

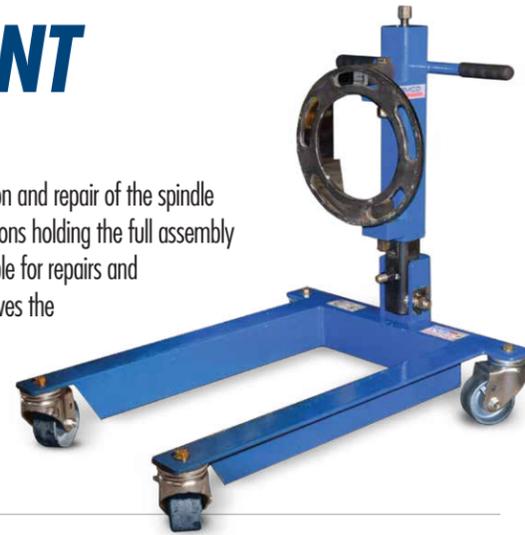
QwikeXtract SYSTEM ADDITIONAL SAFETY CAUTIONS

Taking into consideration proper system training, noticeable addressed pinch points and all hazards associated with the use of hydraulics. Once set up, assure operation of the press and system is executed from a safe working distance.

PURPOSE OF EQUIPMENT

QwikeXtract CART

The STEMCO QwikeXtract cart is used to support the wheel end as well as aid in the inspection and repair of the spindle and axle eyes. This QwikeXtract cart is designed to interface with most wheel hub configurations holding the full assembly after removal of the king pin. The QwikeXtract cart keeps the wheel end mobile and adjustable for repairs and reassembly. This convenience removes the strain on shop personnel, promotes safety, and saves the need or time of tearing the wheel end completely down. This advocates longer life out of mandatory replaceable components within the wheel end.



QwikeXtract PRESS

The STEMCO QwikeXtract press is for the safe removal of the king pin. Due to wear, road hazards, and contamination, the king pin can become difficult to remove. The QwikeXtract press offers the safe alignment of force to the king pin. This alignment results in king pin removal under the most binding conditions, while keeping the operator at a safe distance.



QwikeXtract SYSTEM

The QwikeXtract system is the integration of the versatile QwikeXtract cart and capable QwikeXtract press. This system includes the QwikeXtract tray assembly, allowing full integration of the QwikeXtract press assembly and ensuring concentration of force. Continuously self-adjusting to the king pin throughout the procedure. This combination reduces wear and tear on components and the service technicians, resulting in faster turnaround, more income, and less back strain or muscle fatigue for the staff.

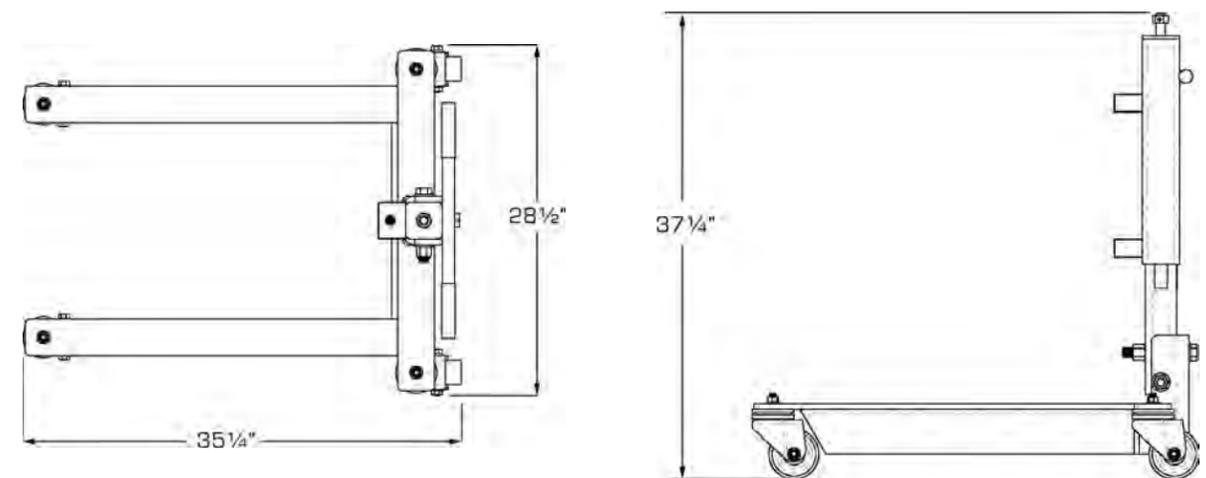


DIMENSIONS

QwikeXtract CART

The QwikeXtract cart can be stored with the cart in the full upright position or with the vertical post in a lowered position when the fore/aft bolt is removed. Please refer to the provided dimensions to locate an adequate storage space.

The QwikeXtract cylinder and pump should be stored in a safe, upright manner. The associated rods, yokes, tray, and push rods should be kept in optimal condition and stored in a dry, easy-to-access location. Please refer to the provided dimensions of these items to locate adequate storage space.

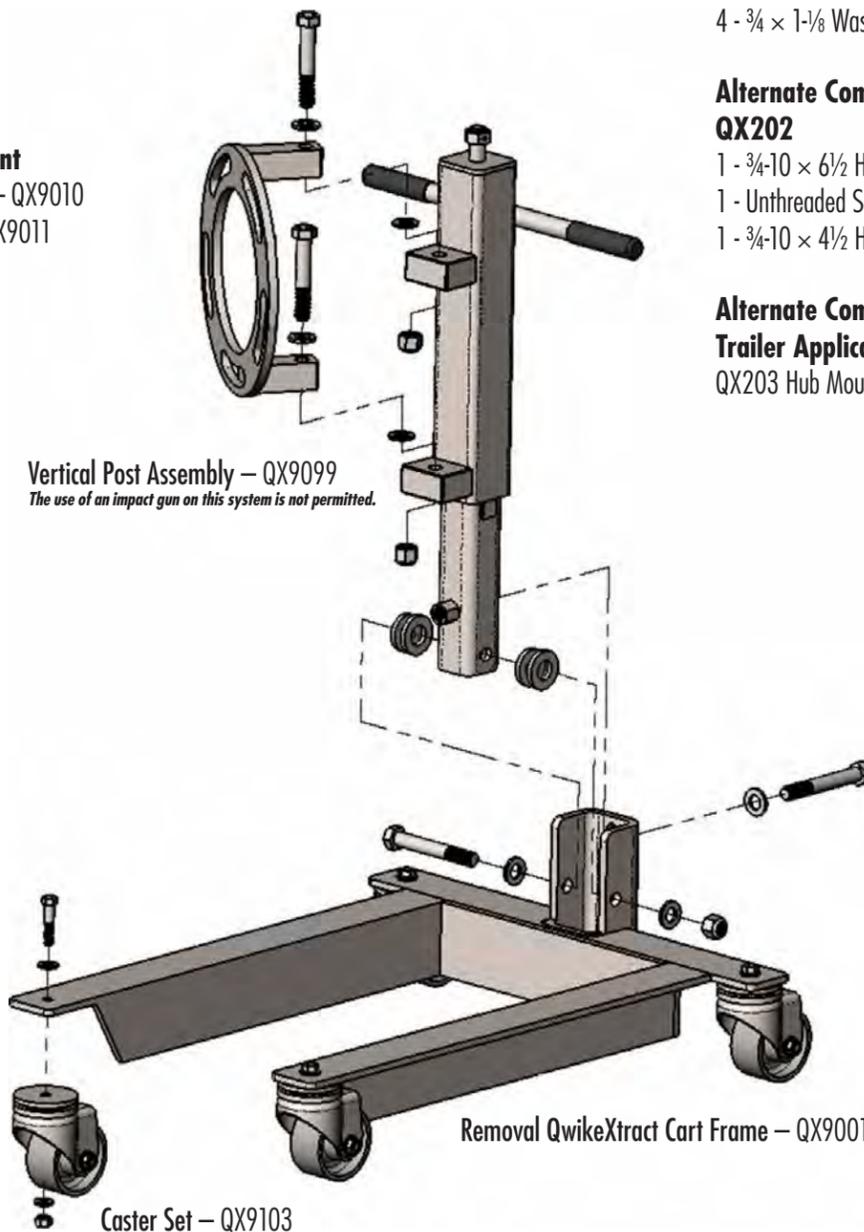


ASSEMBLY

QwikeXtract CART (QX201/ QX202)

Basic Assembly procedure

Hub Mount
Standard – QX9010
Large – QX9011



Standard Components

- 5 - 3/4 × 1.469 Flat Washer
- 3 - 3/4-10 Nylon Insert Locknut
- 2 - 3/4-10 × 5 1/2 Hex Head Cap Screw
- 2 - 3/4-10 × 4 1/2 Hex Head Cap Screw
- 2 - Bronze Thrust Bearing
- 4 - 3/4 × 1-1/8 Washer

Alternate Components for QX202

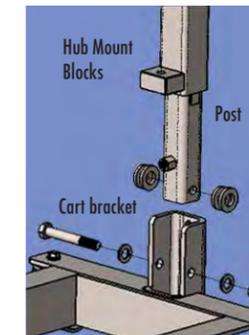
- 1 - 3/4-10 × 6 1/2 Hex Head Cap Screw
- 1 - Unthreaded Spacer, 3/4 × 1 1/2 × 2
- 1 - 3/4-10 × 4 1/2 Hex Head Cap Screw

Alternate Component for Trailer Application

- QX203 Hub Mount Extension Kit

STEP 1:

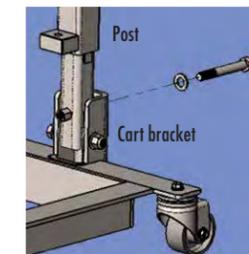
Set the post in cart bracket with the hub mount blocks facing toward the cart legs. Insert one 3/4-10 × 5 1/2 hex head cap screw with one 3/4 × 1.469 flat washer through the side cart bracket. Add two 3/4 × 1-1/8 washers between the cart bracket and post. Slide hex head cap screw through post, adding second set of 3/4 × 1-1/8 washers between post and cart bracket on far side. Add one each 3/4 × 1.469 flat washer and 3/4-10 nylon locknut and hand-tighten to secure post.



STEP 1

STEP 2:

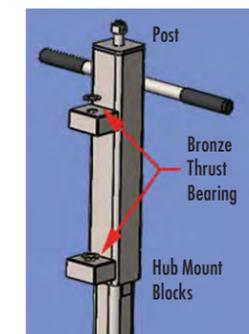
Attach leveling bolt. Insert one 3/4-10 × 5 1/2 hex head cap screw with one 3/4 × 1.469 flat washer from rear through lower bolt hole and cart bracket. Hand-tighten nut on vertical post assembly.



STEP 2

STEP 3:

Set a one bronze thrust bearing on top of each hub mount block.

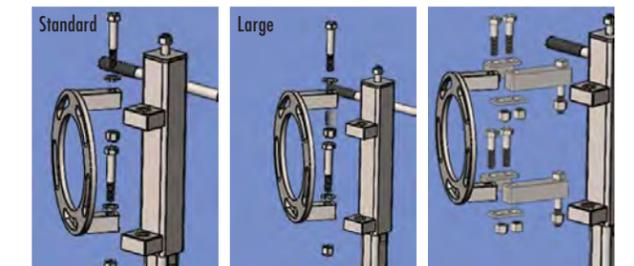


STEP 3

STEP 4:

Set hub mount over hub mount blocks for hub mount standard QX9010 use one 3/4-10 × 4 1/2 hex head cap screw with one 3/4 × 1.469 flat washer to attach hub mount to upper hub mount block. For hub mount large QX9011 use one 3/4-10 × 6 1/2 hex head cap screw with one 3/4 × 1.469 flat washer and one QX9078 unthreaded Spacer, 3/4 × 1 1/2 × 2 to the top hub mount block over bronze thrust bearing.

Use 4 1/2 hex head cap screw with one 3/4 × 1.469 flat washer to attach hub mount to Lower hub mount block.



STEP 4

Hand-tighten a 3/4 10 nylon insert locknut to both the upper and lower hex head cap screw to snug. Confirm that the hub mount easily rotates from side-to-side.

STEP 5:

Add casters using the hardware supplied with casters. Raise or tilt QwikeXtract cart to a secure position. Install casters at four corners under QwikeXtract cart legs. Insert bolt with washer through leg and caster, then add washer and nut to caster. Torque each caster to 80 ft./lbs.



STEP 5

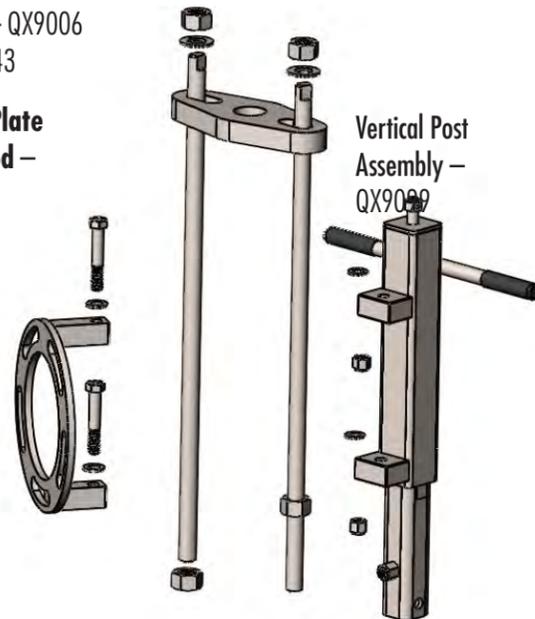
QwikeXtract system is ready for use.

QwikeXtract SYSTEM (QX101/ QX102/ QX103) Basic Assembly Procedure

Upper Yoke Plate
Standard – QX9007
Medium Duty – QX9006
Trailer – QX9043

Upper Yoke Plate Alignment Rod – QX9013

Hub Mount
Standard – QX9010
Large – QX9011



QX101 QwikeXtract System (Standard)

QX101 - QwikeXtract System - Standard
QX201 - QwikeXtract Cart - Standard
QX301 - QwikeXtract Press - Standard
QX406 - QwikeXtract Tray Assembly

QX102 QwikeXtract System (Large)

QX102 - QwikeXtract System - Large
QX202 - QwikeXtract Cart - Standard
QX301 - QwikeXtract Press - Standard
QX406 - QwikeXtract Tray Assembly

QX103 QwikeXtract System (Trailer)

QX103 - QwikeXtract System - Trailer
QX201 - QwikeXtract Cart - Standard
QX303 - QwikeXtract Press - Standard
QX406 - QwikeXtract Tray Assembly
QX203 - Hub Mount Extension Kit

Alternate Component for Trailer Application

QX203 - Hub Mount Extension Kit

Included, but not pictured: guides and push rods. See table on page 11.

Enerpac® Hydraulic Pump – QX9081

Enerpac® Aluminum Cylinder – QX9082

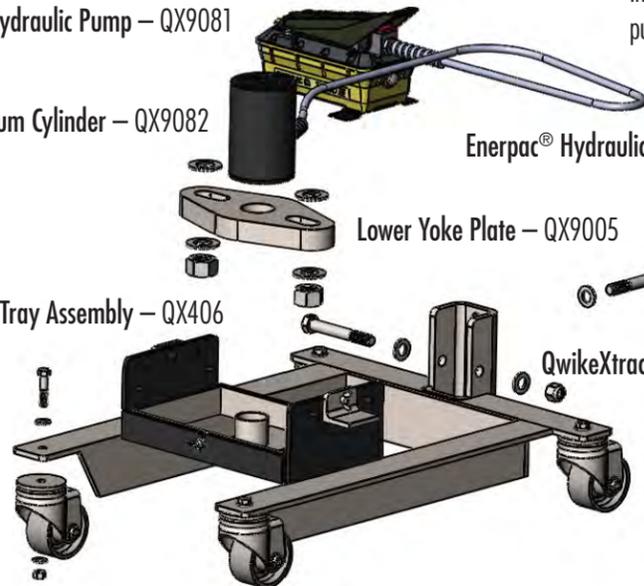
Enerpac® Hydraulic Hose, 6' – QX9083

Lower Yoke Plate – QX9005

QwikeXtract Tray Assembly – QX406

QwikeXtract Cart (Standard) – QX201

Caster Set – QX9103

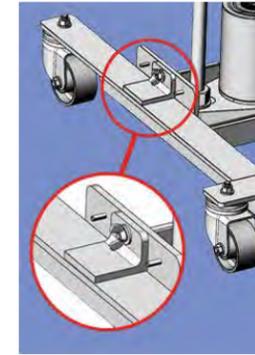


! Registration for the Enerpac® items must be filed before first use to be covered by Enerpac warranty.

Follow steps 1-5 from the QwikeXtract cart (QX201/ QX202) basic assembly procedure.

STEP 6:

Set the slide tabs of the QX406 QwikeXtract tray assembly on legs of Cart.

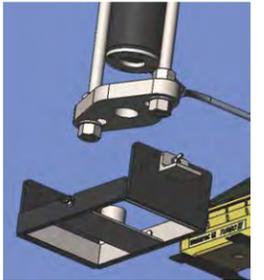


STEP 7:

Place QX9005 lower yoke plate over guide on QX406 QwikeXtract tray assembly.

STEP 8:

Set QX9082 Enerpac aluminum cylinder guide plate into guide on QX9005 lower yoke plate.



STEP 9:

Follow step 10 on page 12.

QwikeXtract system is ready for use.

GUIDE SETS

Guide sets facilitate a safe, positive alignment of the push rods to king pin. Although very useful, these are not mandatory but are highly recommended.



PUSH ROD SET

Two sets available: one set 1" in diameter for king pins that are less than 1 1/2 inches in diameter and one set 1 1/2" in diameter for king pins that are equal to or greater than 1 1/2" in diameter.



APPLICATION REFERENCE

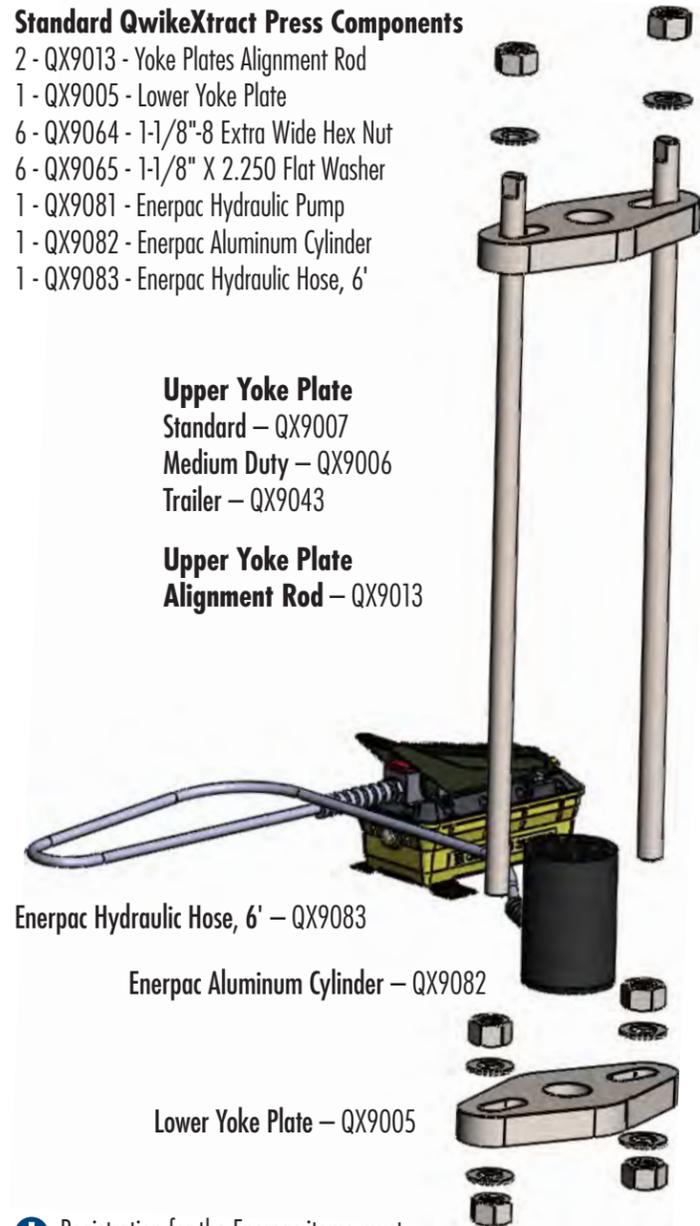
GUIDE SETS	PUSH ROD SETS	KIT	GUIDE SETS STANDARD IN	PUSH ROD SETS STANDARD IN
QX407	QX404	K122E, K147E	QX301 QX102, QX101	QX101, QX102, QX103, QX301, QX303
QX408	QX404	Guide Set, for K981R, K127W, K942E, KH946R	QX301 QX102, QX101	QX101, QX102, QX103, QX301, QX303
QX409	QX405	Guide Set, for K50W	QX302	QX302
QX410	QX404	Guide Set, for K180E		QX101, QX102, QX103, QX301, QX303
QX411	QX405	Guide Set, K102I	QX302	QX302
QX412	QX404	Guide Set, for K961L, K931L, KG931R, K120E	QX301 QX102, QX101	QX101, QX102, QX103, QX301, QX303
QX413	QX404	Guide Set, for KH931L, K126W, K180R, K180E K181R	QX303 QX103	QX101, QX102, QX103, QX301, QX303
QX414	QX405	Guide Set, for K55G, K56G	QX302	QX302
QX415	QX404	Guide Set, for K140I		QX101, QX102, QX103, QX301, QX303
QX416	QX404	Guide Set, for K700T, K230KG	QX303 QX103	QX101, QX102, QX103, QX301, QX303

QwikeXtract PRESS (QX301/ QX302/ QX303) Basic Assembly Procedure

Standard QwikeXtract Press Components

- 2 - QX9013 - Yoke Plates Alignment Rod
- 1 - QX9005 - Lower Yoke Plate
- 6 - QX9064 - 1-1/8"-8 Extra Wide Hex Nut
- 6 - QX9065 - 1-1/8" X 2.250 Flat Washer
- 1 - QX9081 - Enerpac Hydraulic Pump
- 1 - QX9082 - Enerpac Aluminum Cylinder
- 1 - QX9083 - Enerpac Hydraulic Hose, 6'

- Upper Yoke Plate**
- Standard – QX9007
- Medium Duty – QX9006
- Trailer – QX9043
- Upper Yoke Plate**
- Alignment Rod – QX9013



Enerpac Hydraulic Hose, 6' – QX9083

Enerpac Aluminum Cylinder – QX9082

Lower Yoke Plate – QX9005

! Registration for the Enerpac items must be filed before first use to be covered by Enerpac warranty.

Alternate Components for QX301 QwikeXtract Press (Standard)

- 1 - QX404 - Push Rod Set - 1½" - Standard
- 1 - QX407 - Guide Set for K122E, K147E
- 1 - QX408 - Guide Set for K981R K127W, K942F, KH946R
- 1 - QX412 - Guide Set for K961I, K931I, KG931R, K120E
- 1 - QX9007 - Upper Yoke Plate - Standard

Alternate Components for QX302 QwikeXtract Press (Medium)

- 1 - QX405 - Push Rod Set - 1" - Medium
- 1 - QX409 - Guide Set for K50W
- 1 - QX411 - Guide Set for K102I
- 1 - QX414 - Guide Set for K55G, K56G
- 1 - QX9006 - Upper Yoke Plate - Medium

Alternate Components for QX303 QwikeXtract Press (Trailer)

- 1 - QX404 - Push Rod Set - 1½" - Standard
- 1 - QX413 - Guide Set for KH931L, K126W, K180R, K181R
- 1 - QX416 - Guide Set for K700T, K230KG
- 1 - QX9043 - Upper Yoke Plate - Trailer

Included but not pictured: guides and push rods.
See table on page 11.

STEP 10:

Attach QX9083 Enerpac hydraulic hose, 6' to QX9081 Enerpac hydraulic pump and then the QX9082 Enerpac aluminum cylinder via the standard quick-connect hydraulic fasteners. Refer to literature included in the Enerpac reference material.

QwikeXtract system is ready for use.

ADD ON PARTS

UPPER YOKES

Key components with engineered integrity to withstand the most extreme forces.

- Three options available:
- QX9006 - Medium Duty
- QX9007 - Standard
- QX9043 - Trailer



QwikeXtract TRAY ASSEMBLY

Used to accurately maintain the alignment between the king pin and the press during removal. The QX406 comes standard with the QX101, QX102, and QX103. QX406 is also necessary to combine any press or cart package.



HUB MOUNT EXTENSION KIT

The QX203 is available as an option to adapt the system for removal of the steerable trailer axle wheel ends.

The QX203 comes standard with QX103.



WHEEL SIZE RANGE	HUB-PILOTED TUBELESS AND TUBE-TYPE WHEELS	HUB MOUNT KITS
17.5" x 6.75" 19.5" x 6.00" and 6.75" 22.5" x 6.75", 7.50", 8.25" and 9.00" 24.5" x 8.25"	10 Hole - 285.75mm bolt circle - 220mm pilot	QX204 with hardware and QX9010
	10 Hole, 335mm bolt circle - 381mm pilot	QX204 with hardware and QX9010

WHEEL SIZE RANGE	STUD-PILOTED TUBELESS AND TUBE-TYPE WHEELS	HUB MOUNT KITS
16" x 7.00" 17.5" x 6.75" and 8.25" 19.5" x 6.00" 22.5" x 6.75", 7.50", 8.25" and 9.00" 24.5" x 8.25"	10 Hole - 11.25" bolt circle - 8.72" pilot	QX204 with hardware and QX9010

WHEEL SIZE RANGE	SUPER SINGLE / DUPLEX WHEELS HUB AND STUD PILOTED ALUM. AND STEEL WHEELS	HUB MOUNT KITS
	10 Hole - 285.75mm bolt circle - 220mm hub pilot	QX204 with hardware and QX9010
	10 Hole - 335mm bolt circle - 281mm hub pilot	QX205 with hardware and QX9011
22.5" x 11.75" 22.5" x 12.25" 22.5" x 13.00" 22.5" x 14.00"	10 Hole - 11.25" bolt circle - 8.72" hub pilot	QX204 with hardware and QX9010
	10 Hole, 13.1875" bolt circle - 10.69" hub pilot	QX205 with hardware and QX9011

HUB MOUNTS



QX9010



QX9011



IMPORTANT

Be sure that a thorough pre-inspection has been completed and all components affecting the suspension or steering are in a safe operating condition. Defective components negate any effectiveness the repair may have.

QwikeXtract SYSTEM

QX101/ QX102/ QX103

INITIAL SETUP

Raise the vehicle to a minimum clearance of 16" from the floor to the bottom of the spindle. Confirm proper clearance is provided and support the vehicle with the appropriate support stands. Stands used must be rated to resist the additional force that may be required to remove the pins if manual efforts are needed.

Ensure support stands are not placed in a position where they will interfere with any part of the QwikeXtract cart. Assure there is adequate clearance between the bottom of the brake drum and any part of the QwikeXtract cart.



FIG. 1

REMOVE THE WHEEL/TIRE

Remove the wheel in accordance with normal shop procedure.

INSPECT THE WHEEL END

Determine the wheel stud pattern and select the correct hub mount and attach to the QwikeXtract cart. Ten stud, bolt circle pattern, and lug stud size are to be considered when choosing the correct hub mount. (Optional hub mounts available see table page 13)

Inspect wheel end components and repair or replace all worn or damaged components before reassembly.

INSTALL QwikeXtract CART

With the correct hub mount installed, position the cart squarely in front of the wheel end and slide the hub mount over the extending wheel studs (see fig. 2).

Use a wrench or ratchet on the jack screw to raise or lower the vertical post to center the studs to the hub mount slots. Ensure the hub mount is flush and parallel to the hub and clears all hub pilot hub mounts.



FIG. 2



FIG. 3

The use of an impact gun on this system is not permitted. Use of an impact gun will void warranty.

If the center post of the QwikeXtract cart impedes the hub mount from achieving a flush mount to the hub, part QX203 hub mount extension kit will be needed to allow clearance to complete this task.

Adjust the post's "fore/aft" bolt to ensure all four casters are firmly on the ground.

Install two upper wheel nuts to secure the hub mount. Torque to 50 ft./lbs.

Use a wrench or ratchet to adjust the vertical post jack screw up or down to settle the weight evenly on the casters. Verify the tilt post bolt is securely adjusted to hold hub when it is removed.

Do not over-adjust the post to preload.

The use of an impact gun on this system is not permitted. Use of an impact gun will void warranty.

The cart should move freely with all four casters firmly on the ground. (see fig. 3)

If the brake drum or brake shoes are removed for clearance, the procedure for installing the cart will remain the same.

Secure the hub from spinning freely on the spindle. Apply the brakes (if not removed) by adjusting and clamping the push rod adjustment or clamping a shoe to the drum. If the brakes are removed, use a tie strap to secure the hub.

Proper set-up and installation of the cart will ensure smooth and safe removal and assembly of the wheel end.

SETUP QwikeXtract PRESS

Remove end caps and replace with guide set for the application. Select the correct guide set (see table, page 11). The guide set bolt pattern and configuration should be the same as the end cap that was removed. Using included hardware, attach or install the guide in the end cap position on the spindle. The bottom guide will have the piloted diameter of the required push rods (see fig. 4), the top will not (see fig. 5). STEMCO offers guide sets that cover the most popular end cap styles. If a guide set is not available for a particular application, contact STEMCO technical service. Guides, though not mandatory, provide the safest and most accurate alignment for king pin removal.

Set the upper yoke into position by centering it over the top guide.

Insert the threaded rods through the yoke alignment slots so they are positioned on either side of the spindle bore aligned with the king pin. Install the upper washers and nuts on the threaded rod extending through the top yoke alignment slots until they come into contact with the upper yoke (see fig. 7). Below the lower yoke, secure rods with washers and nuts to full thread engagement.

Place the piloted hydraulic cylinder on the lower yoke so it is positioned squarely under the spindle and aligned with the king pin.



FIG. 4



FIG. 5



FIG. 6

! Measure the distance between the upper and lower yokes at the alignment slots, top to bottom. Adjust upper nuts until left and right yoke separation is equal, with a snug fit to the spindle. Do not lift the bottom yoke off the inner tray or above the yoke guide. This distance must be the same on both sides in order for the press to push squarely on the king pin (see fig. 8).

REMOVE THE KING PIN

For king pins greater than 1½ inches in diameter, use 1½ inches diameter push rods (QX404). For king pins less than 1½ inches in diameter, use the 1" diameter push rods (QX405).

Pusher Use And Application

The vehicle must be jacked to a minimum height for proper use of the press. Each set of pushers has 3 types of components; base pusher, spacer pusher and the button (see right).

When using the cart with the swivel tray assembly, the bottom of the spindle must be at least 16" from the floor/ground to use the shortest base pusher; 17" to use the mid-height base pusher; and 19" to use the tallest base pusher. This allows the base pusher to fit the press saddle and for the button to sit on top of the base pusher in the press while on the swivel tray, allowing it to function properly with the necessary clearances. For the initial force to move the pin the first time, it is required to use ONLY the base pusher and button. Then the spacers can be used to move the pin out of the axle.

Always use the button to push on the kingpin. The spacer pushers should be inserted between the button and the base pusher after each cycle of the cylinder until the pin is loose in the spindle. Use the dowel pin in the spacer pusher to locate and keep force on center and straight with the kingpin.

Choose the least number of push rods to match the required length for the application. Install the push rods on the hydraulic cylinder's piloted saddle.

Position the press assembly so that the push rod aligns with the guide.

Seat the push rod assembly in the guide so it is squarely against the king pin.

! Using a tape measure, recheck the distance between the upper and lower yokes at the alignment slots, top to bottom (see fig. 8). This distance must be the same on both sides in order for the press to push squarely on the king pin. By monitoring the rod-yoke assembly, adjustments can be made during the procedure to maintain alignment.



FIG. 7



FIG. 8

Double check the set-up. Ensure everything is square and even, as well as free from obstacles.

Ensure the operation will not affect the vehicle's position on the jack stands.

HYDRAULICS PRESS

The pump and press used for the hydraulics is an Enerpac product not serviced by STEMCO. All Enerpac products are guaranteed against defects in workmanship and materials by Enerpac.

! Registration for the Enerpac items must be filed before first use to be covered by Enerpac warranty.

For service and warranty information on the Enerpac hydraulic system, visit www.enerpac.com for the location of the nearest authorized Enerpac service center.

Before operation, refer to the reference material included with the Enerpac.

1. Place the hydraulic foot pedal at a safe operating distance from the spindle.
2. Connect an air line to the hydraulic pump.
3. Depressing the foot pedal in a controlled gradual process, apply hydraulic pressure to the cylinder. Pressure may or may not build up until the king pin "pops." Pump and pause, giving the force time to move the pin.



FIG. 10

! Use extreme caution. High pressure may cause components to fail or become dislodged. Stay in a safe location; release any pressure before approaching the assembly.

4. As the push rod assembly pushes up (see fig. 10), more push rod extensions may be required to complete the pin removal. Due to tight clearances, the cylinder is only designed for 2 inches of push rod extensions.
5. Release pressure from the hydraulic cylinder.
6. Select a push rod assembly to add or install to complete the stroke.



FIG. 11

! Other than adding or changing push rods, do not change any of the set-up once alignment has been complete.

7. Apply pressure using caution.
8. Steps 5-7 will need to be repeated until the pin pulls freely from the spindle (see fig. 11).
9. Once the pin has been removed and is free from the spindle, remove the press assembly and guides.

REMOVE WHEEL END FROM AXLE

Once the king pin has been removed, the wheel end assembly is now free to be removed from the axle eye.

Ensure the wheel end is secured. Use a wrench or ratchet to make slight adjustments to the vertical post jack screw or vertical post's "fore/aft" bolt to allow the cart to be pulled back from the axle.

Removal of the lower thrust bearing may be necessary in order to free the wheel end from the axle eye. Once free, pull the cart back creating a clear work area (see fig. 12).

 The use of an impact gun on this system is not permitted. Use of an impact gun will void warranty.

Clean, inspect, and complete all repairs needed to the axle eye.

Ensure the wheel end is still secured firmly on the cart; clean, inspect, and complete all repairs necessary to the spindle. STEMCO recommends the QwikKit® to complete the king pin repair.

INSTALL THE SPINDLE AND KING PIN ONTO THE AXLE EYE

Move the cart to position the spindle into place. Use a wrench or ratchet to make slight adjustments to the vertical post's jack screw or vertical post's "fore/aft" bolt to ensure smooth installation.

 The use of an impact gun on this system is not permitted. Use of an impact gun will void warranty.

When using the QwikeXtract cart we recommend using the old pin to hold the alignment of the top spindle and axle while adding the bearing and shims (see fig. 13). When shims and bearing are in place, insert the king pin from the bottom of the axle bore. Once fully engaged through the bearing and shims, remove old king pin and finish pushing the new king pin in place. Finish installation with normal shop procedures.

COMPLETE THE INSTALLATION

With the king pin installation complete, the cart can be removed from the wheel end (see fig. 14). Reassemble and complete the process in accordance with normal shop procedure.



FIG. 12



FIG. 13



FIG. 14



IMPORTANT

Be sure that a thorough pre-inspection has been completed and all components affecting the suspension or steering are in a safe operating condition. Defective components negate any effectiveness the repair may have.

QwikeXtract CART QX201/ QX202



INITIAL SETUP

Raise the vehicle to a minimum clearance of 16" from the floor to the bottom of the spindle. Confirm proper clearance is provided and support the vehicle with the appropriate support stands. Stands used must be rated to resist the additional force that may be required to remove the pins if manual efforts are needed.

Ensure support stands are not placed in a position where they will interfere with any part of the QwikeXtract cart. Assure that there is adequate clearance between the bottom of the brake drum and any part of the QwikeXtract cart.

REMOVE THE WHEEL/TIRE

Remove the wheel in accordance with normal shop procedure.

INSPECT THE WHEEL END

Determine the wheel stud pattern and select the correct hub mount and attach to the QwikeXtract cart. Ten stud, bolt circle pattern, and lug stud size are to be considered when choosing the correct hub mount (Optional hub mounts available see table page 13).

Inspect wheel end components and repair or replace worn or damaged components before reassembly.

INSTALL QwikeXtract CART

With the correct hub mount installed, position the cart squarely in front of the wheel end and slide the hub mount over the extending wheel studs (see fig. 2).

Use a wrench or ratchet to raise or lower the vertical post with the jack screw to center the studs in the hub mount slots. Ensure the hub mount is flush to the hub and clears all hub pilot hub mounts.

 If the center post of the QwikeXtract cart impedes the hub mount achieving a flush mount to the hub, part QX203 hub mount extension kit will be needed to allow clearance to complete this task.

Install two upper wheel nuts to secure the hub mount. Torque to 50 ft./lbs.

Use a wrench or ratchet to raise or lower the vertical post jack screw up or down to settle the weight evenly on the casters.

 Do not over-adjust the post to preload.

Adjust the post's "fore/aft" bolt to ensure all four casters are firmly on the ground. The cart should move freely; with all four casters firmly on the ground. (see fig. 3)

If the brake drum or brake shoes are removed for clearance, the procedure for installing the cart will remain the same.

Secure the hub from spinning freely on the spindle. Apply the brakes (if not removed) by adjusting and clamping the push rod or clamping a shoe to the drum. If the brakes are removed, use a tie strap to secure the hub.

Proper setup and installation of the cart will ensure smooth and safe removal and assembly of the wheel end.

REMOVE THE KING PIN

Remove the king pin using standard shop procedure. STEMCO recommends removing the king pin using the QwikeXtract press (See STEMCO Product QwikeXtract press – QX301/ QX302/ QX303).

REMOVE THE WHEEL END FROM THE AXLE

Once the king pin has been removed, the wheel end assembly is now free to be removed from the axle eye.

Ensure the wheel end is secured. Use a wrench or ratchet to make slight adjustments to the vertical post jack screw or vertical post's "fore/aft" bolt to allow the cart to be pulled back from the axle. Removal of the lower thrust bearing may be necessary in order to free the wheel end from the axle eye. Once free, pull the cart back creating a clear work area.

Clean, inspect, and complete all repairs needed to the axle eye.

Ensure the wheel end is still secured firmly on the cart; clean, inspect, and complete all repairs necessary to the spindle. STEMCO recommends the QwikKit to complete the king pin repair.

INSTALL THE SPINDLE AND KING PIN ONTO THE AXLE EYE

Move the cart to position the spindle into place. Use a wrench or ratchet to make slight adjustments to the vertical post's jack screw or vertical post's "fore/aft" bolt to ensure smooth installation.

COMPLETE THE INSTALLATION

With the king pin installation complete, the cart can be removed from the wheel end. Reassemble and complete the process in accordance with normal shop procedure.



IMPORTANT

Be sure that a thorough pre-inspection has been completed and all components affecting the suspension or steering are in a safe operating condition. Defective components negate any effectiveness the repair may have.

QwikeXtract PRESS

QX301/ QX302/ QX302 King Pin Removal Press



INITIAL SETUP

Raise the vehicle to a minimum clearance of 16" from the floor to the bottom of the spindle. Confirm proper clearance is provided and support the vehicle with the appropriate support stands. Stands used must be rated to resist the additional force that may be required to remove the pins if manual efforts are needed.

Ensure support stands are not placed in a position where they will interfere with any part of the QwikeXtract cart. Assure that there is adequate clearance between the bottom of the brake drum and any part of the QwikeXtract cart.

REMOVE THE WHEEL END

Remove the wheel end assembly in accordance with normal shop procedure. STEMCO recommends removing the wheel end assembly using the QwikeXtract cart (QX201/ QX202).

HUB REMOVAL STAND

Inspect wheel end components and repair or replace worn or damaged components as necessary.

REMOVE LOCK PINS AND KING PINS CAPS

Use conventional procedure in preparation to replace a king pin. Check for adequate clearance for complete king pin removal with the QwikeXtract press.

SET UP QwikeXtract PRESS

Remove end caps and replace with guide set for the application. Select the correct guide set (see table, page 11). The guide set bolt pattern and configuration should be the same as the end cap that was removed. Attach or install the guide in the end cap position on the spindle. The bottom guide will have the piloted diameter of the required push rods (see fig. 4), the top will not (see fig. 5). STEMCO offers guide sets that cover the most popular end cap styles. If a guide set is not available for a particular application, contact STEMCO technical service. Guides, though not mandatory, provide the safest and most accurate alignment for king pin removal.

Set the upper yoke into position by centering it over the top guide.

Insert the threaded rods through the yoke alignment slots so they are positioned on either side of the spindle bore aligned with the king pin. Install the upper washers and nuts on the threaded rod extending through the top yoke alignment slots until they come into contact with the upper yoke (see fig. 7). Below the lower yoke secure rods with washer and nuts to full thread engagement.

Place the piloted hydraulic cylinder on the lower yoke so it is positioned squarely under the spindle and aligned with the king pin.

! Measure the distance between the upper and lower yokes at the alignment slots, top to bottom; adjust upper nuts until left and right yoke separation is equal, with a snug fit to spindle. This distance must be the same on both sides in order for the press to push squarely on the king pin (see fig. 8).

REMOVE THE KING PIN

For king pins greater than 1½" in diameter, use 1½" diameter push rods (QX404). For king pins less than 1½" diameter, use the 1" diameter push rods (QX405).

Choose the least number of push rods to match the required length for the application. Install the push rods on the hydraulic cylinder's piloted saddle.

Pusher Use And Application

The vehicle must be jacked to a minimum height for proper use of the press. Each set of pushers has 3 types of components; base pusher, spacer pusher and the button (see right).

When using the cart with the swivel tray assembly, the bottom of the spindle must be at least 16" from the floor/ground to use the shortest base pusher; 17" to use the mid-height base pusher; and 19" to use the tallest base pusher. This allows the base pusher to fit the press saddle and for the button to sit on top of the base pusher in the press while on the swivel tray, allowing it to function properly with the necessary clearances. For the initial force to move the pin the first time, it is required to use ONLY the base pusher and button. Then the spacers can be used to move the pin out of the axle.

Always use the button to push on the kingpin. The spacer pushers should be inserted between the button and the base pusher after each cycle of the cylinder until the pin is loose in the spindle. Use the dowel pin in the spacer pusher to locate and keep force on center and straight with the kingpin.



Position the press assembly so that the push rod aligns with the guide.

Seat the push rod assembly in the guide so it is squarely against the king pin. Tighten the top nuts to secure the assembly in place.

Using a tape measure, recheck the distance between the upper and lower yokes at the alignment slots, top to bottom (see fig. 8). This distance must be the same on both sides in order for the press to push squarely on the king pin. By monitoring the rod-yoke assembly, adjustments can be made during the procedure to maintain alignment.

Double check the set-up. Ensure everything is square and even, as well as free from obstacles.

Adjust by hand with the tautness of the rods to maintain alignment between push rod and king pin.

Ensure the operation will not affect the vehicle's position on the jack stands.

HYDRAULICS PRESS

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Before operation, refer to the reference material included with the Enerpac.

1. Place the hydraulic foot pedal at a safe operating distance from the spindle.
 2. Connect an air line to the hydraulic pump.
 3. Depressing the foot pedal in a controlled gradual process, apply hydraulic pressure to the cylinder. Pressure may or may not build up until the king pin "pops." Pump and pause giving the force time to move the pin.
- ! Use extreme caution. High pressure may cause components to fail or become dislodged. Stay in a safe location; release any pressure before approaching the assembly.
4. As the push rod assembly pushes up (see fig. 10), more push rod extensions may be required to complete the pin removal. Due to tight clearances, the cylinder is only designed for 2" of maximum push rod extensions.
 5. Release pressure from the hydraulic cylinder.
 6. Select a push rod assembly to add or install to complete the stroke.
- ⊘ Other than adding or changing push rods, do not change any of the set-up once alignment has been complete.
7. Apply pressure using caution.
 8. Steps 5-7 will need to be repeated until the pin pulls freely from the spindle (see fig. 11).
 9. Once the pin has been removed and is free from the spindle, remove the press assembly and guides.

REMOVE WHEEL END FROM AXLE

Once the king pin has been removed, the wheel end assembly is now free to be removed from the axle eye in accordance with normal shop procedure.

Clean, inspect, and complete all repairs needed to the axle eye.

Ensure the wheel end is still secured; clean, inspect, and complete all repairs necessary to the spindle. STEMCO recommends the QwikKit to complete the king pin repair.

QWIKEXTRACT SYSTEM – KIT COMPONENTS – REFERENCE

PART #	DESCRIPTION	COMPONENTS INCLUDED WITH												PHOTOS		
		QX101	QX102	QX103	QX104	QX201	QX202	QX203	QX301	QX302	QX303	QX401	QX402		QX403	
QX101	QWIKEXTRACT SYSTEM - STANDARD	QX101			✓											
QX102	QWIKEXTRACT SYSTEM - LARGE		QX102													
QX103	QWIKEXTRACT SYSTEM - TRAILER			QX103												
QX104	QWIKEXTRACT SYSTEM - MASTER KIT				QX104											
QX201	QWIKEXTRACT - CART STANDARD	✓		✓	✓	QX201										
QX202	QWIKEXTRACT - CART LARGE		✓			QX202										
QX203	HUB MOUNT EXTENSION KIT			✓	✓		QX203									
QX301	QWIKEXTRACT - PRESS STANDARD	✓	✓		✓			QX301								
QX302	QWIKEXTRACT - PRESS MEDIUM DUTY								QX302							
QX303	QWIKEXTRACT - PRESS TRAILER			✓						QX303						
QX401	QWIKEXTRACT PRESS COMPONENTS - STANDARD	✓	✓		✓			✓			QX401					
QX402	QWIKEXTRACT PRESS COMPONENTS - MEDIUM				✓				✓			QX402				
QX403	QWIKEXTRACT PRESS COMPONENTS - TRAILER			✓						✓			QX403			
QX404	PUSHROD SET - 1 1/2" - STANDARD	✓	✓	✓	✓			✓		✓	✓			✓		
QX405	PUSHROD SET - 1" - MEDIUM				✓				✓			✓				

PART #	DESCRIPTION	COMPONENTS INCLUDED WITH												PHOTOS		
		QX101	QX102	QX103	QX104	QX201	QX202	QX203	QX301	QX302	QX303	QX401	QX402		QX403	
QX406	QWIKEXTRACT TRAY ASSEMBLY	✓	✓	✓	✓											
QX407	GUIDE SET, FOR K122E, K147E, K200S, K201S (QX9015, QX9016)	✓	✓		✓					✓		✓				
QX408	GUIDE SET, FOR K981R, K127W, K942F, KH946R (QX9017, QX9018)	✓	✓		✓					✓		✓				
QX409	GUIDE SET, FOR K50W (QX9019, QX9020)				✓						✓		✓			
QX410	GUIDE SET, FOR K180E (QX9021, QX9022, QX9101 (5/16-18x1-1/4))															
QX411	GUIDE SET, FOR K102I (QX9023, QX9024, QX9101 (5/16-18x1-1/4))				✓						✓		✓			
QX412	GUIDE SET, FOR K961L, K931L, KG931R, K120E (QX9025, QX9026, QX9101 (5/16-18x1-1/4))	✓	✓		✓						✓		✓			
QX413	GUIDE SET, FOR KH931L, K126W, K180R, K181R (QX9027, QX9028, QX9101 (5/16-18x1-1/4))				✓							✓		✓		
QX414	GUIDE SET, FOR K55G, K56G (QX9029, QX9030, QX9101 (5/16-18x1-1/4))											✓		✓		
QX415	GUIDE SET, FOR K140I (QX9031, QX9032, QX9101 (5/16-18x1-1/4))															
QX416	GUIDE SET, FOR K700T, K230KG (QX9089, QX9090, QX9102 (3/8-16x1-1/4)+ (5/16-24x1-14))				✓								✓		✓	

Continued on next page

QWIKEXTRACT SYSTEM – KIT COMPONENTS – REFERENCE CONT.

PART #	DESCRIPTION	COMPONENTS INCLUDED WITH												PHOTOS	
		QX101	QX102	QX103	QX104	QX201	QX202	QX203	QX301	QX302	QX303	QX401	QX402		QX403
QX417	HUB MOUNT KIT - STANDARD (QX9010 + Hardware)	✓		✓	✓										
QX418	HUB MOUNT KIT - LARGE (QX9011 + Hardware)		✓		✓										
QX419	ENERPAC ALUMINUM CYLINDER KIT	✓	✓	✓	✓				✓	✓	✓				
QX9005	LOWER YOKE PLATE	✓	✓	✓	✓										
QX9006	UPPER YOKE PLATE - MEDIUM DUTY				✓				✓			✓			
QX9007	UPPER YOKE PLATE - STANDARD	✓	✓		✓										
QX9043	UPPER YOKE PLATE - TRAILER			✓	✓								✓		
QX9013	YOKE PLATES ALIGNMENT ROD	✓	✓	✓	✓										
QX9041	PUSHROD, TOP BUTTON, 1" DIA				✓				✓			✓			
QX9042	PUSHROD, TOP BUTTON, 1 1/2" DIA	✓	✓	✓	✓				✓		✓		✓		
QX9047	PUSHROD ASSY 1" DIA x 1" LONG				✓				✓			✓			
QX9048	PUSHROD ASSY 1" DIA x 2" LONG				✓				✓			✓			
QX9049	PUSHROD ASSY 1" DIA x 4" LONG				✓				✓			✓			
QX9050	PUSHROD ASSY 1 1/2" DIA x 1" LONG	✓	✓	✓	✓				✓		✓		✓		

PART #	DESCRIPTION	COMPONENTS INCLUDED WITH												PHOTOS			
		QX101	QX102	QX103	QX104	QX201	QX202	QX203	QX301	QX302	QX303	QX401	QX402		QX403		
QX9051	PUSHROD ASSY 1 1/2" DIA x 2" LONG	✓	✓	✓	✓								✓		✓	✓	
QX9052	PUSHROD ASSY 1 1/2" DIA x 4" LONG	✓	✓	✓	✓								✓		✓	✓	
QX9053	SPACER ASSEMBLY, 1" DIA x 1 3/4" LONG								✓					✓			
QX9054	SPACER ASSEMBLY, 1 1/2" DIA	✓	✓	✓	✓								✓		✓	✓	
QX9064	1-1/8"-8 EXTRA WIDE HEX NUT	✓	✓	✓	✓												
QX9065	1-1/8 x 2.250 FLAT WASHER	✓	✓	✓	✓												
QX9081	ENERPAC HYDRAULIC PUMP	✓	✓	✓	✓												
QX9082	ENERPAC ALUMINUM CYLINDER	✓	✓	✓	✓												
QX9083	ENERPAC HYDRAULIC HOSE, 6'	✓	✓	✓	✓												
QX9091	ENERPAC HYDRAULIC OIL, 1 QUART																
QX9099	VERTICAL POST ASSEMBLY	✓	✓	✓	✓	✓	✓										
QX9103	CASTER SET	✓	✓	✓	✓												

QWIKEXTRACT®

EQUIPMENT IDENTIFICATION

	STEMCO EQUIPMENT™ P.O. Box 1989 Longview, TX 75606-1989 (903) 758-9981 (800) 527-8492 FAX: (800) 974-4297 www.stemco.com	
MODEL		
CAPACITY	SERIAL N°	YEAR

Manufacturer

Model

Weight

Serial number

Year of manufacture



IMPORTANT

Be sure that a thorough pre-inspection has been completed and all components affecting the suspension or steering are in a safe operating condition. Defective components negate any effectiveness the repair may have.

MAINTENANCE

To assure optimal operating performance, periodic routine maintenance should be performed on the STEMCO QwikExtract system. Please carefully read the below recommendations for the proper maintenance and care of the QwikExtract system.

The hydraulic pump, hose, and cylinder used in the QwikExtract system are Enerpac products not serviced by STEMCO. All Enerpac products should be used, maintained, and serviced under Enerpac's suggested maintenance practices and service internal. For recommended routine maintenance practices or service on any Enerpac product, consult the included Enerpac literature or visit www.enerpac.com for the location of the nearest authorized Enerpac service center.

Periodically evaluate hydraulic oil level and replenish as necessary. Recommended Enerpac oil is available through STEMCO (part # QX9091) or through Enerpac (part # HF-100).

Additional items to inspect and address include, but are not limited to:

- Greasing of the QwikExtract cart casters.
- Light oiling of bronze hub flange thrust washers.
- Inspection of all nuts and bolts used for adjustability.
- Appearance and condition of yokes.
- Appearance and condition of threaded rods.
- Appearance and condition of nuts and washers on threaded rods.
- Appearance and condition of all guides and associated hardware, as well as all push rod components.

Making the Roadways Safer®

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