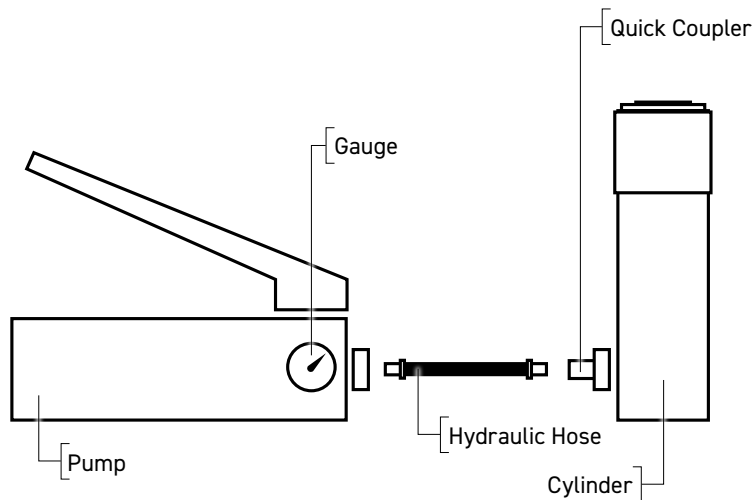


**// Safety Warning****Read all instructions and safety warnings prior to operation.****Failure to do so could result in equipment damage, personal injury, or even death.****Typical Installation**

Since the single-acting cylinders have only one hose connecting the cylinder to the pump, the cylinder can only apply force in one direction to extend (or retract, with pull cylinders). The return stroke is accomplished by gravity or spring force.

**Inspect Before Use**

Tiger Tool's 17202 hydraulic cylinder is designed to be operated up to 700 bar (10,000 psi) hydraulic pressure. The hydraulic pressure is the pressure that builds up inside the equipment (pumps, cylinders, hoses). Any components connected to the cylinder must also be rated to withstand 700 bar (10,000 psi) because the entire system becomes pressurized to 700 bar (10,000 psi). Do not exceed this pressure rating, and do not connect this cylinder to a pump with a higher-pressure rating. Do not subject the cylinder to shock loads, or loads dropped suddenly, which can cause the system pressure to exceed the rated pressure.

Do not use leaking, broken, bent, cracked or otherwise damaged parts. If the cylinder has been or suspected to have been subjected to a shock load, discontinue use until a Tiger Tool authorized service technician can inspect it. Any cylinder that appears to be damaged in any way, is worn or operates abnormally shall be removed from service immediately until such time as repairs can be made.

**Safety Precautions - Hydraulic Cylinders**

ISO (the International Organization for Standardization) specifies general rules and safety requirements for hydraulic fluid power systems and components used on machinery. ISO 4413:2010 discusses all significant hazards associated with hydraulic fluid power systems and specifies the principles to apply to avoid those hazards when the systems are put to their intended use. In the United States, The

Occupational Safety and Health Administration (OSHA) indicates that the National Fluid Power Association/ANSI Standard T2.24.2 R1-2007, "Hydraulic fluid power - Systems standard for stationary industrial machinery" applies; however, the sections related to hydraulic components also defer to ISO 4413.



# Operating Instructions

**NOTE:** Hammering this tool will void your warranty.

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Tiger Tool International Incorporated Warranty and Limit of Liability Terms and Conditions. For more information, visit [tigertool.com](http://tigertool.com)

**Warranties: 1)** Tiger Tool International Incorporated ("Tiger Tool") warrants to customers who purchase the tools from Tiger Tool or an authorized dealer of Tiger Tool that cast portions of the tools are free from defects in workmanship and materials at the time of sale and for as long as the original customer owns the tool pursuant to a contract of sale between the customer and Tiger Tool or its authorized dealer. **2)** Tiger Tool warrants to its customers that threaded areas, bolts and machined components in or of the tools will not fail as a direct result of and caused solely due to defects in workmanship and materials not known at the time of purchase and not discovered by the purchaser or anyone on behalf of the purchaser for a period of two years from the date of original purchase. **3)** Tiger Tool warrants to its customers that hydraulic components will not fail as a direct result of and caused solely by defects in workmanship and materials for a period of one year from the date of original purchase. **4)** Tiger Tool makes no other warranty regarding the fitness for purpose, use, quality, merchantability, or functioning of the tools other than as stated in writing in these terms and conditions of warranty.

**Claims on warranty: 5)** In order for tiger tool to assess any claim of warranty the customer of Tiger Tool agrees to deliver the tool to one of the addresses stated in paragraph 6 or such other place as Tiger Tool may designate, at the customer's sole expense such freight being fully pre-paid by the customer to the addresses designated to the customer by Tiger Tool. **6)** U.S. Returns: 115 First Street PMB-T75520, Sumas, WA 98295. Canada returns: 160-34434 McConnell Road, Abbotsford, B.C., V2S 7P1.

**Limit of liability of Tiger Tool: 7)** The limit of liability of Tiger Tool for any claim of warranty made by any customer pursuant to these terms and conditions of warranty is that Tiger Tool may at its option, repair the tool, replace the tool or refund the purchase price for the tool to the customer. Tiger Tool is not liable for any damages or claims, monetary relief or any other damages or claims, including costs and legal costs except as set out in this paragraph. Tiger Tool is not liable for any economic loss, damages for bodily injury, or claims for property damages. The limit of the warranty and the liability of tiger tool to its customer is as set out in this warranty. the warranty does not extend into the secondary market and the limitation of liability set out in this warranty does extend into the secondary market for the tools of Tiger Tool. Tiger Tool is not responsible for any warranty of its tools to customers of its customer or those who otherwise come into possession or use of its tools through or by its original customer. Tiger Tool is not liable for any damages or claims, monetary relief or any other damages or claims, including costs and legal costs and Tiger Tool is not liable for any economic loss, damages for bodily injury, or claims for property damages to customers of its customer or those who otherwise come into possession or use of its tools through or by its original customer. **8)** New unused product that is returned to Tiger Tool with the pre-authorization given by Tiger Tool to its dealer or customer in those circumstances where the purchase of the tool from Tiger Tool by the customer was as a result of the customers error or due to the customer's inventory adjustment, will be subject to (A) the dealer or customer returning the product in new and unused condition to Tiger Tool at the address designated by Tiger Tool and (B) the dealer or customer paying to Tiger Tool the costs of restocking and reselling the product which the dealer or customer and Tiger Tool agree will be 20% of the purchase price of the tools paid by the dealer or customer to Tiger Tool, which costs must be paid immediately by the dealer or customer to Tiger Tool upon the product being authorized and received by Tiger Tool pursuant to this paragraph. **9)** This warranty is null and void and is of no effect unless the tools purchased by the customer from Tiger Tool or its authorized representative are used in accordance with the terms and conditions of use and the instructions for use published by Tiger Tool in the instructions given with the tool and published on the website of Tiger Tool. **10)** Tiger Tool does not warrant any of its tools that are subject to abnormal use, including without limitation misuse, accident, modification, unreasonable use, neglect, lack of maintenance or use after any portion of a tool is significantly worn. **11)** In the case that Tiger Tool decides that the tools delivered to tiger tool pursuant to a claim made on this warranty do not meet the conditions for any liability of Tiger Tool to perform any obligation pursuant to this warranty, then the customer must at its own expense remove the tools from the premises of Tiger Tool. Tools that are subject to this paragraph and are rejected by Tiger Tool for any claim of warranty will be retained in tiger tool's warehouse facility for four months without any liability of Tiger Tool as a bailee or warehouse of the dealer or customer. These tools will be retained for pick up for four months in the warehouse of Tiger Tool at the sole risk of the dealer or customer, for insurance and loss howsoever caused including by the neglect of Tiger Tool or for anyone it is responsible. Tiger Tool will during the four month period make three attempts to contact the dealer or customer to pick up the tool, and after four months have expired from the first date that Tiger Tool gives notice to the dealer or customer that there is no valid warranty claim for the tools, then the dealer or customer agrees that Tiger Tool may dispose of the tools as it deems necessary, and the dealer or customer quit claims any property or other interest in the tools at the end of that four month period including any claim for refund of purchase price, loss or damage. **12)** Without limiting anything in these terms and conditions of warranty, Tiger Tool shall not be liable for any indirect, consequential, exemplary, incidental, special or other similar damages incurred by a customer or any purchaser or user, or any person or entity who comes into possession of its tools, except for the warranties specifically between the customer and Tiger Tool as set out in paragraphs 1, 2 and 3 above. Tiger Tool is not in any case in any event in any circumstances whatsoever, liable for claims for lost profits, lost revenues, lost sales, lost business opportunities, lost or damaged goodwill, interruption of business or any other injury or damage to person or property howsoever connected to the possession or use of its tool(s). **13)** The terms and conditions of warranties by Tiger Tool and the limits of liability as set out in these terms and conditions of warranty represent the sole and exclusive remedies of the customer and are in place of all other rights and remedies that the customer of Tiger Tool may have. **14)** Tiger Tool reserves the right to change the design and construction of its tools at any time without any obligation to any customer who has purchased the tool or any user of the tool. Tiger Tool may in its sole discretion discontinue the sale or service of any tool at any time without obligation to any customer or user of the tool. **15)** Any dispute, claim or other demand made by a customer or any party against Tiger Tool, arising out of this agreement, or regarding the sale, use, condition, or function of a tool sold by tiger tool shall be governed by the laws of British Columbia and such disputes, including any dispute brought by class or representative proceedings, shall be adjudicated in Vancouver, British Columbia by a sole arbitrator appointed pursuant to the provisions of the arbitration act R.S.B.C. 1996, C. 55, (as amended). Any party including any customer making any claim whatsoever against Tiger Tool arising of this warranty or otherwise hereby attorns to the jurisdiction of the province of British Columbia and agrees to the arbitration of those claims in Vancouver, British Columbia.



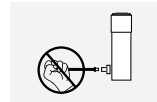
# Operating Instructions

**NOTE:** Hammering this tool will void your warranty.

## Warning



Failure to comply with the following warnings may result in **personal injury and property damage.**



Do not pull, position or move cylinder setup by the hose. Use carrying handle or other means of safe transport.



Follow all instructions provided with this device before use. The user must be a qualified operator familiar with the correct operation, maintenance, and use of cylinders.



Do not handle pressurized hoses. Never attempt to grasp a leaking pressurized hose. Ensure to release the system pressure before disconnecting hydraulic hose or connections.



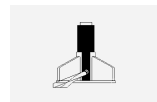
Wear protective gear when operating hydraulic equipment.



Hydraulic fluid can ignite and burn. Keep hydraulic equipment away from flames and heat. Excessive heat will soften seals, resulting in fluid leaks. Heat also weakens hose materials.



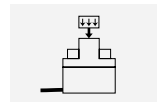
This device is NOT suitable as a support device! As the load is lifted, use blocking to guard against a falling load. Stay clear of a lifted load before it is properly supported. Never rely on hydraulic pressure to support a load.



Cylinder must be on a stable base which is able to support the load while pushing or lifting. Use shims, friction material or constrains to prevent slippage of the base or load.



Crush Hazard. Keep hands and feet away from cylinder and workpiece during operation.



Center load on cylinder. Distribute load evenly across the entire saddle surface. Do not off-center loads on a cylinder. The load can tip.



Do not exceed rated capacity of the cylinder or any equipment in the system. The cylinder is designed for a max. pressure of 10,000 psi.



Never try to disassemble a hydraulic cylinder, refer repairs to qualified, authorized personnel.

Do not connect a cylinder to a pump with a higher-pressure rating. Do not subject cylinder to shock loads; system pressure may then exceed rated pressure.



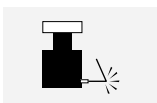
Do not subject hose to sharp objects or heavy impact.



The system operating pressure must not exceed the pressure rating of the lowest rated component the system. Install a pressure gauge or other load measuring instrument to monitor the operating pressure.



Hose material or seals must not come in contact with corrosive materials such as battery acid, creosote-impregnated objects and wet paint. Never paint a coupler or hose.



Avoid damaging hydraulic hose. Do not allow hose to kink, twist, curl, crush, cut or bend so tightly that fluid flow within the hose is blocked or reduced.



No alteration shall be made to the cylinder. Use only factory authorized fasteners, accessories and hydraulic fluid.

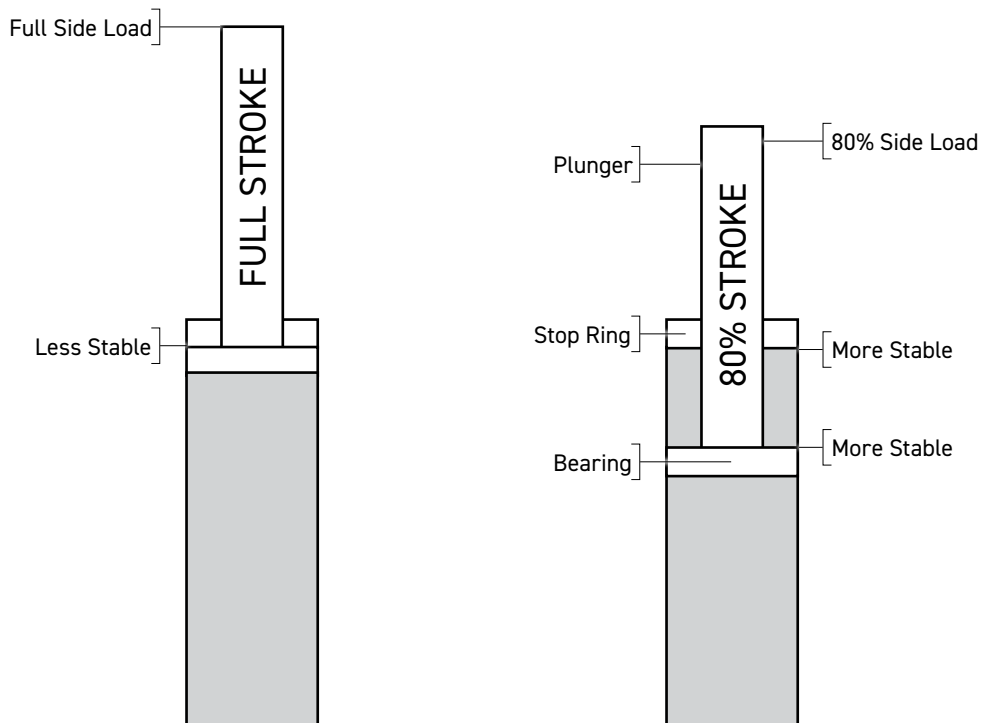
# Operating Instructions

**NOTE:** Hammering this tool will void your warranty.

## Safety Factors

High pressure hydraulic tools are designed to be safely operated up to the manufacturer's ratings. They are not designed with any safety factor that allows you to exceed the equipment rating. To prevent material fatigue and premature failure if the cylinder is used in a continuous application, the load should not exceed 80% of the rated capacity or stroke. One reason for applying the 80% rule to cylinder capacity is that most loads are not lifted on their true center. This results in side loading of the cylinder. Allowing for a safety factor is the simplest way to compensate for the off-center characteristics of a one-point lift.

The illustration below shows two benefits of applying the 80% rule to cylinder stroke. First, leaving distance between the stop ring and the bearing reduces side loading force, resulting in a more stable cylinder. Second, you can avoid damaging the stop ring by not running the plunger all the way up and hitting the stop ring with the bearing.



# Operating Instructions

**NOTE:** Hammering this tool will void your warranty.

## Cylinder Maintenance & Storage

- 1 Inspect hoses and connections daily. Replace damaged components immediately with Tiger Tool Replacement Parts only.
- 2 Tighten connections as needed. Use pipe thread sealing compound when servicing connections.
- 3 Always use clean, approved hydraulic fluid and change as recommended or sooner if the fluid becomes contaminated (never exceed 400 hours). Follow pump manufacturers instructions for changing and adding hydraulic fluid. Use only good quality hydraulic fluid. Never use brake fluid, transmission fluid, turbine oil, motor oil, alcohol, glycerin etc. Use of other than good quality hydraulic oil will void warranty and damage the cylinder, pump, hose etc.

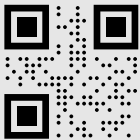
## Lubrication & Cleaning

Keep cylinder clean at all times.

- 1 Any exposed threads (male or female) must be cleaned and lubricated regularly, and protected from damage. Lubricate with light machine oil.
- 2 If a cylinder or ram has been exposed to rain, snow, sand, airborne abrasive, or any corrosive environment, it must be cleaned, lubricated, and protected immediately after exposure. Clean the exposed ram daily with a clean cloth dampened with light machine oil. Protect exposed ram from the elements at all times.
- 3 Keep the hydraulic system as free of dirt as possible. When not in use, couplers must be sealed with dust covers. All hose connections must be free of dirt and grime. Any equipment attached to the cylinder must be kept clean.

## Storage

Cylinders should be stored vertically with ram plunger fully retracted in a dry, protected area, not exposed to corrosive vapor, dust or other harmful elements. When a cylinder has not been used for a period of 4 months, it should be connected to a pump and fully extended and then retracted a minimum of 5 times. This cycle will lubricate the cylinder wall, reducing the possibility of corrosion and damage thereof.

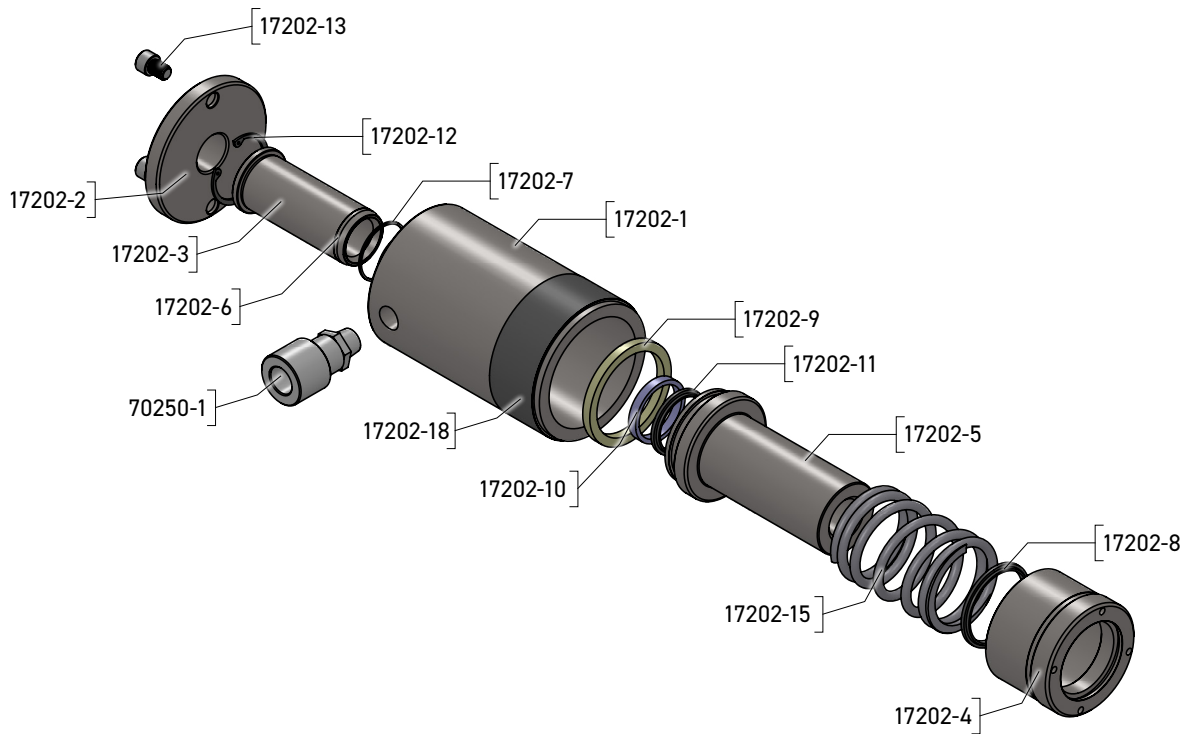


### **Need some assistance with your Tiger Tool?**

No worries! Scan this QR code with your phone to start texting with someone who can help out.

**1.800.661.4661**

# Parts Breakdown



Part Number	Description	Qty.
17202-1	20 Ton Cylinder Body	1
17202-2	Threaded End Plate	1
17202-3	Inner Cylinder Tube	1
17202-4	Cylinder Cap	1
17202-5	20 Ton Piston	1
17202-6	N70029 O-Ring -029	1
17202-7	Backup Ring	1
17202-8	Anw21 Dust Seal	1
17202-9	005231 Piston Seal	1
17202-10	Hal605150175250 Piston Seal	1
17202-11	Anw17 Dust Seal	1
17202-12	Retaining Ring	1
17202-13	3/8-16 X 1/2" Shcs	2
17202-18	Cylinder Sleeve	1
17202-15	20 Ton Spring	1
70250-1	Ns35-3 Female Coupler	1

