



TC-6



TC-15



TC-16

READ INSTRUCTIONS THOROUGHLY BEFORE OPERATING



TIRE SERVICE INTERNATIONAL

800.223.4540

**3451 S 40th ST
Phoenix, AZ 84040
602-437-5040**

**www.buytsi.com
sales@buytsi.com
Fax. 602-437-5025**

This operation manual includes primary part identification and instruction for all three models of TSI's oil filter crushers.

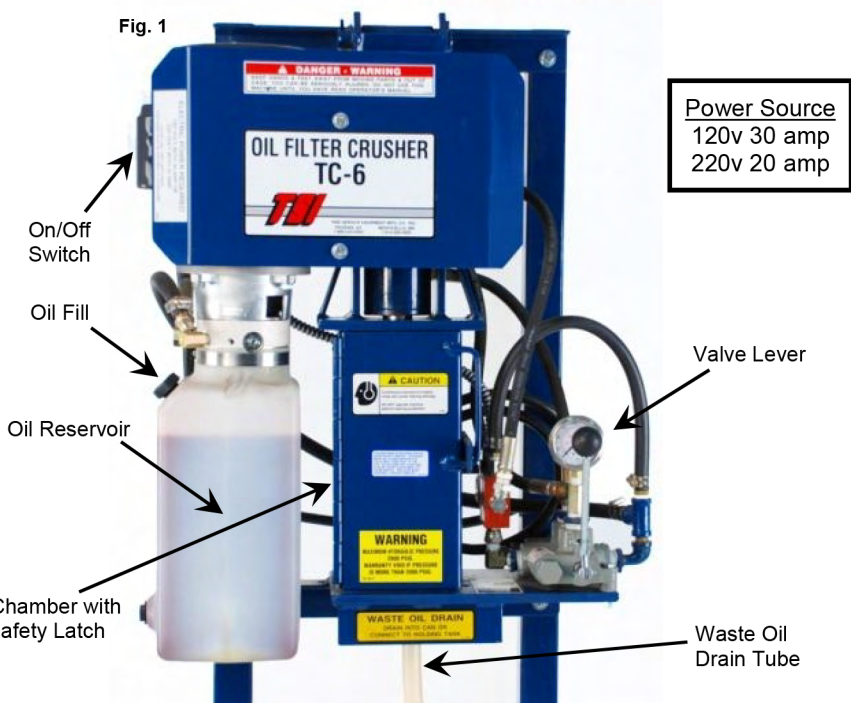
General: Remove contents from box and assemble as directed. Read and follow instructions for optimum use.
Do not connect to power source until unit is completely set up.

Overview: Each Oil Crusher model works and functions slightly different from one another. Crush one filter at a time to crushing several filters at a time.
Set-up unit in a clear unobstructed area on level ground.
Connect to specified electric power source once fully assembled.

TC-6: Primary Features

CAUTION Read all Labels!

Fig. 1



Power Source
120v 30 amp
220v 20 amp

Do not plug in or connect electric power to any Tire Service & Equipment product until the machines are completely set-up and prepared for use.

TC-6 Set-Up

The TC-6 can be mounted on a wall or bolt directly to a stand. See Fig. 2 at right. When mounting to a wall make sure the wall can handle it. The TC-6 weighs 225 pounds and it's extremely important the wall can support it. Make sure it is level. Measure the unit for bolt pattern and use 3/8" hardware to securely fasten unit.

Stand Option: The TSI stand comes with 4 longer bolts, washers and self-locking nuts. Fasten the two vertical square tubes to the base as shown at left.

The remaining nuts, bolts and washers are used to mount the TC-6 unit to the frame where the arrows are pointing (on this side of the stand in Fig. 2.) This can be done with the frame standing up or laying down.

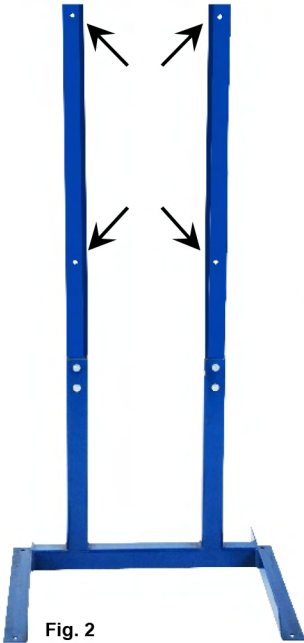


Fig. 2



Fig. 3

Bolt the stand to the floor in a clear area. Use 3/8" bolts.

Tighten all mounting bolts firmly but don't crush the square tubes.

Remove contents of crushing chamber. This includes a barbed fitting and oil drain hose.

Bolted on stand (Fig. 3.)

For shipping purposes the oil reservoir comes with a plug in the top of the reservoir keeping it from leaking.

To run the unit the plug must be replaced with a breather type plug. It is not advisable to run the unit while the plug used for shipping is in the reservoir.

At the bottom of the reservoir there's another plug. This is the breather type plug necessary to be in the top of the reservoir in order to run the unit. Exchange the two plugs before operating the unit. See Fig. 4.

Store the shipping plug at the bottom of the reservoir in the event the unit is moved. If so replace and exchange as needed.

Tighten firmly until snug. Don't over tighten.

Under the crushing chamber is a fitting to thread the barbed fitting into. Install the barbed fitting and tighten firmly. Slide/press one end of the hose over the barbed end of the fitting. Slide it on at least a 1/2 inch.

Place the end of the oil drain tube into a pail or other receptacle to catch oil draining from the unit. The stand allows for up to a 55 gallon drum.

Power Supply: 120volt, 30 amp or 220volt, 20 amp service
Units with a Door Switch are 120 volt, 30 amp

The unit is now ready to operate. Plug the unit into the proper power source.

To Run

1. Open crushing chamber door. Place filters open end down over centering pin.



Fig. 4

TC-6 (Continued)

2. Close and latch door.
3. Turn on machine with electric toggle switch.
4. Pull valve lever toward you and hold lever until you hear a 'strained' squealing noise. *The noise is from the relief valve.*

Units with the Door Safety Switch option will not run if the door isn't closed properly.

5. Push lever back to return position. The valve will lock into a detent position. This means the crushing plunger will automatically return to the starting position.
6. Open door, remove crushed filter.

Repeat crushing cycle as often as necessary. It is not necessary to turn off the unit between crushing cycles. TSI recommends running the motor continuously.

Upon completion shut the motor off and clear away all debris from the crushing chamber. Periodically check the oil drain tube and don't let it become clogged.

If it becomes clogged unplug unit from electric power source before servicing.

Do not operate the TC-6 with the crushing chamber door open.

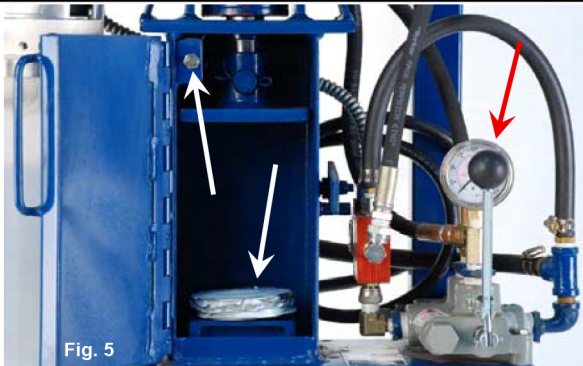


Fig. 5
The 3 arrows above point to the Door Safety Switch, Valve Lever Handle and a Crushed Oil Filter.

TC-15 FILTER CRUSHER

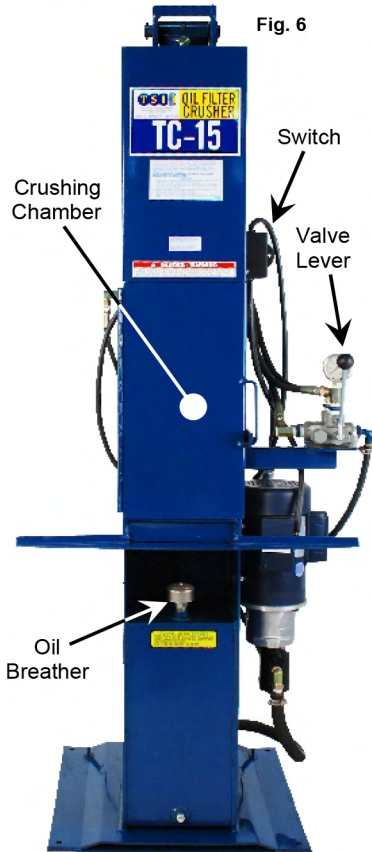
Set-Up

The TC-15 can crush one, or multiple oil filters at a time (Fig. 6)

1. Remove carton from skid. Discard other packaging materials and unbolt machine from skid.
2. Inspect machine for any freight damage. Note any damage and please file a claim with the trucking company.
3. Verify hydraulic oil level in reservoir. It should be about 3" from top of reservoir. When low use automatic transmission fluid to bring level up.
4. Some components are stored in the crushing chamber during shipping. These include the oil drain tube, vented oil breather and riser. Remove these items to set-up.

TC-15: Primary Features

Fig. 6



5. Replace solid plug on top of hydraulic reservoir with the vented oil breather.

6. Connect the 1-1/4 I.D. clear drain hose from the fitting on the rear of the TC-15 to the plastic holding container provided. *Connecting drain tube to a larger waste container is permissible.*

Electric Power Source

120 volt, 30 amp

220 volt, 20 amp

Hydraulic Power

2800 PSIG generating 38,000 lbs of force

Bolting the unit to the floor in a clear, accessible area is highly recommended.

Once everything is set-up and assembled it's safe to plug the unit in to the proper electric power source. Tire Service & Equipment recommends plugging in the unit on its own circuit. Using an extension cord is not desirable. If an extension cord is used, use one as short as possible that can deliver the power necessary to run the unit without starving it for electricity.

Plug it in.

Above the valve lever on the right side of the unit (facing the crushing chamber) is the electric operating switch. Before turning the machine 'ON' always check the crushing chamber and clear it of its contents.

The TC-15 comes equipped with a Door Safety Switch. The unit will not operate with the crushing chamber door open. Do not disable this function!

To Run

1. Open door. (Crushing plate must be retracted.)

In the crushing chamber is a riser which is used for shorter canister-style filters. Typically these are automotive oil filters and under 11" long. Up to four filters of the same height can be crushed using the riser.

When crushing filters over 11" long such as element-style filters found in larger trucks, remove the riser and position the filter on the centering pin.

Whenever crushing just one filter center it over the center pin. If two filters are crushed, position the filters diagonally from each other.

Filters must be the same height if crushing more than one at a time. Always place filters in the crusher with the filter opening *face down* (mounting surface.)

3. Close door and make sure door latch is secure.

4. Turn on electric switch. (Leave electric motor run continuously when crushing many filters.)

TC-15 (Continued)

Pull valve lever toward you and hold until you hear a 'strained' squealing noise (*the noise is from the relief valve*) or hold until the pressure gauge goes up to 2500 to 2800 PSI, pause; then release the lever. Releasing the lever places the unit in a neutral position.

Filters should be crushed.

Push valve lever away from you to retract the cylinder rod. This raises the crushing ram so you can safely open the door and remove the crushed filters.

Upon completion shut the motor off and clear away all debris from the crushing chamber. Periodically check the oil drain tube and don't let it become clogged.

If it becomes clogged unplug unit from electric power source before servicing.

TC-16 FILTER CRUSHER

Set-Up

This unit crushes multiple automotive, truck and industrial filters in a 15" x 15" x 20" crushing chamber and delivers 64,000 pounds of force. Fig. 7.

1. Remove carton from skid. Discard other packaging materials and unbolt machine from skid.
2. Inspect machine for any freight damage. Note any damage and please file a claim with the trucking company.
3. Assemble legs-stand under unit. With hoist lift the main frame assembly. Bolt on the legs and frame pieces (See Page 7, Fig. 7 and 8) under the frame as shown. Once assembled tighten all bolts firmly and make sure unit is stable and level.
4. Verify hydraulic oil level in reservoir. It should be about 3" from top of reservoir. When low use automatic transmission fluid to bring level up.

Each unit is tested prior to shipping. The oil level in the hydraulic reservoir is full.

5. Components stored in the crushing chamber during shipping include the oil drain tube & barb fitting, vented oil breather, riser and hardware. Remove these items to set-up. Drip pan is located between the oil reservoir and main frame structure.
6. Replace solid plug on top of hydraulic reservoir with the vented oil breather.
7. Connect the 1-1/4 I.D. clear drain hose and barb fitting to the underside of the crushing chamber. Insert end of drain tube into a 55 gallon barrel placed under the unit. *Customer supplies 55 gallon barrel or other waste receptacle.*
8. Bolt-on drip pan. Line-up drain hole then tighten.
9. Locate a suitable location to operate and bolt it to the floor. Six 3/8" hardened bolts are recommended. Remember to keep area clear while operating.

Customer supplies electric power receptacle and plug.
Automatic model is 4-wire 220 volt, 20 amp, single phase
Standard model is 3-wire 220 volt, 20 amp, single phase

The unit is now ready for operation. Plug it in.

10. Open crush chamber door. Determine using the riser or not depending on the height of filters being crushed and the end-result you're looking for.
Tip: Using the riser whenever possible can decrease cycle time of the cylinder.

Only crush same height filters together.

All filters must be placed *face down* (open end down) in chamber.

Place single filters in the middle of the chamber. If two at a time place diagonally.

Any number more place symmetrically from each other from center of the chamber outward until chamber is full.

The TC-16 comes equipped with a Door Safety Switch. The unit will not operate with the crushing chamber door open. Do not disable this function!

To Run

Close door and make sure door latch is secure.

Turn on electric switch. On Automated machines this is the green START button.

(Motor can run continuously between loading and unloading crushing chamber.)

The cylinder on all TC-16 units will stop moving if the crushing chamber door is opened or if the red STOP button is pressed.

TC-16: Primary Features

Automatic Electric Power Source:

4-wire 220 volt, 20 amp, single phase

Standard Electric Power Source:

3-wire 220 volt, 20 amp, single phase

Hydraulic Power

2800 PSIG generating 64,000 lbs of force

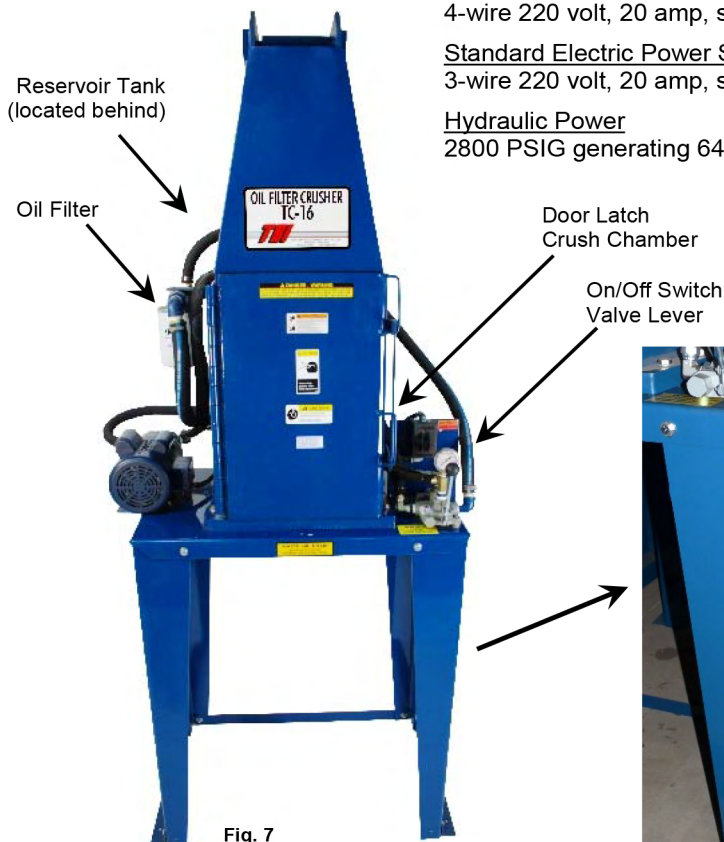


Fig. 7



Fig. 8

The fully automated TC-16 has a control box mounted where the valve lever is.

Leg & Stand Parts

Automated machine:

Push the DOWN button on control box. The cylinder will complete a cycle and crush the filters in the crush chamber. The pressure sensor is set between 1700 - 2000 PSI. Once the machine finishes the crushing cycle the filters can be removed and the chamber refilled. If repeating this operation leave the machine on. If not press the red STOP button to shut it off. The red STOP button shuts off all power.

Press the UP button at any time and the cylinder will retract accordingly.

Manual machine:

Pull valve lever toward you and hold until you hear a 'strained' squealing noise (*the noise is from the relief valve*) or hold until the pressure gauge goes up to 2500 to 2800 PSI, pause; then release the lever. Releasing the lever places the unit in a neutral position.

Filters should be crushed.

Push valve lever away from you to retract the cylinder rod. This raises the crushing ram so you can safely open the door and remove the crushed filters.

Manual or Automated machine:

Upon completion shut the motor off and clear away all debris from the crushing chamber. Periodically check the oil drain tube and don't let it become clogged.

If it becomes clogged unplug unit from electric power source before servicing.

Maintenance

Regular maintenance on all Filter Crushers should include the following:

Replace oil with a universal automatic transmission fluid every six months.

The TC-6 has a screen-type oil filter that does not require replacement.

The TC-15A and TC-16 require oil filter changes with every oil change.

TC-15A Replace oil filter element with TSI PN 3090

TC-16 Replace oil filter element with TSI PN 10130E

| Model | Height | Length | Width | Weight |
|-------|--------|--------|-------|----------|
| TC-6* | 32" | 12" | 27" | 225 lbs |
| TC-15 | 72" | 36" | 26" | 580 lbs |
| TC-16 | 104" | 40" | 40" | 1500 lbs |

*Not including Optional Stand

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CH-6, TC-15A & TC-16 FILTER CRUSHER



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3451 S 40th st
Phoenix, AZ 85040
602-437-5020

www.buytsi.com
sales@buytsi.com
Fax. 602-437-5020