

PETOL® PORTA-TORK™

UPTA-18

Operating Manual



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Table of Contents

UPTA-18 PETOL® PORTA-TORK™	1
PETOL® Limited Warranty	2
Safe Practices and Procedures	3
Responsibility	3
Replacement Parts	3
Safety	4
Safe Practices	4
Safety Sources and Publications.....	5
Responsibility of Distributors.....	5
Overloading / Shock Loads	6
Operation	7
Torque – Pressure Formulas	8
Dimensions	10
Parts List	11
Wear Limits	13

UPTA-18 PETOL[®] PORTA-TORK[™]

The PETOL[®] PORTA-TORKS[™] were designed for making up and breaking out drill pipe, and other directional drilling products requiring substantial torque in the field while the pipe is essentially horizontal. The UPTA-18 PETOL PORTA-TORK will work diameters from 2 inches to 5 inches and up to 18,000 foot-pounds of torque.

The tong is adjusted by exchanging inserts to work the various diameters. Each insert will work +/- 1/4 inch of the diameter marked on the insert.

The UPTA-18 PORTA-TORK has the following features:

Two tongs connected by a hydraulic cylinder to provide the torque by pulling between the tongs. The hydraulic cylinder is suited for use with any hydraulic system capable of producing 3000 psi pressure.

The cylinder is fixed to the tong handles limiting the separation of the tongs to keep the side loading within acceptable limits.

High strength alloy steels used throughout for long life with the toughest jobs.

PETOL[®] Limited Warranty

What Is Covered

PETOL[®] tools are expressly warranted to you, the purchaser, to be free of defects in material and workmanship.

How Long Coverage Lasts

This express warranty lasts for the lifetime of the PETOL tool. Warranty coverage ends when the tool becomes unusable for reasons other than defects in workmanship or material.

How Can You Get Warranty Service

To obtain the benefit of this warranty, contact a PETOL sales representative in Clifton, Texas.

PETOL 4450 S. Highway 6 · P.O. Box 192 · Clifton, TX 76634

What Will We Do To Correct Problems

Warranted products will be repaired or replaced, at PETOL's option, and returned at no charge to you, the original purchaser; or, if after three attempts at repair or replacement during the warranty period, the product defect in material or workmanship persists, you can elect to receive a full refund of your original purchase price for the product.

What Is Not Covered

Defects, failures or conditions that are due to normal wear and tear, abuse or misuse, are not covered by this limited warranty. In addition, this limited warranty is in lieu of all other warranties, express or implied, verbal or written. To the maximum extent allowed by law PETOL disclaims all implied warranties, including implied warranties of merchantability and/or fitness for a particular purpose. PETOL also specifically denies any liability for any incidental damages and/or consequential damages, including but not limited to property damage to property other than the product itself, loss of sales profits, down time, costs or any other damages measurable in money, whether or not included in the foregoing enumeration.

Please be advised that some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation or exclusion may not apply to you. This warranty gives you specific rights, and you may also have other rights, which vary from state to state, province to province, or country to country.

Are Personal Injuries Covered

In the event you, someone working for you, or any other person sustain a personal injury as a result of using the PETOL tool, PETOL limits its potential liability for such a claim or injury to the fullest extent allowed by law, and disclaims and denies any liability for such personal injury.

Please be advised that some states do not allow the exclusion or limitation of liability for personal injuries, so the above limitation or exclusion may not apply to you, or the individual claiming injury.

No Other Express Warranty Applies

This PETOL LIMITED WARRANTY is the sole and exclusive warranty, express or implied for PETOL products. No employee, agent, dealer or other person is authorized to alter, modify, expand or reduce the terms of this warranty or to make any other warranty on behalf of PETOL.

Law Applicable

All matters related to the sale and/or use of the PETOL tool that is the subject of this limited warranty, along with the construction and enforcement of the terms of this limited warranty itself, shall be subject to the substantive and procedural laws of the state of Texas, not the conflicts of laws provisions of Texas, but rather the laws of Texas themselves.

Forum Selection Clause

Any dispute arising out of the sale and/or use of the PETOL tool that is the subject of this limited warranty shall be presented in the form of a claim or lawsuit to the offices of PETOL in Clifton, Bosque County, Texas. No claim or suit may be brought against PETOL, arising out of the sale and/or use of the tool, or arising out of the terms of this warranty, except in such forum. Purchase and/or use of the PETOL tool makes you subject to the benefits and limitations of this limited warranty. Accordingly, any writ, judgment or other enforcement, obtained from a jurisdiction, county, parish, state or federal court or other country, other than from the forum identified above, shall be void and unenforceable against PETOL.

Arbitration Clause

In the event of dispute or claim arises out of the sale and/or use of the PETOL tool that is the subject of this limited warranty, or arises out of the interpretation or enforcement of the terms and conditions of this limited warranty, such dispute shall be submitted to binding arbitration pursuant to the rules of the American Arbitration Association. If required to accomplish the purpose of this Arbitration clause, the purchaser hereby expressly waives any right to demand trial by jury.

Complete Agreement

This express limited warranty contains the entire agreement regarding express or implied warranties related to the PETOL tool that is the subject of it. No writing or language contained in the purchase order or any other document of the purchaser, or invoice of PETOL or any intermediate seller, shall be construed as modifying, in any way, the rights and liabilities contained in this limited warranty. PETOL expressly disclaims any obligations expressed in any customer purchase order or document that are contrary to the terms and limitations of this warranty.

Severability

If any term or limitation contained in this limited warranty is deemed unenforceable by law, then the term shall be severed from the remaining portions of the limited warranty which shall remain enforceable.

All communications to PETOL regarding the use of the tool and any aspect of the sale of the tool of this limited warranty should be addressed to PETOL.

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Safe Practices and Procedures**Responsibility**

"It is the responsibility of the employer to train the employee in the proper selection and usage of tools, chains, etc., and to ensure that they are selected and used in that manner. In many instances, injury results because it is assumed that anybody knows how to use common hand tools. Observations and the record show that this is not the case. A part of every job instruction program should therefore be detailed training in the proper use of hand tools (and of all other special tools and equipment needed to accomplish the job)." - (Source: National Safety Council)

"Employers are responsible for the safe condition of tools and equipment used by employees, including tools and equipment which may be furnished by employees." - (Source: OSHA 1910.242A)

Replacement Parts

Use only PETOL[®] replacement parts - no other parts are of comparable strength, quality and interchangeability.

Safety

While we pride ourselves on the quality and dependability that we build into PETOL tools and products, we caution users that it is only prudent to know and follow the simple rules of safety when using our products, or anyone else's.

Always follow safe practices and procedures in accordance with the recommendations of OSHA, The National Safety Council (NSC), The Hand Tools Institute (HTI), The International Association of Drilling Contractors (IADC), Etc. All applicable Governmental rules, regulations or restrictions, now in effect or which may be promulgated, take precedence over the suggestions in this publication. The information in this publication is designed to supplement standard safe practices and procedures, not in lieu of, or replacement thereof.

Safe Practices

(Source: The National Safety Council)

Failure to observe one or more of the following five safe practices accounts for most hand and powered tool accidents:

1. ALWAYS WEAR SAFETY GOGGLES TO PROTECT EYES
2. SELECT THE RIGHT TOOL FOR THE JOB
3. KEEP TOOLS IN GOOD CONDITION
4. USE TOOLS CORRECTLY
5. KEEP TOOLS IN A SAFE PLACE

Safety Goggles must always be worn by persons in any area where hand and powered tools are being used.

Never apply excess leverage to a wrench or tool by means of a "Cheater Bar". Never strike wrenches and tools with hammers or other objects.

All tools should be kept clean, inspected on a regular basis, and replaced when they show signs of wear.

Be especially careful not to place yourself in a position that could result in bodily injury in the event of a failure. Brace yourself firmly and pull rather than push when wrenching. (If necessary, to push, do so with the flat of the hand rather than gripping around the wrench.)

Never stand under or near loads being hoisted off the ground.

READ SAFE PRACTICES AND PROCEDURES MANUAL, CATALOG INFORMATION AND PRODUCT LABELING PRIOR TO OPERATION.

Safety Sources and Publications

In the interest of Safety the following sources of Safety information is furnished:

The Hand Tools Institute (HTI)
25 North Broadway
Tarrytown, New York 10591
(914) 332-0040
www.hti.org

The National Safety Council (NSC)
1121 Spring Lake Drive
Itasca, Illinois 60143-3201
(630) 285-1121
www.nsc.org

International Safety Council
1121 Spring Lake Drive
Itasca, Illinois 60143-3201
(630) 285-1121

Responsibility of Distributors

IT IS THE RESPONSIBILITY OF THE PURCHASERS OF PETOL[®] PRODUCTS TO CONVEY THE INFORMATION IN THIS PUBLICATION AND ANY OTHER INFORMATION RELATING TO THE INDIVIDUAL PRODUCT, THROUGH THE CHANNELS OF DISTRIBUTION, DOWN TO AND INCLUDING THE INDIVIDUAL USING THE PRODUCT

NOTE:

In view of the fact that the actual use determines whether safety requirements have been met, the ultimate responsibility to comply rests with the end user.

Overloading / Shock Loads

Attempting to “inch” loads which are beyond the rated capacity of the tool.

Striking the tool with a hammer or other object while force is being exerted in an attempt to loosen a “frozen” joint.

Safety Precautions

1. Always wear safety goggles to protect eyes.
2. Select the right tool for the job.
3. Keep tools in good condition.
4. Use tools correctly.
5. Keep tools in a safe place.
6. Wear protective clothing, gloves and safety shoes as appropriate.
7. Use only inserts marked for the same diameter in each tong. The two tongs do not have to work the same diameter.
8. Use only PETOL replacement parts to ensure proper strength.

Operation

The typical application of the PETOL® PORTA-TORK™ is shown in the figure below. The PORTA-TORK shown is in the breakout position. For makeup, the tongs would exchange places along the axis of the pipe.



1. Install the appropriate inserts for the diameters being worked.
2. Attach chains, cables, slings or, other appropriate rigging hardware to the lifting eyes.
3. Position the PORTA-TORK assembly over the pipe with the tongs in position for the desired operation.
4. While gripping the link grip, remove the latching pin cotter and latching pin from both tongs.
5. Wrap the jaws around the pipe for each tong.
6. While gripping the link grip and handle, re-attach the latching pins and latching pin cottes.
7. Apply pressure to ratchet while providing slack in the lifting until the cylinder is fully extended.

8. Adjust the pressure to provide the desired torque. See the Torque – Pressure formulas below.
9. Apply pressure to retract the cylinder producing torque until the connection is either broken out or until the cylinder stops moving for making up.
10. The tong may be ratcheted if additional rotation is needed to complete the job.
11. Ratchet the tong slightly to remove the load from the assembly.
12. While gripping the link grip, remove the latch pin cotter and latch pin from both tongs.
13. Lift the assembly from the pipe and move to storage.
14. While gripping the link grip and handle, re-attach both latch pins and latch pin cotters.

Torque – Pressure Formulas

The PETOL[®] UPTA-18 will produce 6 ft-lbs of torque for each psi of pressure applied to the cylinder. The following formula is used to determine the pressure required to produce a known torque:

$$P = T / 6$$

Where P is the pressure applied in psi and, T is the desired torque in foot-pounds. To find the torque produced from an observed cylinder pressure, use the following formula:

$$T = P * 6$$

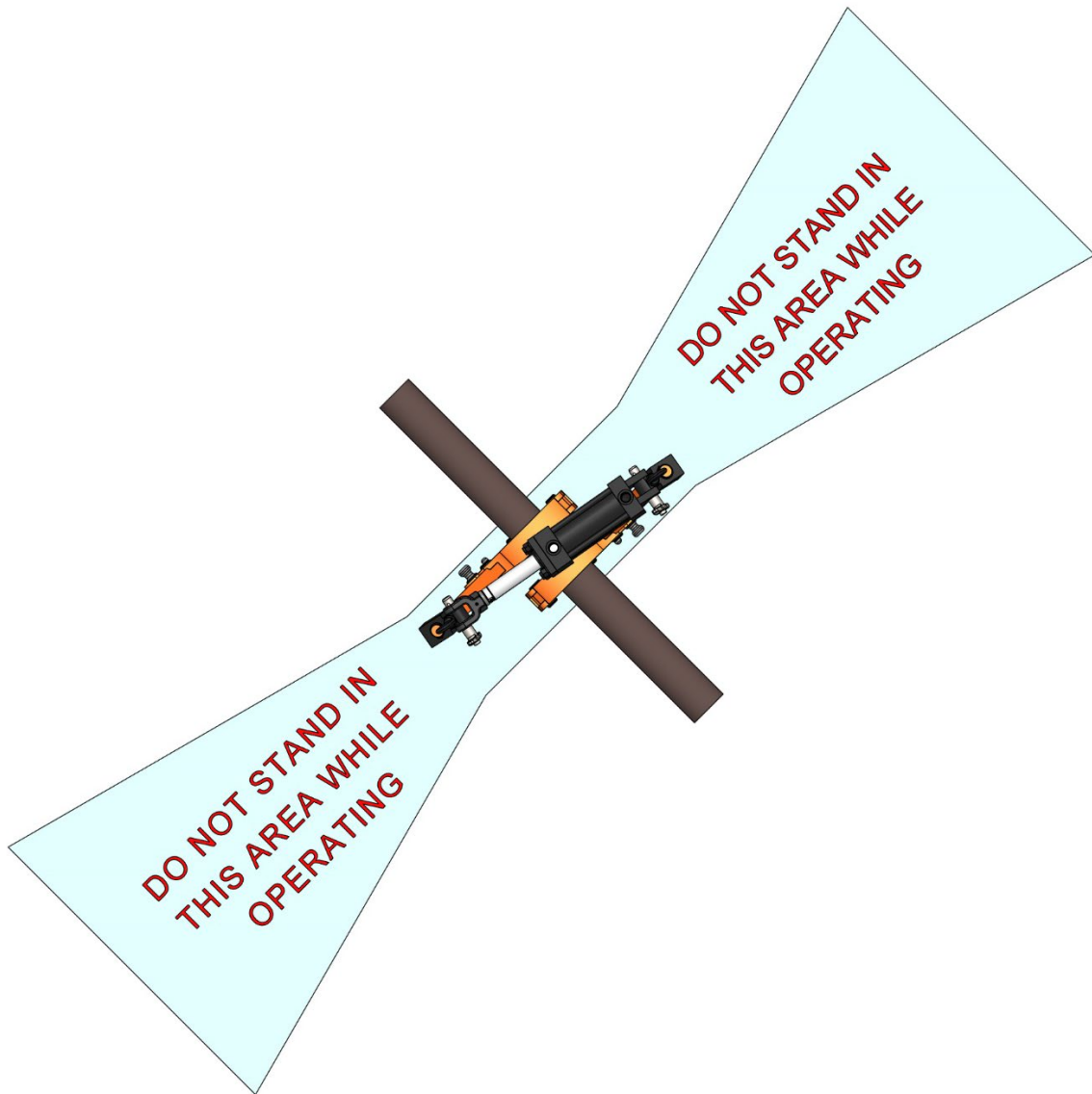
Where P is the pressure applied in psi and, T is the produced torque in foot-pounds.



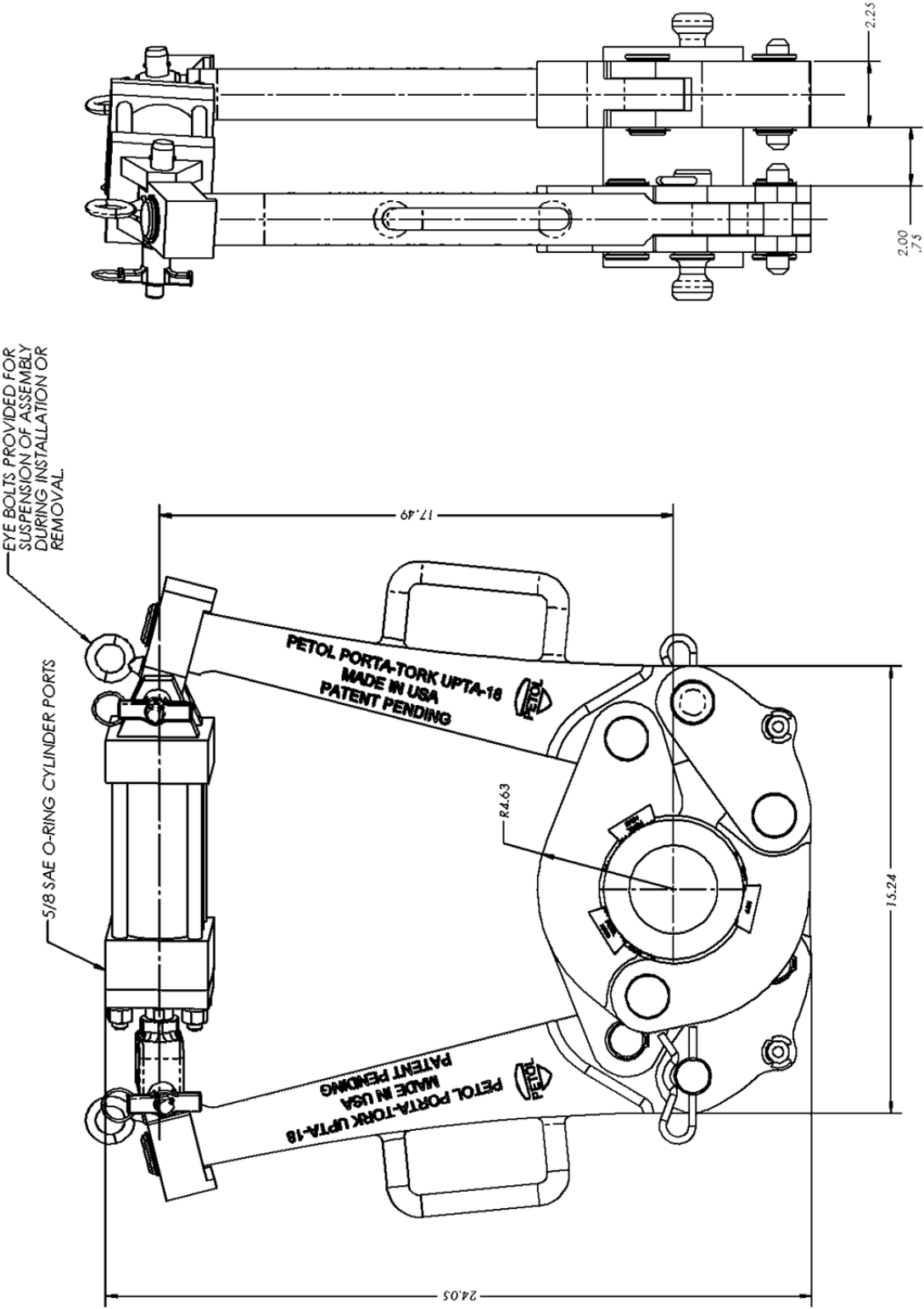
Under no circumstances should the maximum working load of 18,000 ft-lbs be exceeded. Overloading may result in injury or death. Always monitor the hydraulic pressure to avoid an overload.

⚠ WARNING ⚠

Do not stand in line with the tongs during operation.



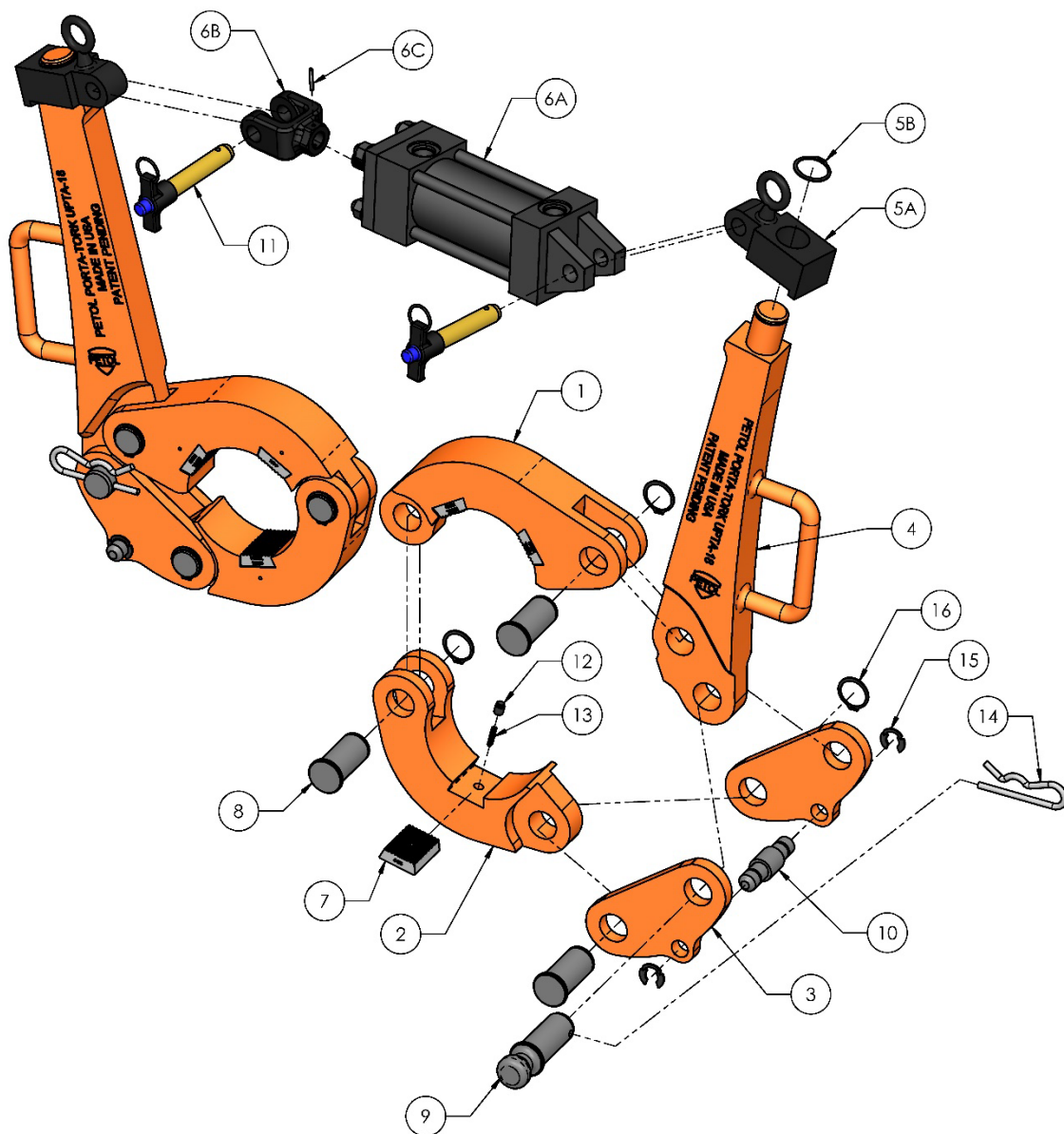
Dimensions



Parts List

The following drawings, diagrams, and parts lists describe all parts, which may be needed as replacement items.

All tong components are manufactured only by PETOL®. DO NOT ATTEMPT TO SUBSTITUTE THESE COMPONENTS. The PORTA-TORK will not work properly unless these components are matched to the specific application. Consult our factory as your requirements change. Any non-PETOL substitutions of these components void all warranties and subject the user to assumption of liabilities resulting from subsequent use.



Item	Qty.	Part Number	Description
1	2	UPTM-18	Main jaw
2	2	UPTK-18	Hook jaw
3	4	UPTL-18	Link
4	2	UPTH-18	Handle
5A	2	UPTE-18	Cylinder eye
5B	2	HXRR137	Retaining ring
6A	1	UPTC-18	Hydraulic cylinder
6B	1	UHCY-ZB-RC	Cylinder rod clevis
6C	1	HXP026	Roll pin
7	6	HI54D	Diamond point insert (4-1/2 - 5 diameter)
7	6	HI55D	Diamond point insert (4 - 4-1/2 diameter)
7	6	HI56D	Diamond point insert (3-1/2 - 4 diameter)
7	6	HI57D	Diamond point insert (3 - 3-1/2 diameter)
7	6	HI58D	Diamond point insert (2-1/2 - 3 diameter)
7	6	HI59D	Diamond point insert (2 - 2-1/2 diameter)
8	6	HP088	Hinge pin
9	2	HP089	Latch pin
10	2	HP090	Link grip pin
11	2	HP375	Quick release pin
12	6	HP902	Insert key
13	6	HS20SS	Insert key spring
14	2	HXH2501	Hairpin cotter
15	4	HXKR075	Klipring
16	6	HXRR125	Retaining ring

Wear Limits

The following table indicates limiting diameters on the components of the PETOL® PORTA-TORK. When localized wear is beyond any one of the limits indicated, the component should be replaced.

Part Number	Description	Location	Limit diameter
UPTH-18	Handle	Main jaw pin hole	1.269 (max)
UPTH-18	Handle	Latch pin hole	1.269 (max)
UPTH-18	Handle	Cylinder eye trunnion	1.352 (min)
UPTM-18	Main jaw	Handle pin hole	1.269 (max)
UPTM-18	Main jaw	Hook jaw pin hole	1.269 (max)
UPTK-18	Hook jaw	Main jaw pin hole	1.269 (max)
UPTK-18	Hook jaw	Link hole	1.269 (max)
UPTL-18	Link	Hook jaw pin hole	1.269 (max)
UPTL-18	Link	Latch pin hole	1.269 (max)
UPTE-18	Cylinder eye	Quick release pin hole	0.764 (max)
UPTE-18	Cylinder eye	Handle trunnion hole	1.360 (max)
UPTC-30	Hydraulic cylinder	Quick release pin hole	0.764 (max)
UHCY-ZB-RC	Cylinder clevis	Quick release pin hole	0.764 (max)
HP088	Hinge pins	Pin body	1.223 (min)
HP089	Latch pins	Pin body	1.223 (min)
HP375	Quick release pins	Pin body	0.734 (min)