

# TriTech

MADE IN THE U.S.A.

## T15 / T15TX

### Owners Manual 302-124

6/2024 REV H

#### PROFESSIONAL AIRLESS SPRAYER

**MAXIMUM WORKING PRESSURE 3300PSI 227BAR 22.7 MPa**

| VOLTS | CYCLES  | AMPS | PHASE  |
|-------|---------|------|--------|
| 110V  | 50 / 60 | 13   | SINGLE |
| 220V  | 50 / 60 | 7    | SINGLE |

**FOR THE APPLICATION OF ARCHITECTURAL PAINTS AND COATINGS**

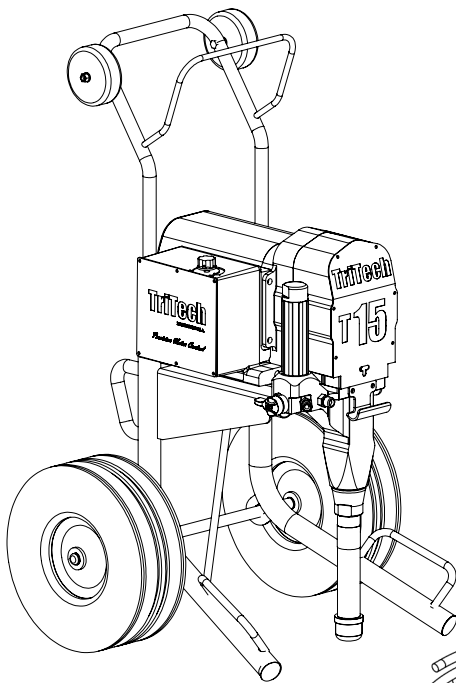


TriTech Industries, Inc., 610 Rahway Avenue, Union NJ 07083  
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**!! SAFETY AND OPERATING INSTRUCTIONS INSIDE !!**

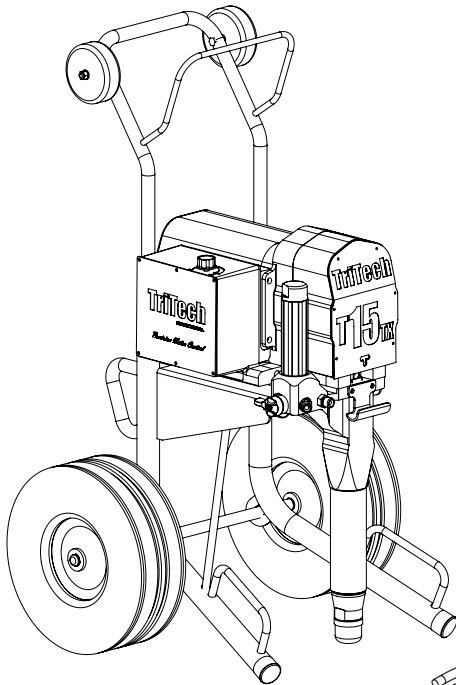
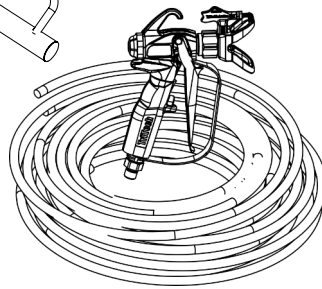
**Read all warnings and safe operating information inside and retain this manual for future reference.**



## T15

|         |                                     |
|---------|-------------------------------------|
| 602-934 | T15 HI CART COMPLETE 110V           |
| 602-944 | T15 HI CART COMPLETE 220V           |
| 602-951 | T15 HI CART COMPLETE 220V AUSTRALIA |
| 602-953 | T15 HI CART COMPLETE 110V UK        |
| 602-955 | T15 HI CART COMPLETE 110V CANADA    |
| 602-987 | T15 HI CART COMPLETE 220V UK        |

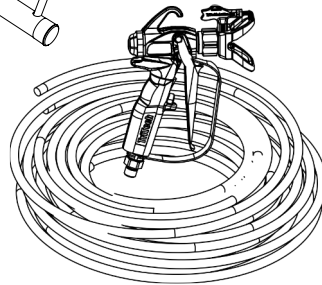
|         |                                 |
|---------|---------------------------------|
| 501-155 | T380 AIRLESS SPRAY GUN 2 FINGER |
| 200-517 | T93R CONTRACTOR TIP             |
| 200-999 | CONTRACTOR GUARD                |
| 400-110 | 50' X 1/4" AIRLESS HOSE         |
| 400-141 | 25' X 3/8" AIRLESS HOSE         |
| 120-626 | 5000 PSI PRESSURE GAUGE KIT     |



## T15TX

|         |                                       |
|---------|---------------------------------------|
| 602-964 | T15TX HI CART COMPLETE 110V           |
| 602-974 | T15TX HI CART COMPLETE 220V           |
| 602-981 | T15TX HI CART COMPLETE 220V AUSTRALIA |
| 602-983 | T15TX HI CART COMPLETE 110V UK        |
| 602-985 | T15TX HI CART COMPLETE 110V CANADA    |
| 602-989 | T15TX HI CART COMPLETE 220V UK        |

|                                                                                                                                           |                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 503-402                                                                                                                                   | T400TX AIRLESS TEXTURE GUN 4F       |
| Includes Tip and Guard, 7/8" Guard Connection. and a 1/4" Gun Swivel. NOTE: Optional 503-055 3/8" Gun Swivel is also included in the box. |                                     |
| 207-531                                                                                                                                   | T93R 531 MAXX TIP                   |
| 207-999                                                                                                                                   | MAXX TIP GUARD                      |
| 400-110                                                                                                                                   | 50' X 3/8" AIRLESS HOSE             |
| 400-121                                                                                                                                   | 5' x 1/4" AIRLESS WHIP HOSE         |
| 120-226                                                                                                                                   | 1/4" M X 3/8" M HOSE NIPPLE FITTING |
| 120-626                                                                                                                                   | 5000 PSI PRESSURE GAUGE KIT         |



# IMPORTANT SAFETY INFORMATION

**SAVE THESE INSTRUCTIONS** - To reduce the risk of fire or explosion, electrical shock and the injury to persons, read and understand all instructions. Become familiar with setup and operation before using this equipment.

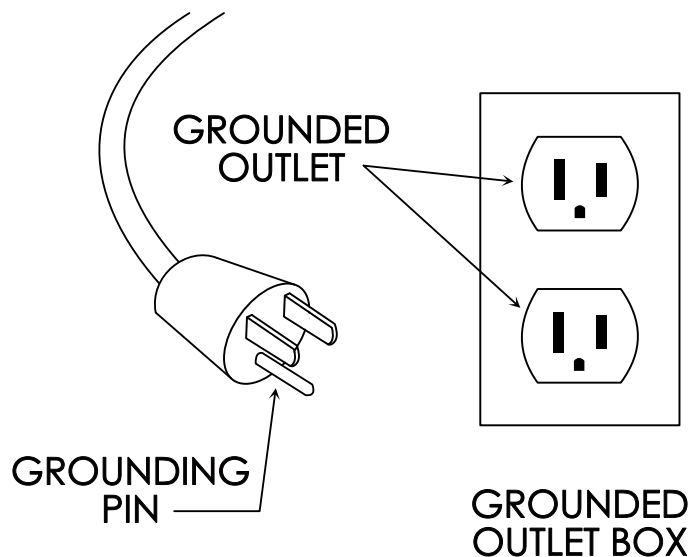
## GROUNDING

This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having a ground wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances. Ensure ground prong is intact on the equipment power cord, and if used, ensure the extension cord ground prong is intact as well.

**WARNING** - Improper installation of the grounding prong may result in a risk of electric shock. When repair or replacement of the cord or plug is required, do not connect the grounding wire to either flat blade main terminals. The wire with the green or green/yellow insulation is the grounding wire.

Check with a qualified electrician or serviceman when the grounding instructions are not completely understood, or when in doubt as to whether the product is properly grounded. Do not modify the plug provided. If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician.

Products that operate on a nominal 110VAC circuit have a grounding plug similar to the illustrated below. Only connect the product to an outlet having the same configuration as the plug. Do not use a 3 to 2 blade adapter with this product.



# IMPORTANT SAFETY INFORMATION

**WARNING** — To reduce the risk of fire or explosion.

- Do not spray flammable or combustible material near an open flame or source of ignition such as cigarettes, motors, plastic drop cloths and electrical equipment.
- Do not plug or unplug power cord when flammable fumes are present.
- If there is a static spark or you feel a shock, stop use immediately. Do not use equipment until you identify and correct the problem.
- Do not spray or clean using materials with a flashpoint below 100° F (38° C).
- Paint or solvent flowing through the equipment is able to result in static electricity. Static electricity creates a risk of fire or explosion in the presence of paint or solvent fumes. All parts of the spray system, including the pump, hose assembly, spray gun, and objects in and around the spray area shall be properly grounded to protect against static discharge and sparks. Use only conductive or grounded high-pressure airless paint spray hoses specified by TriTech Industries, Inc.
- Verify that all containers and collective systems are grounded to prevent static discharge.
- Connect to a grounded outlet and use grounded extension cords. Do not use a 3 to 2 adapter.
- Do not use a paint or a solvent containing halogenated hydrocarbons.
- Keep spray area well ventilated. Keep a good supply of fresh air moving through the area. Keep pump assembly in a well ventilated area. Do not spray pump assembly.
- Do not smoke in the spray area.
- Do not operate light switches, engines, or similar spark producing products in the spray area or while flammable fumes are present.
- Keep area clean and free of paint or solvent containers, rags, and other flammable materials.
- Sprayer generates sparks. When flammable liquid is used in or near the sprayer for flushing or cleaning keep sprayer at least 20 feet (6.1 meters) away from explosive vapors.
- Know the contents of the paints and solvents being sprayed. Read all Material Safety Data Sheets (MSDS) and container labels provided with the paint and solvents. Follow paint and solvent manufacturer's safety instructions.
- Fire extinguisher equipment shall be present and working.

# IMPORTANT SAFETY INFORMATION

**WARNING** — To reduce risk of skin injection.

High-pressure fluid from tip, gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. Get immediate surgical treatment.

- Do not aim the gun at, or spray any person or animal
- Keep hands and other body parts away from the discharge. For example, do not try to stop leaks with any body part.
- Always use the spray gun tip guard. Do not spray without spray gun tip guard in place.
- Only use TriTech Industries, Inc. spray gun tips.
- Use caution when cleaning and changing spray gun tips. In the case where the spray gun tip clogs while spraying, follow the manufacturer's instructions for turning off the equipment and relieving the pressure before removing the spray gun tip to clean or replace.
- Do not leave the unit energized or under pressure while unattended. When the unit is not in use, turn off the unit and relieve the pressure in accordance with TriTech Industries, Inc. Instructions shown below. \*\*\*
- High-pressure spray is able to inject toxins into the body and cause serious bodily injury. In the event that injection occurs, seek medical attention immediately.
- Check hoses and parts for signs of damage. Replace any damaged hoses or parts.
- This system is capable of producing 3300 psi. Only use replacement parts or accessories that are specified by TriTech Industries, Inc. and that are rated at a minimum of 3300 psi.
- Always engage the gun trigger lock when not spraying. Verify the gun trigger lock is functioning properly.
- Verify that all connections are secure before operating the unit.
- Know how to stop the unit and bleed pressure quickly. Be thoroughly familiar with the controls.

## \*\*\* PRESSURE RELIEF PROCEDURE

- 1) Turn the pressure control knob counterclockwise until it stops.
- 2) Turn OFF the sprayer.
- 3) Unplug the power cord.
- 4) Place the metal part of the gun firmly against the grounded metal container.
- 5) Place a rag over the container to protect against blow-back and trigger the gun to relieve pressure.
- 6) Engage the trigger lock.
- 7) Open the PRIME / SPRAY VALVE so the handle is pointing down. Leave it in this position until next use.

**WARNING** — To reduce the risk of injury.

- Always wear appropriate gloves, eye protection, hearing protection and a respirator or mask when painting.
- Do not operate or spray near children. Keep children away from equipment at all times.
- Do not overreach or stand on an unstable support. Keep effective footing and balance at all times.
- Stay alert and watch what you are doing.
- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not kink or bend the hose.
- Do not expose the hose to temperature or pressures above that specified by manufacturer.
- Do not use the hose as a strength member to pull or lift the equipment.
- To reduce the risk of electrical shock, do not expose to rain. Store indoors.
- Turn off unit and unplug power cord before servicing equipment.

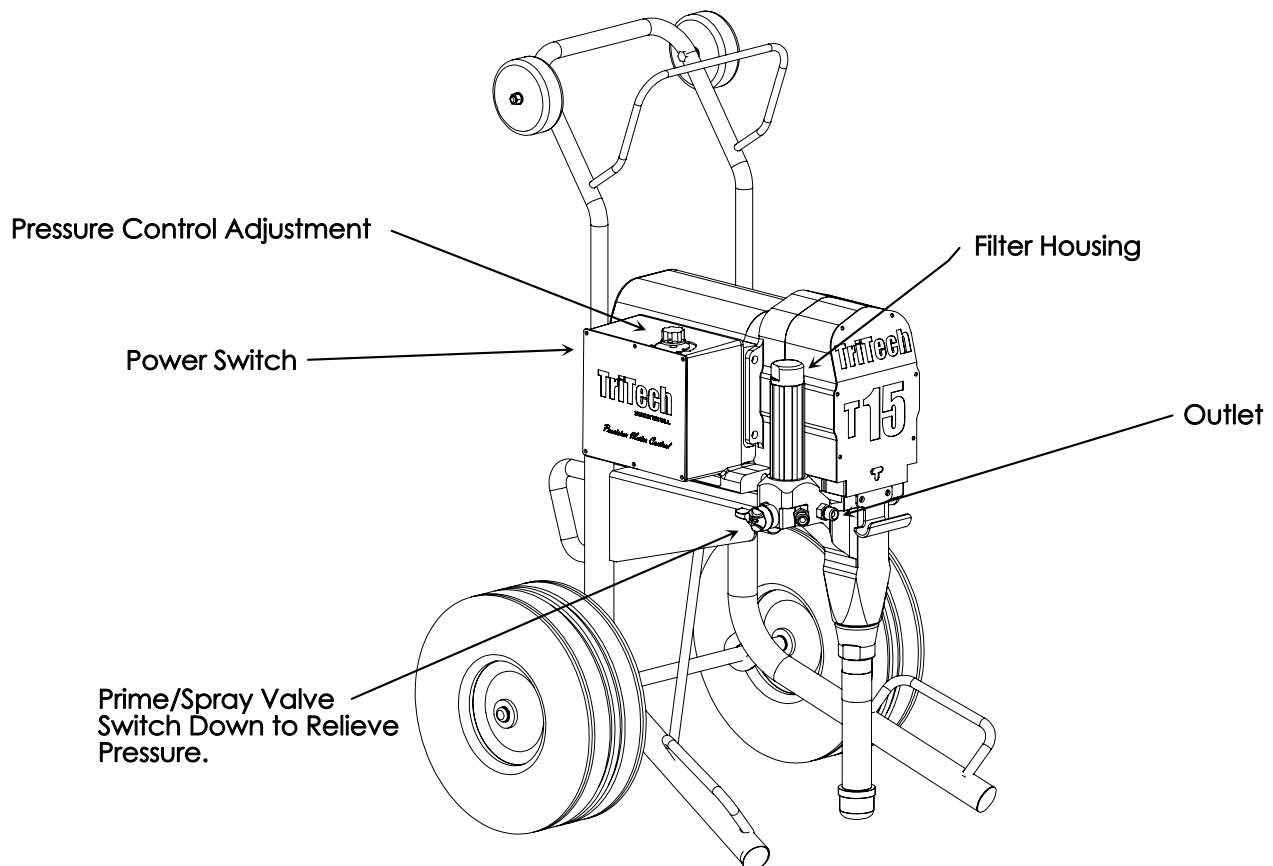
**WARNING** — To reduce the risk of injury, pressurized aluminum parts hazard.

- Do not use 1, 1,1-trichloroethane, methylene chloride, halogenated hydrocarbons (a solvent containing, Fluorine, Bromine, Chlorine, or iodine) and examples of those materials — such as methyl bromine, carbon tetrachloride and ethyl iodide.

# IMPORTANT SAFETY INFORMATION

## **WARNING** — Equipment Misuse Hazard

- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine TriTech Industries, Inc. replacement parts.
- Do not alter or modify this equipment.
- Use equipment only for its intended purpose. Call TriTech Industries, Inc. customer service or your TriTech Industries, Inc. distributor for information.
- Route hoses, cords, extension cords away from high traffic areas, sharp edges, moving parts and hot surfaces. If spray hose is required to be replaced only replace with identical hose supplied with sprayer.
- Extension Cord, three wire grounded type only.
  - Use only extension cord with plug and receptacle that matches plug supplied on equipment.
  - Inspect the extension cord for damage before use, replaced if necessary
  - Acceptable extension cord lengths:
    - 14 AWG 25 feet maximum
    - 12 AWG 50 feet maximum
    - 10 AWG 100 feet maximum
- Generator Selection 110V / 220V
  - 3400 WATTS Minimum Continuous Output / 4420 WATTS Minimum Peak Output
  - In the UK, the generator must feed directly into a 220/110 volt transformer with a minimum rating of 3.3kVa and under no circumstances is the sprayer to be plugged directly into the 110 volt output from the generator.
- Pails – Solvent and oil based fluids: follow local codes;
  - Use only conductive metal pails placed on a grounded surface.



## **START UP**

1. Connect TriTech airless hose to sprayer. Tighten securely.
2. Connect other end of the hose to gun.
3. Tighten securely.
4. Remove tip guard.
5. Check inlet strainer for clogs and debris.
6. Fill upper retainer with TriLube to prevent premature packing wear. Do this each time you spray.
7. Plug power supply cord into a properly grounded electrical outlet.
8. Place siphon tube set in grounded metal container partially filled with flushing fluid. Use mineral spirits to flush storage oil.
9. Turn pressure control to lowest pressure. Open the Prime/Spray Valve so the handle is pointing down.
10. Turn power ON.
11. Increase pressure to start motor and allow fluid to circulate through prime tube for 15 seconds; then turn pressure down.
12. Turn prime / spray valve to the spray position or so the handle is horizontal. Turn spray gun trigger safety OFF.
13. Hold gun against grounded metal container. Trigger gun and increase fluid pressure to half way. Flush 1 minute. Inspect for leaks. If a leak occurs follow the pressure relief procedure then tighten fitting were leak occurred. Do not attempt to stop leaks with hand or rag! Repeat Start-up 9-13 again. If no leaks, proceed.
14. Place siphon tube in paint pail.
15. Trigger gun again into metal container until paint appears. Move gun to paint pail and trigger for 20 seconds. Set the safety to ON position. Assemble tip and guard. (See following section).

## **TIP AND GUARD ASSEMBLY**

1. Insert metal seal and “black bellow” seal assembly by placing seals on the end of T93R Contractor tip and insert through guard. Line up seals by turning tip.
2. Insert Tip
3. Screw assembly onto gun. Hand tighten.

## **SPRAYING**

1. Spray test pattern. Start with pressure turned to its lowest setting, then gradually increase pressure until you achieve a consistent spray pattern without heavy edges. Use smaller tip size if pressure adjustment cannot eliminate heavy edges.
2. Hold gun perpendicular 10-12 inches in of front surface. Spray back and forth overlapping by 30%. To prevent heavy spots, start moving the gun before pulling the trigger. When spraying, after releasing trigger continue to move gun.

### **CLEARING CLOGGED TIP**

- a) Release trigger, put safety ON.
- b) Rotate T93R Tip so the arrow is pointing backwards.
- c) Take safety OFF
- d) Trigger gun to clear clog. Never point gun at your hand or in a rag!

### **RETURN TO SPRAY**

- a) Put Safety ON.
- b) Return Tip to spray position.
- c) Take safety OFF and continue spraying.

### **CLEAN UP**

1. Turn power OFF and unplug sprayer.
2. Turn pressure to lowest setting. Trigger gun to relieve pressure.
3. Put prime hose in pail. Turn the prime / spray valve so the handle is pointing down.
4. Remove guard and T93R tip. Clean tip with soft bristle brush. **DO NOT STORE IN WATER.**
5. Remove suction hose from paint and place in flushing fluid. Use water for water base paint and mineral spirits for oil base paint.
6. Plug in sprayer. Turn power ON. Turn the prime / spray valve so the handle is horizontal.
7. Hold gun against paint pail. Take trigger safety OFF. Trigger gun and increase pressure until flushing fluid appears.
8. Move gun to flushing pail, hold gun against pail. Trigger gun to thoroughly flush system. Release trigger and put trigger safety ON.
9. Turn the prime / spray valve so the handle is pointing down and allow flushing fluid to circulate for 1 to 2 minutes to clean prime hose.
10. Raise the suction hose just above the flushing fluid and run sprayer for 15 to 30 seconds to drain fluid. Turn power off.
11. Close prime / spray valve. Trigger gun into flushing pail to purge fluid from hose.
12. Open prime / spray valve. Then close. Do not store with prime / spray valve open.
13. Remove filter from gun and sprayer, if installed. Clean and inspect. Reinstall filters.
14. If flushing with water, flush again with mineral spirits or TriTech Pump Cleaner to leave a protective coating to prevent freezing or corrosion.
15. Unplug power cord from outlet and wipe sprayer, hose and gun with rag soaked in water or mineral spirits.

### **PRESSURE RELIEF PROCEDURE**

The sprayer's pressure must be manually relieved to prevent sprayer from starting or spraying accidentally. Fluid under high pressure can be injected through skin and cause serious injury. To reduce risk of injury from injection, splashing fluid, or moving parts, Follow the **PressureRelief Procedure** whenever you:

- Are instructed to relieve pressure
- Stop spraying
- Need to check or service any system equipment
- Install or clean spray tip

### **PRESSURE RELIEF PROCEDURE**

- 1) Turn the pressure control knob counterclockwise until it stops.
- 2) Turn OFF the sprayer.
- 3) Unplug the power cord.
- 4) Place the metal part of the gun firmly against the grounded metal container.
- 5) Place a rag over the container to protect against blow-back and trigger the gun to relieve pressure.
- 6) Engage the trigger lock.
- 7) Open the PRIME / SPRAY VALVE so the handle is pointing down. Leave it in this position until next use.

**NOTE:** If suspected that spray tip or hose is completely clogged, or that pressure has not been fully relieved after following steps above. **SLOWLY** loosen tip guard or hose end coupling to relieve pressure gradually, and then loosen completely. Clear tip or hose obstruction.

### **ELECTRICAL SHOCK WARNING**

To reduce risk of serious injury, including electric shock, do not touch moving or electrical parts with fingers or tools while testing repair. Shut off and unplug sprayer when inspection is complete. Install all covers, guards, gaskets, screws and washers before operating sprayer.

| PROBLEM                                    | WHAT TO CHECK                                                                                                                              | REMEDY                                                                                                                                                                                                                                                                                           |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MOTOR WILL NOT TURN ON                     | 1 - Unit is not plugged in.<br>2 - Pressure is set too low.<br>3 - The circuit breaker is open.                                            | 1 - Plug the unit in.<br>2 - Increase pressure.<br>3 - Check the breaker and reset if needed.                                                                                                                                                                                                    |
| UNIT WILL NOT PRIME                        | 1 - Suction hose is loose.<br>2 - Suction filter is clogged.<br>3 - Inlet ball is stuck.<br>4 - Outlet ball is stuck.                      | 1 - Check the o-rings and tighten the suction hose.<br>2 - Clean or replace the suction filter<br>3 - Remove the suction hose and move the inlet ball with the eraser end of a pencil.<br>4 - Remove the suction hose and the inlet valve. Move the outlet ball with the eraser end of a pencil. |
| PUMP BUILDS PRESSURE BUT WILL NOT SHUT OFF | 1 - The inlet ball or seat are obstructed or chipped.<br>2 - Outlet ball or seat are obstructed or chipped.<br>3 - Prime valve is leaking. | 1 - Clean or replace if needed.<br>2 - Clean or replace if needed.<br>3 - Replace the prime valve if coating leaks while under pressure.                                                                                                                                                         |
| PAINT LEAKING FROM WET CUP                 | 1 - Inspect upper packing.                                                                                                                 | 1 - Replace upper packing if needed.                                                                                                                                                                                                                                                             |
| PUMP OUTPUT IS LOW                         | 1 - The spray tip could be worn.<br>2 - The inlet or outlet balls are worn.<br>3 - Prime valve is worn.                                    | 1 - Inspect the tip by checking the fan pattern width. If worn, replace.<br>2 - Inspect the inlet and outlet balls for damage. Replace if worn.<br>3 - If the prime valve leaks while spraying, clean or replace is worn.                                                                        |

**NOTE:** Before performing and inspection or repair, make sure to follow the pressure relief Procedure. Never attempt to do any service while the unit is plugged in or under pressure.



## EC - DECLARATION OF CONFORMITY

Models T15, T15TX

Part Number

602-934, 602-944, 602-951, 602-953, 602-955, 602-964, 602-674, 602-981, 602-983  
602-985, 602-987, 602-989

Complies with the EC Directives:

2006/42/EC Machinery Directive

Standards Used:

ISO 1200, ISO 3744

Approved by:

*Rollan Henderson*

National Sales Manager

Manufactured by:

June 1, 2023

TriTech Industries, Inc.

610 Rahway Avenue

Union, NJ 07083 U.S.A.



## EC - DECLARATION OF CONFORMITY

Models T360, T380, T420, T720, T750, T370IL, T400TX

Part Number

500-150, 500-151, 500-152, 500-153, 500-150-GTH, 500-152-GTH

501-150, 501-155, 501-251, 501-255, 501-150-GTH, 501-155-GTH

503-150, 503-151, 503-152, 503-153, 503-150-GTH, 503-152-GTH

506-150, 506-151, 506-152, 506-153

507-150, 507-151, 507-152, 507-153, 503-400, 503-402

Complies with the EC Directives: 2006/42/EC Machinery Directive

Standards Used: ISO 1200, ISO 3744

Approved by:

*Rollan Henderson*

National Sales Manager

Manufactured by: January 30, 2024

TriTech Industries, Inc.

610 Rahway Avenue

Union, NJ 07083 U.S.A.



## WEEE Compliance

### Statement

The mark shown to the right is in compliance with the Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE). The mark indicates the requirement NOT to dispose of the equipment as unsorted municipal waste, but use the return and collection systems according to local law. Users should contact their supplier and check the terms and conditions of the purchase contract. When purchased directly from TriTech Industries, or a TriTech Industries Distributor you may contact technical support for disposal arrangements.

## RoHS Compliance Statement

TriTech Industries products are designed to meet Reduction of Hazardous Substance Directive 2011/65/EU 8June2011, the product manufactured by TriTech Industries do not contain materials that exceed thresholds for cadmium, mercury, hexavalent chromium, Polybrominated diphenyl ethers (PBDEs) or other regulated substances.

## Safety Compliance Statement

TriTech Industries product are certified meeting UL 1450 Issued: 2010/05/05 Ed: 4 Rev: 2013/11/01 Motor-Operated Air Compressors, Vacuum Pumps, & Painting Equipment and CSA C22.2#68 Issued: 2009/09/01 Ed: 7 Motor-Operated Appliances (Household and Commercial)-General Instruction No 1 : 2010/02/01 - General Instruction No. 2: 2010/09/28. TriTech Industries products are designed to conform to EN 55014-1 *Issue: 2006/12/01 Electromagnetic compatibility Requirements for electric tools and similar apparatus*, EN 55014-2 *Issued: 2001/12/01 EMC- Requirements for Electric Tools and Similar Apparatus*, and European Union Low Voltage Directive (LVD) 2006/95/EC

| EXTENSION CORD VOLTAGE DROP              |         |         |        |         |
|------------------------------------------|---------|---------|--------|---------|
| 120V                                     | 15 AMP  | 100'    | 200'   | 300'    |
| 14 AWG                                   |         | 110.6   | 101.2  | 91.8    |
| 12 AWG                                   |         | 114.1   | 108.1  | 102.2   |
| 10 AWG                                   |         | 116.3   | 112.5  | 108.8   |
| LINE LOSS 1/4" HOSE STANDARD LATEX PAINT |         |         |        |         |
| HORIZONTAL                               | AT PUMP |         | AT TIP |         |
| 50'                                      | 3300PSI | 227 BAR | 3150   | 217 BAR |
| 100'                                     | 3300PSI | 227 BAR | 3100   | 213 BAR |
| 150'                                     | 3300PSI | 227 BAR | 3050   | 210 BAR |
| 200'                                     | 3300PSI | 227 BAR | 3000   | 207 BAR |
| 250'                                     | 3300PSI | 227 BAR | 2950   | 203 BAR |
| 300'                                     | 3300PSI | 227 BAR | 2900   | 199 BAR |
| VERTICAL                                 |         |         |        |         |
| 50'                                      | 3200    | 220 BAR | 3135   | 216 BAR |
| 100'                                     | 3200    | 220 BAR | 3070   | 211 BAR |
| 150'                                     | 3200    | 220 BAR | 3005   | 209 BAR |
| 200'                                     | 3200    | 220 BAR | 2940   | 202 BAR |
| 250'                                     | 3200    | 220 BAR | 2875   | 198 BAR |
| 300'                                     | 3200    | 220 BAR | 2810   | 193 BAR |

## PRESSURE RELIEF PROCEDURE

### !! IMPORTANT !!

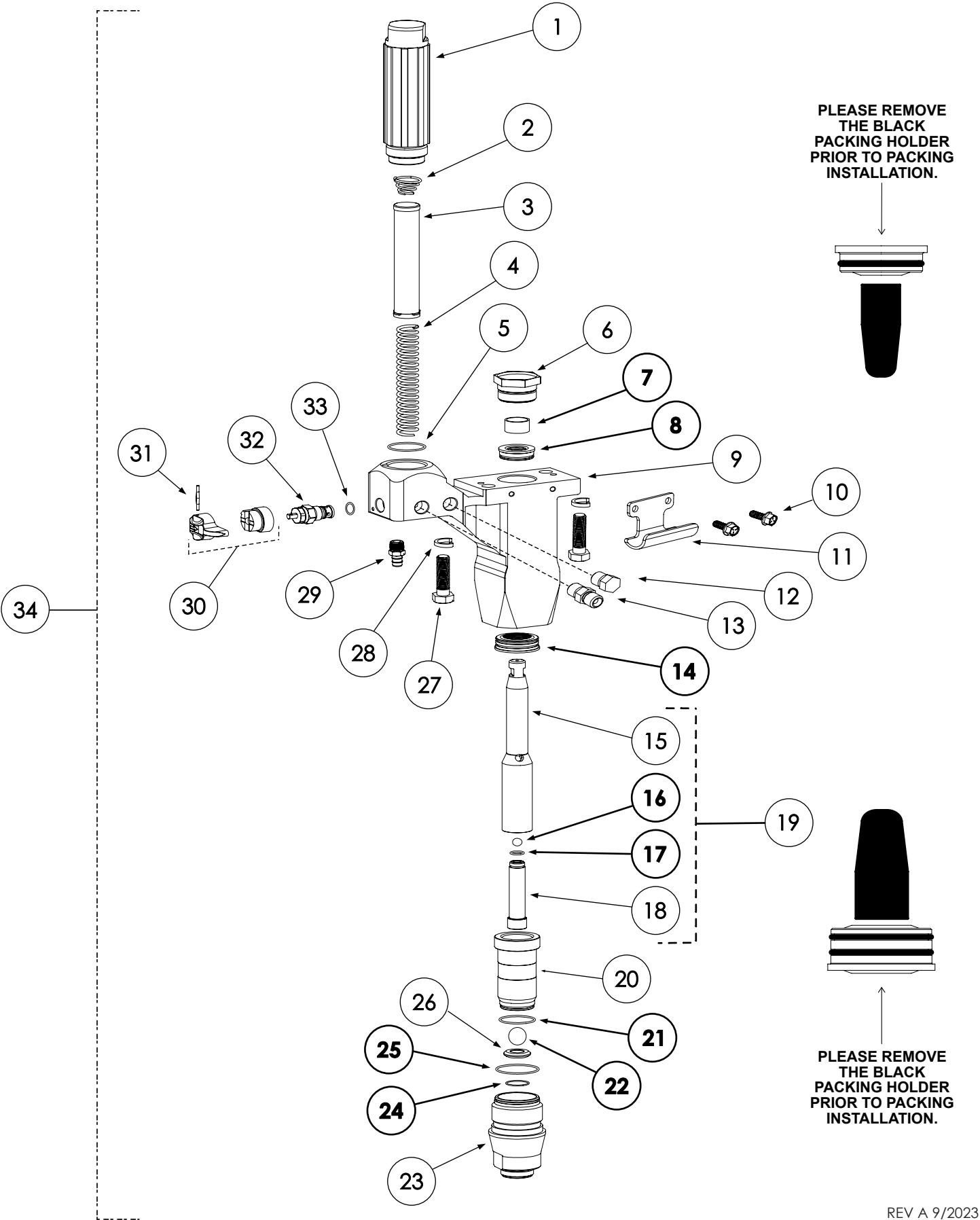
The sprayer's pressure must be manually relieved to prevent sprayer from starting or spraying fluid accidentally. Fluid under high pressure can be injected through skin and cause serious injury. To reduce risk of injury from injection, splashing fluid, or moving parts, please use the following **Pressure Relief Procedure** whenever you:

- Are instructed to relieve pressure
- Stop spraying
- Have to check or service your equipment
- Are installing or cleaning the spray tip

## PRESSURE RELIEF PROCEDURE

1. Turn the pressure control knob all the way to the left to stop the unit from pumping.
2. Turn the On/Off switch to the **OFF** position.
3. Unplug the power cord from the wall.
4. Hold the metal part of the gun firmly to a grounded metal container, cover the container and gun with a rag to protect from any blow-back and trigger the gun to relieve the pressure.
5. Engage the trigger lock.
6. Open the prime/spray valve (The valve is in prime or open position when the handle is pointing down) and leave it open until you are ready to spray again.

DIAGRAM A **FLUID MANIFOLD <<< T15 >>>**



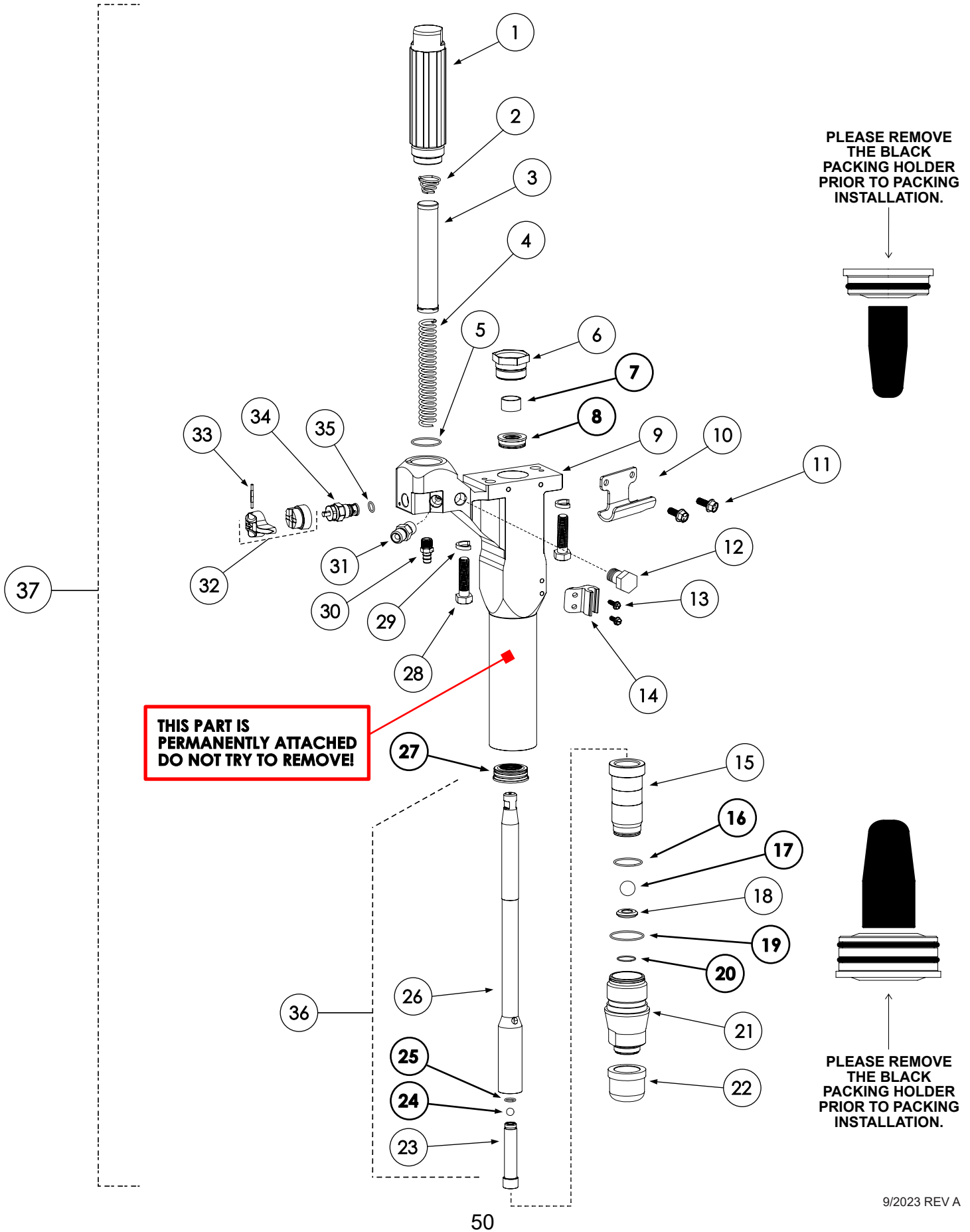
NOTE: Items in bold are included in 602-688 packing kit

# T15 FLUID MANIFOLD PARTS LIST

| ITEM #    | PART #         | DESCRIPTION                                                                 | QTY      |
|-----------|----------------|-----------------------------------------------------------------------------|----------|
| 1         | 602-178        | FILTER HOUSING                                                              | 1        |
| 2         | 600-255        | FILTER SPRING                                                               | 1        |
| 3         | 600-141-02     | MANIFOLD FILTER, 20 MESH                                                    | 1        |
| 4         | 600-240        | FILTER CORE                                                                 | 1        |
| 5         | 600-353        | O-RING                                                                      | 1        |
| 6         | 602-244        | UPPER RETAINER                                                              | 1        |
| <b>7</b>  | <b>602-485</b> | <b>UPPER GUIDE</b>                                                          | <b>1</b> |
| <b>8</b>  | <b>602-277</b> | <b>UPPER PACKING</b>                                                        | <b>1</b> |
| 9         | 602-583        | PUMP HOUSING                                                                | 1        |
| 10        | 600-541        | SCREW                                                                       | 2        |
| 11        | 600-320        | PAIL HOOK                                                                   | 1        |
| 12        | 120-238        | PLUG                                                                        | 1        |
| 13        | 120-227        | NIPPLE                                                                      | 1        |
| <b>14</b> | <b>602-278</b> | <b>LOWER PACKING</b>                                                        | <b>1</b> |
| 15        | 602-532        | PISTON ROD                                                                  | 1        |
| <b>16</b> | <b>602-047</b> | <b>UPPER BALL</b>                                                           | <b>1</b> |
| <b>17</b> | <b>101-504</b> | <b>O-RING</b>                                                               | <b>1</b> |
| 18        | 602-442        | PISTON VALVE                                                                | 1        |
| 19        | 602-192        | PISTON ROD COMPLETE (Includes 15 - 18)                                      | 1        |
| 20        | 602-587-750    | GUIDE, BALL / PISTON                                                        | 1        |
| <b>21</b> | <b>600-561</b> | <b>O-RING</b>                                                               | <b>1</b> |
| <b>22</b> | <b>602-422</b> | <b>LOWER BALL</b>                                                           | <b>1</b> |
| 23        | 602-573        | INTAKE VALVE HOUSING                                                        | 1        |
| <b>24</b> | <b>600-406</b> | <b>O-RING</b>                                                               | <b>1</b> |
| <b>25</b> | <b>602-670</b> | <b>O-RING</b>                                                               | <b>1</b> |
| 26        | 602-221-750    | INTAKE VALVE SEAT                                                           | 1        |
| 27        | 602-025        | HEX BOLT                                                                    | 2        |
| 28        | 602-023        | LOCK WASHER                                                                 | 2        |
| 29        | 602-236        | FITTING, HOSE BARBED                                                        | 1        |
| 30        | 600-437        | HANDLE & CAM KIT (Includes 31)                                              | 1        |
| 31        | 600-214        | PIN                                                                         | 1        |
| 32        | 600-157        | PRIME / SPRAY VALVE (includes 33)                                           | 1        |
| 33        | 600-166        | O-RING                                                                      | 2        |
| 34        | 602-680        | PUMP COMPLETE                                                               | 1        |
|           | <b>602-688</b> | <b>PACKING KIT includes the following items: (7,8,14,16,17,21,22,24,25)</b> |          |

| OPTIONAL MANIFOLD FILTERS |                           |
|---------------------------|---------------------------|
| 600-141-05                | MANIFOLD FILTER, 50 MESH  |
| 600-141-10                | MANIFOLD FILTER, 100 MESH |

# FLUID MANIFOLD <<< T15TX >>>



NOTE: Items in bold are included in 602-688 packing kit

# T15TX FLUID MANIFOLD PARTS LIST

| ITEM #                    | PART #         | DESCRIPTION                                                                     | QTY      |
|---------------------------|----------------|---------------------------------------------------------------------------------|----------|
| 1                         | 602-178        | FILTER HOUSING                                                                  | 1        |
| 2                         | 600-255        | FILTER SPRING                                                                   | 1        |
| 3                         | 600-141-02     | MANIFOLD FILTER, 20 MESH                                                        | 1        |
| 4                         | 600-240        | FILTER CORE                                                                     | 1        |
| 5                         | 600-353        | O-RING                                                                          | 1        |
| 6                         | 602-244        | UPPER RETAINER                                                                  | 1        |
| <b>7</b>                  | <b>602-485</b> | <b>UPPER GUIDE</b>                                                              | <b>1</b> |
| <b>8</b>                  | <b>602-277</b> | <b>UPPER PACKING</b>                                                            | <b>1</b> |
| 9                         | 602-610        | PUMP HOUSING                                                                    | 1        |
| 10                        | 600-320        | PAIL HOOK                                                                       | 1        |
| 11                        | 600-541        | SCREW                                                                           | 2        |
| 12                        | 120-238        | PLUG                                                                            | 1        |
| 13                        | 599-459        | SCREW                                                                           | 2        |
| 14                        | 600-471-TX     | CLIP                                                                            | 1        |
| 15                        | 602-587-750    | GUIDE, BALL / PISTON                                                            | 1        |
| <b>16</b>                 | <b>600-561</b> | <b>O-RING</b>                                                                   | <b>1</b> |
| <b>17</b>                 | <b>602-422</b> | <b>LOWER BALL</b>                                                               | <b>1</b> |
| 18                        | 602-221-750    | INTAKE VALVE SEAT                                                               | 1        |
| <b>19</b>                 | <b>602-670</b> | <b>O-RING</b>                                                                   | <b>1</b> |
| <b>20</b>                 | <b>600-406</b> | <b>O-RING</b>                                                                   | <b>1</b> |
| 21                        | 602-573        | INTAKE VALVE HOUSING                                                            | 1        |
| 22                        | 600-085-10     | SUCTION FILTER, 10 MESH                                                         | 1        |
| 23                        | 602-442        | PISTON VALVE                                                                    | 1        |
| <b>24</b>                 | <b>602-047</b> | <b>UPPER BALL</b>                                                               | <b>1</b> |
| <b>25</b>                 | <b>101-504</b> | <b>O-RING</b>                                                                   | <b>1</b> |
| 26                        | 602-432        | PISTON ROD                                                                      | 1        |
| <b>27</b>                 | <b>602-278</b> | <b>LOWER PACKING</b>                                                            | <b>1</b> |
| 28                        | 602-025        | HEX BOLT                                                                        | 2        |
| 29                        | 602-023        | LOCK WASHER                                                                     | 2        |
| 30                        | 602-236        | FITTING, HOSE BARBED                                                            | 1        |
| 31                        | 120-227        | NIPPLE                                                                          | 1        |
| 32                        | 600-437        | HANDLE & CAM KIT (Includes 33)                                                  | 1        |
| 33                        | 600-214        | PIN                                                                             | 1        |
| 34                        | 600-157        | PRIME / SPRAY VALVE                                                             | 1        |
| 35                        | 600-166        | O-RING                                                                          | 1        |
| 36                        | 602-194        | PISTON ROD COMPLETE (Includes 23,24,25,26)                                      | 1        |
| 37                        | 602-685        | PUMP COMPLETE                                                                   | 1        |
|                           | <b>602-688</b> | <b>PACKING KIT includes the following items:<br/>(7,8,16,17,19,20,24,25,27)</b> |          |
| OPTIONAL MANIFOLD FILTERS |                |                                                                                 |          |
|                           | 600-141-05     | MANIFOLD FILTER, 50 MESH                                                        |          |
|                           | 600-141-10     | MANIFOLD FILTER, 100 MESH                                                       |          |

# (T15) FLUID MANIFOLD SERVICE AND REPAIR

## REPACKING FLUID MANIFOLD

**IMPORTANT! FOLLOW THE PRESSURE RELIEF PROCEDURE AS STATED ON PAGE 47**

**IMPORTANT! UNPLUG THE UNIT.**

1. Remove the suction set by unthreading the nut (#1) in Diagram H. Then pull the elbow straight down out of the inlet valve housing (#23) in Diagram A. If you have a Hi Cart, unthread the suction tube #5 on Diagram F.
2. Remove the filter housing (#1), the Filter (#3) and the filter core (#4) in Diagram A.
3. Remove the intake valve housing (#23) in Diagram A.
4. Remove the piston guide (#20) in Diagram A, by inserting a flat head screw driver into the gap between the piston guide and the intake valve housing. Gently twist the screw driver until the piston guide pops up and is free from the intake valve housing.
5. Empty the contents of the intake valve housing (lower ball & intake valve seat) Carefully inspect the lower ball (#22) and the intake valve seat (#26) for any chips or cracks and replace if worn. The seat is two-sided and can be flipped over if one side is damaged. If you are repacking the unit, you must always replace the lower ball (#22) and the gaskets (#25) and (#24) in Diagram A.
6. Insert a 15/16" hex key into the piston valve (#18) in Diagram A, and turn counter clockwise to remove. When you remove the piston valve, there will be an upper ball (#16) and an o-ring (#17) that will come out with it. Carefully inspect the upper ball and the carbide seat in the top of the piston valve for any cracks or chips and replace if worn. If you are repacking the unit, always replace the upper ball (#16) and the o-ring (#17) in Diagram A.
7. To remove the fluid manifold, Diagram A, unthread the transducer (#22) in Diagram C from the back of the pump housing (#9), Diagram A using a 3/4" open end wrench. Use a small pair of pliers to hold the transducer while loosening the nut to keep from damaging the transducer. Remove the two hex bolts, (#27), Diagram A, using a 5/8" socket wrench.
8. Remove the Front Cover (#13) in Diagram B.
9. Remove the motor cover (#4) in Diagram B by removing the three screws (#5) and pulling the motor cover straight back off the motor.
10. Spin the fan (#16) in Diagram B in either direction. The pump housing will lower down away from the crank housing (#9) in Diagram B. Once the pump housing has cleared the aligning pins on the bottom of the crank housing, slide the fluid manifold off the connecting rod (#15) in Diagram B.
11. Place the pump housing in a vise and use a 1-5/8" open end or adjustable wrench to remove the upper retainer (#6) in Diagram A.
12. Remove the piston rod (#16) in Diagram A by tapping the top of the piston rod with a rubber mallet.
13. Remove the upper packing (#8) and lower packing (#14) in Diagram A. Inspect both the upper and lower backings for wear. If you do not intend to replace the packings, do not remove them.
14. When replacing the packings, make sure to apply packing grease to the inside and outside of the packings prior to insertion. The grease is supplied with the packing kit 602-688.
15. Remove the black packing holder from the upper and lower packings, and apply the grease. The smaller upper packing (#8) in Diagram A is to be inserted into the top of the pump housing. The packing will only go in direction.
16. Insert the upper guide (#7) into the upper retainer (#6) in Diagram A and thread the upper retainer into the pump housing. Leave the upper retainer hand-tight until the piston is installed.
17. Insert the lower packing (#14) into the pump housing. It will only go in one direction.
18. Hold the piston rod (#15) upside down and insert the upper ball (#16). Replace the o-ring (#17) on the piston valve (#18) and thread the piston valve back into the piston rod. Slide the piston rod into the connecting rod (#14) in Diagram B to hold it steady while you tighten the piston valve firmly.
19. Replace o-rings (#21, 24, 25) in Diagram A. Insert the intake valve seat (#26) and the lower ball (#22) into the intake valve housing (#20) all in Diagram A. Insert the piston guide into the intake valve housing pressing firmly until it snaps into place.
20. Place the piston rod into the intake valve assembly. Use the intake valve assembly to insert the piston rod through the lower packing. When you thread the intake valve assembly into the pump housing, it will seat the lower packing correctly and drive the piston through the upper packing. Use a number 12 adjustable wrench to tighten.

## **(T15) FLUID MANIFOLD SERVICE AND REPAIR**

### **REPACKING FLUID MANIFOLD (CON'T)**

21. Insert a pair of needle nose pliers into the slots on the top of the piston rod. Pry up on the Piston Rod and turn it to align the slots front to back.
22. Use a 1-5/8" open end or an adjustable wrench to tighten the upper retainer firmly. (#6) in Diagram A.
23. Slide the slots of the piston rod onto the connecting rod.
24. Gently turn the fan in either direction and it will draw the pump assembly up to the crank housing. Be careful to make sure the alignment pins line up while seating the pump housing.
25. Attached the transducer to the back of the pump housing. Make sure the o-ring (#21) in Diagram C, is in place before threading it in. Tighten it firmly with a 3/4" open end wrench, while holding the steel tubing with a pair of pliers.
26. Use a 5/16" Socket Wrench to insert the two hex bolts into the bottom of the pump housing and tighten firmly.
27. Replace the Front Cover (#13) in Diagram B, secure with six screws #1, Diagram B.
28. Replace the Motor Cover and tighten the three screws (#5) snug.
29. Re-attach the suction assembly. Make sure to apply some packing grease to the two o-rings (#4) in Diagram H before inserting the elbow into the intake valve assembly. Push the elbow straight in until it stops. Thread the nut (#1) in Diagram F back onto the intake valve assembly snugly, but hand-tight. If you have a Hi Cart, make sure the o-ring (#4) Diagram F is in place. Line up the suction tube (#5) Diagram F to the pump body (#9) Diagram A and thread the suction tube into the pump body hand-tight.

### **REPLACING THE PRIME / SPRAY VALVE**

1. Using a 3/32" punch, knock out the pin (#31) from the black handle (#30) in Diagram A.
2. Remove the black handle and cam exposing the prime/spray valve (#32) in Diagram A.
3. Using a 3/4" open end or adjustable wrench, remove the prime/spray valve and inspect. Replace if worn or leaking.

### **REPLACING THE MANIFOLD FILTER**

1. Remove the filter housing (#1) in Diagram A from the pump housing. New pumps from the factory will be tight and you will need to use an adjustable wrench to loosen.
2. Remove the filter (#3) and the filter core (#4) in Diagram A. Clean both components and if the filter is damaged or worn, replace.
3. When screwing the filter housing back in, make sure it is snug but only hand-tight.

# (T15TX) FLUID MANIFOLD SERVICE AND REPAIR

## REPACKING THE FLUID MANIFOLD

**IMPORTANT! FOLLOW THE PRESSURE RELIEF PROCEDURE AS STATED ON PAGE 47.**

**IMPORTANT! UNPLUG THE UNIT.**

1. Remove the suction set by unthreading the nut (#1) in Diagram H. Then pull the elbow straight down out of the inlet valve housing (#23) in Diagram A. If you have a Hi Cart, unthread the suction tube (#5) on Diagram F.
2. Remove the filter housing (#1), the Filter (#3) and the filter core (#4) in Diagram A.
3. Remove the intake valve housing (#23) in Diagram A.
4. Remove the piston guide (#20) in Diagram A, by inserting a flat head screw driver into the gap between the piston guide and the intake valve housing. Gently twist the screw driver until the piston guide pops up and is free from the intake valve housing.
5. Empty the contents of the intake valve housing (lower ball & intake valve seat). Carefully inspect the lower ball (#22) and the intake valve seat (#26) for any chips or cracks and replace if worn. The seat is two sided and can be flipped over if one side is damaged. If you are repacking the unit, you must always replace the lower ball (#22) and the gaskets (#25) and (#24) in diagram A.
6. Insert a 15/16" hex key into the piston valve (#18) in Diagram A, and turn counter clockwise to remove. When you remove the piston valve, there will be an upper all (#16) and an o-ring (#17) that will come out with it. Carefully inspect the upper ball and the carbide seat in the top of the piston valve for any cracks or chips and replace if worn. If you are repacking the unit, always replace the upper ball (#16) and the o-ring (#17) in Diagram A.
7. To remove the fluid manifold, Diagram A, unthread the transducer (#22) in Diagram C from the back of the pump housing (#9), Diagram A, using a 3/4" open end wrench. Use a small pair of pliers to hold the transducer while loosening the nut to keep from damaging the transducer. Remove the two hex bolts (#27), Diagram A, using a 5/8" socket wrench.
8. Remove front cover (#13) in Diagram B.
9. Remove motor cover (#4) in Diagram B by removing the three screws (#5) and pulling the motor cover straight off the back of the motor.
10. Spin the fan (#16) in Diagram B in either direction. The pump housing will lower down away from the crank housing (#9) in Diagram B. Once the pump housing has cleared the aligning pins on the bottom of the crank housing, slide the fluid manifold off the connecting rod (#14) in Diagram B.
11. Place the pump housing in a vise and use a 1 5/8" open end or adjustable wrench to remove the upper retainer (#6) in Diagram A.
12. Remove the piston rod (#26) in Diagram A2 by tapping the tip of the piston rod with a rubber mallet.
13. Remove the upper packing (#8) and lower packing (#27) in Diagram A. Inspect both the upper and lower packings for wear. **If you do not intend to replace the packings, do not remove them.**
14. When replacing the packings, make sure to apply packing grease to the inside and outside of the packings prior to insertion. The grease is supplied with the packing kit 602-688.
15. Remove the black packing holder from the upper and lower packings and apply the grease. The smaller upper packing (#8) in Diagram A is to be inserted into the top of the pump housing. The packing will only go in one direction.
16. Insert the upper guide (#7) into the upper retainer (#6) in Diagram A and thread the upper retainer into the pump housing. Leave the upper retainer hand-tight until the piston is installed.
17. Insert the lower packing (#27) into the pump housing. It will only go in one direction.
18. Hold the piston rod (#26) in Diagram A2 upside down and insert the upper ball (#24) in Diagram A2. Replace the o-ring (#25) in Diagram A2 on the piston valve (#27) in Diagram A2 and thread the piston valve back into the piston rod. Slide the piston rod onto the connecting rod (#14) in Diagram B to hold it steady while you tighten the piston valve firmly.
19. Replace the o-rings (#19, #20, #16) in Diagram A2. Insert the intake valve seat (#18) and the lower ball (#17) into the intake valve housing (#21) in Diagram A2. Insert the piston guide (#15) in Diagram A2 into the intake valve housing pressing firmly until it snaps into place.
20. Place the piston rod into the intake valve assembly. Use the intake valve assembly to insert the piston rod through the lower packing. When you thread the intake valve assembly into the pump housing, it will seat the lower pack correctly and drive the piston through the upper packing. Use a number 12 adjustable wrench to tighten.

# **(T15TX) FLUID MANIFOLD SERVICE AND REPAIR**

## **REPACKING FLUID MANIFOLD (CON'T)**

21. Insert a pair of needle nose pliers into the slots on the top of the piston rod. Pry up on the piston rod and turn it to align the slots front to back.
22. Use a 1½" open end wrench or an adjustable wrench to tighten the upper retainer (#6) firmly in Diagram A2.
23. Slide the slots of the piston onto the connecting rod (#14) Diagram B.
24. Gently turn the fan in either direction and it will draw the pump assembly up to the crank housing. Be careful to make sure the alignment pins line up while seating the pump housing.
25. Attach the transducer to the back of the pump housing. Make sure the o-ring (#21) in Diagram C2 is in place before threading it into the pump housing. Tighten it firmly with a ¾" open end wrench while holding the transducer tube with a pair of pliers.
26. Use a ⅝" socket wrench to insert the two hex bolts into the bottom of the pump housing and tighten firmly.
27. Replace the front cover (#13) in Diagram B. Secure it with six screws (#1) in Diagram B.
28. Replace the motor cover and tighten the three screws (#5) in Diagram B.
29. Re-attach the suction assembly. Make sure to apply some packing grease to the to the two o-rings (#4) Diagram H before inserting the elbow into the intake valve assembly. Push the elbow straight in until it stops. Thread the nut (#1) Diagram H back onto the intake valve assembly snugly by hand. If you have a Hi Cart, make sure to apply some packing grease to the o-ring (#4) Diagram F. Thread the suction tube (#4) back onto the inlet threads snugly by hand.

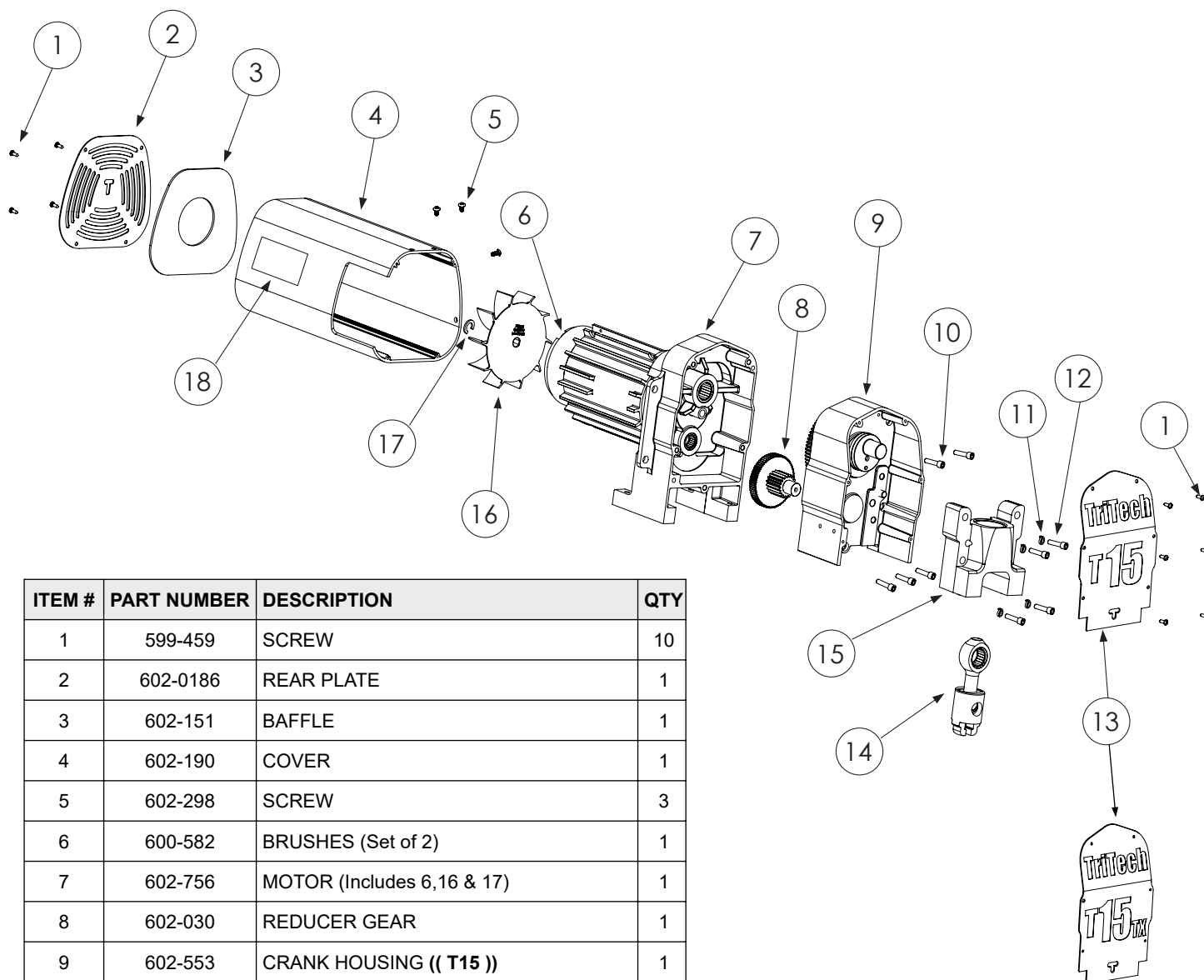
## **REPLACING THE PRIME / SPRAY VALVE**

1. Using a ⅜" punch, knock out the pin (#33) from the black handle (#32) in Diagram A2.
2. Remove the black handle and cam from the prime/spray valve (#34) in Diagram A2.
3. Using a ¾" open end adjustable wrench, remove the prime/spray valve and inspect. Replace if worn or leaking.

## **REPLACING THE MANIFOLD FILTER**

1. Remove the filter housing (#1) in Diagram A2 from the pump housing. New pumps from the factory will be tight and you will need to use an adjustable wrench to loosen.
2. Remove the filter (#3) and the filter core (#4) in Diagram A2. Clean both components and if the filter is damaged or worn, replace.
3. When screwing the filter housing back in, make sure it is snug but only hand-tight.

## DIAGRAM B MOTOR & GEARBOX T15 / T15TX



| ITEM # | PART NUMBER | DESCRIPTION                | QTY |
|--------|-------------|----------------------------|-----|
| 1      | 599-459     | SCREW                      | 10  |
| 2      | 602-0186    | REAR PLATE                 | 1   |
| 3      | 602-151     | BAFFLE                     | 1   |
| 4      | 602-190     | COVER                      | 1   |
| 5      | 602-298     | SCREW                      | 3   |
| 6      | 600-582     | BRUSHES (Set of 2)         | 1   |
| 7      | 602-756     | MOTOR (Includes 6,16 & 17) | 1   |
| 8      | 602-030     | REDUCER GEAR               | 1   |
| 9      | 602-553     | CRANK HOUSING (( T15 ))    | 1   |
| 9      | 602-555     | CRANK HOUSING (( T15TX ))  | 1   |
| 10     | 600-316     | SCREW                      | 5   |
| 11     | 602-124     | LOCK WASHER                | 4   |
| 12     | 602-123     | SCREW                      | 4   |
| 13     | 602-565     | FRONT COVER (( T15 ))      | 1   |
| 13     | 602-564     | FRONT COVER (( T15TX ))    | 1   |
| 14     | 602-493     | CONNECTING ROD             | 1   |
| 15     | 602-585     | SLIDER HOUSING             | 1   |
| 16     | 602-356     | FAN                        | 1   |
| 17     | 600-494     | SNAP RING                  | 1   |
| 18     | 302-059     | LABEL, FIRE / EXPLOSION    | 1   |

## REPLACING CONNECTING ROD

**Always Follow the pressure relief procedures before attempting to service an airless pump. See Page 47.**

**If the troubleshooting guide suggests replacing the gears or the connecting rod, follow the instructions below.**

1. Remove six screws (#1) Diagram B, and remove the front cover (#13) Diagram B.
2. While using a pair of needle-nosed pliers to hold the transducer body from turning, loosen the transducer nut (#22) Diagram C from pump complete (#34) Diagram A, with a  $\frac{3}{4}$ " open end wrench. Slide the transducer out of the back of the pump housing.
3. Remove the four screws (#1) Diagram B and remove the rear plate (#2) Diagram B.
4. Remove two hex bolts (#27) Diagram A or (#28) Diagram A2, from the crank housing (#9) Diagram B.
5. Turn the fan (#16) Diagram B, in either direction to lower the pump housing until you clear the two alignment pins.
6. Slide the pump housing forward off the connecting rod (#14) Diagram B, and set aside.
7. Remove four screws (#12) Diagram B, and remove the slider housing (#8) Diagram B from the motor/gearbox (#9) Diagram B.
8. Remove the connecting rod from the slider housing.
9. Inspect the connecting rod slide bearing in the slider housing. If damaged, replace the slider housing.
10. Install the connecting rod into the slide bearing in the slider housing.
11. Align the connecting rod with the crank shaft. Slide the connecting rod onto the crankshaft. As the slider housing nears the crank housing, align the slider housing to the crank housing alignment pins. Press the slider housing to the crank housing.
12. Install four screws (#12) Diagram B, through the slider housing into the crank housing and alternately tighten the screws.
13. Position the pump housing so the piston slot aligns with the connecting rod receiver slot. Turn the fan to draw the pump housing up to and over the alignment pins on the bottom of the slider housing.
14. Install two hex bolts through the pump housing into the slider housing. Tighten the hex bolts with a  $\frac{3}{4}$ " open end wrench.
15. Install front cover onto the front of the crank housing with six screws (#1) Diagram B.
16. Install rear plate onto the motor cover with four screws (#1) Diagram B.

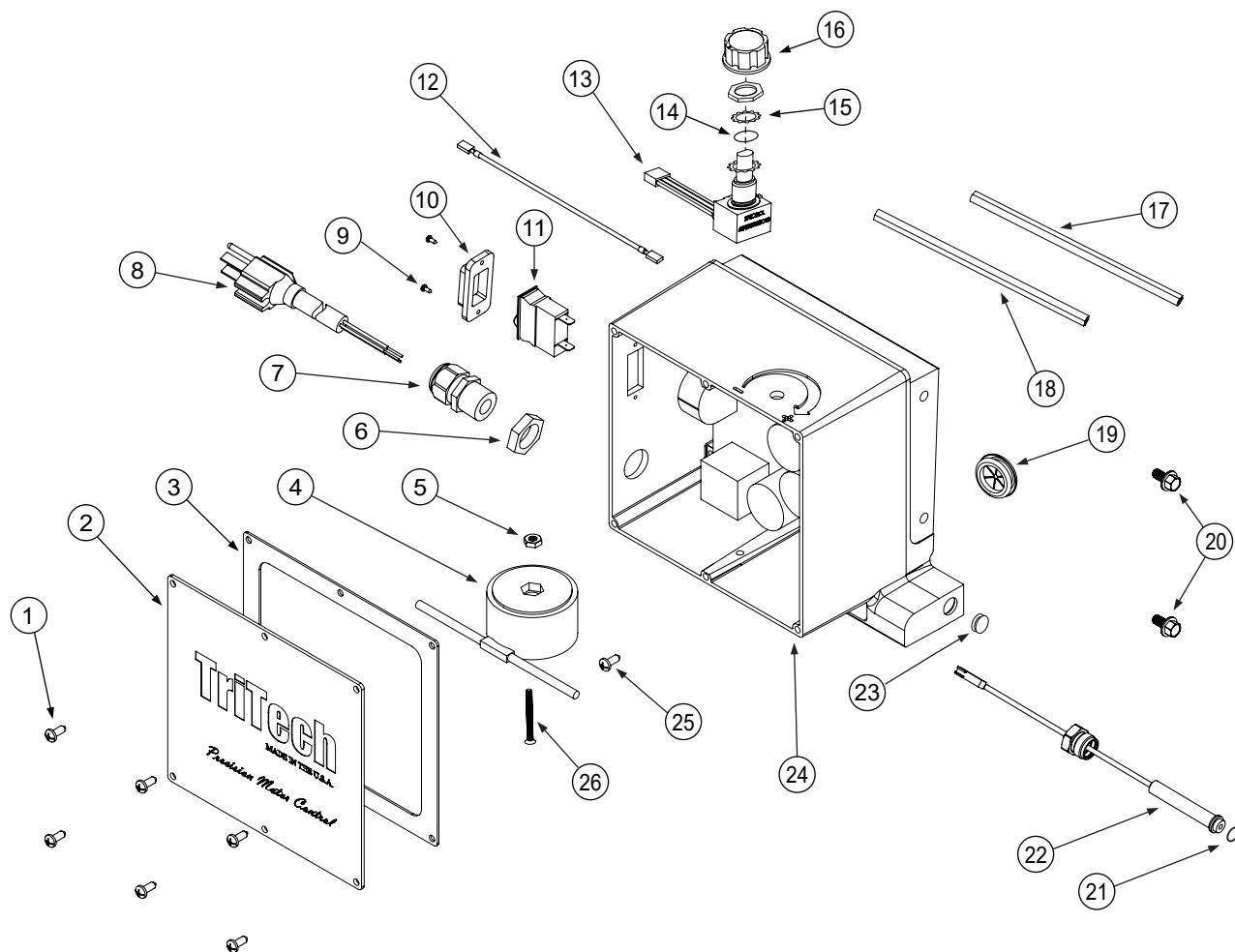
## REPLACING REDUCER GEAR / CRANK HOUSING

**Always Follow the pressure relief procedures before attempting to service an airless pump. See Page 47.**

**If the troubleshooting guide suggests replacing the gears or the connecting rod, follow the instructions below.**

1. Remove six screws (#1) Diagram B, and remove the front cover (#13) Diagram B.
2. While using a pair of needle-nosed pliers to hold the transducer body from turning, loosen the transducer nut (#22) Diagram C from pump complete (#34) Diagram A or pump complete (#37) Diagram A2, with a  $\frac{3}{4}$ " open end wrench. Slide the transducer out of the back of the pump housing.
3. Remove the four screws (#1) Diagram B and remove the rear plate (#2) Diagram B.
4. Remove two hex bolts (#27) Diagram A, from the crank housing (#9) Diagram B.
5. Turn the fan (#16) Diagram B, in either direction to lower the pump housing until you clear the two alignment pins.
6. Slide the pump housing forward off the connecting rod (#14) Diagram B, and set aside.
7. Remove 5 screws (#10) Diagram B. Slide crank housing away from the motor (#7) Diagram B.
8. Remove the reducer gear (#8) Diagram B, and inspect for damage. Replace this gear if worn or if teeth are fractured. Inspect the crank housing gear for damage. If damage is found, replace the crank housing (#9) Diagram B.
9. Reassemble by inserting the reducer gear into the motor housing. Slide the crank housing towards the motor housing until the alignment pins mate with the motor housing. Turn the fan if necessary to align the gear teeth and press the crank housing until it banks against the motor housing.
10. Install five screws (#10) Diagram B, and alternately tighten the screws.
11. Align the connecting rod with crankshaft. Slide the connecting rod onto the crankshaft. As slider housing nears the crank housing, align the slider housing to the crank housing alignment pins. Press the slider housing to the crank housing.
12. Install four screws (#12) Diagram B, through the slider housing into the crank housing and alternately tighten the screws.
13. Position the pump complete so the piston slots aligns with the connecting rod receiver slot. Turn the fan in either direction to draw the pump complete up to and over the alignment pins on the bottom of the slider housing.
14. Install two hex bolts through the pump housing into the slider housing. Tighten the hex bolts with a  $\frac{3}{4}$ " open end wrench.
15. Install front cover onto the front of the crank housing with six screws (#1) Diagram B.
16. Install rear plate onto the motor cover with four screws (#1) Diagram B.

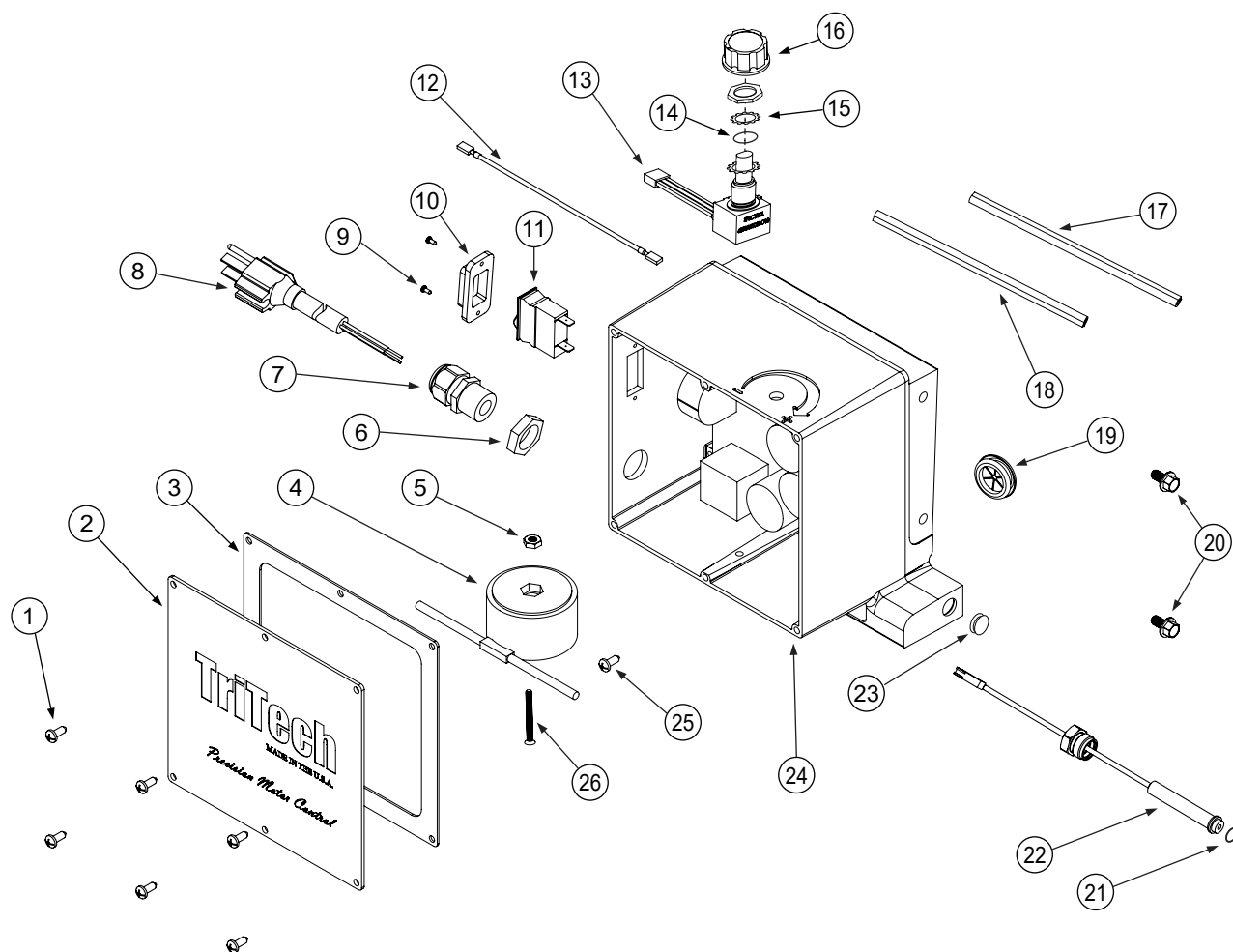
# DIAGRAM C CONTROL BOX <<< T15 >>>



| ITEM # | PART #  | DESCRIPTION                      | QTY |
|--------|---------|----------------------------------|-----|
| 1      | 599-459 | SCREW                            | 6   |
| 2      | 602-319 | COVER PLATE                      | 1   |
| 3      | 602-417 | GASKET                           | 1   |
| 4      | 602-459 | INDUCTOR FILTER (110V Only)      | 1   |
| 5      | 602-446 | NUT (110V Only)                  | 1   |
| 6      | 600-129 | STRAIN RELIEF LOCK NUT           | 1   |
| 7      | 600-128 | STRAIN RELIEF CORD GRIP          | 1   |
| 8      | 602-464 | POWER CORD 110V                  | 1   |
| 8      | 602-505 | POWER CORD 110V UK               | 1   |
| 8      | 602-491 | POWER CORD 110V CANADA           | 1   |
| 8      | 600-151 | POWER CORD 220V                  | 1   |
| 8      | 600-148 | POWER CORD 220V AUSTRALIA        | 1   |
| 8      | 600-645 | POWER CORD 220V UK               | 1   |
| 9      | 600-411 | SCREW                            | 2   |
| 10     | 600-122 | SWITCH COVER 110V                | 1   |
| 10     | 600-124 | SWITCH COVER 220V                | 1   |
| 11     | 602-465 | SWITCH 110V                      | 1   |
| 11     | 600-126 | SWITCH 220V                      | 1   |
| 12     | 600-366 | SWITCH TO BOARD WIRE (220V Only) | 1   |
| 13     | 602-407 | POTENTIOMETER                    | 1   |

| ITEM # | PART #    | DESCRIPTION                         | QTY |
|--------|-----------|-------------------------------------|-----|
| 14     | 600-419   | O-RING                              | 1   |
| 15     | 600-592   | LOCK WASHER                         | 1   |
| 16     | 600-123   | KNOB                                | 1   |
| 17     | 600-264-1 | EDGE LINER TOP (7.125" Long)        | 1   |
| 18     | 600-264-2 | EDGE LINER BOTTOM (6.125" Long)     | 1   |
| 19     | 602-472   | GROMMET                             | 1   |
| 20     | 602-233   | SCREW                               | 2   |
| 21     | 600-418   | O-RING                              | 1   |
| 22     | 600-036   | TRANSDUCER                          | 1   |
| 23     | 602-605   | PLUG                                | 1   |
| 24     | 602-634   | CONTROL BOARD & BOX 110V            | 1   |
| 24     | 602-635   | CONTROL BOARD & BOX 220V            | 1   |
| 25     | 600-519   | SCREW                               | 1   |
| 26     | 602-447   | SCREW (110V Only)                   | 1   |
|        | 602-636   | CONTROL BOX COMPLETE 110V           | 1   |
|        | 602-637   | CONTROL BOX COMPLETE 110V UK        | 1   |
|        | 602-638   | CONTROL BOX COMPLETE 110V CANADA    | 1   |
|        | 602-639   | CONTROL BOX COMPLETE 220V           | 1   |
|        | 602-640   | CONTROL BOX COMPLETE 220V UK        | 1   |
|        | 602-642   | CONTROL BOX COMPLETE 220V AUSTRALIA | 1   |

# DIAGRAM C2 CONTROL BOX <<< T15TX >>>



| ITEM # | PART #  | DESCRIPTION                      | QTY |
|--------|---------|----------------------------------|-----|
| 1      | 599-459 | SCREW                            | 6   |
| 2      | 602-319 | COVER PLATE                      | 1   |
| 3      | 602-417 | GASKET                           | 1   |
| 4      | 602-459 | INDUCTOR FILTER (110V Only)      | 1   |
| 5      | 602-446 | NUT (110V Only)                  | 1   |
| 6      | 600-129 | STRAIN RELIEF LOCK NUT           | 1   |
| 7      | 600-128 | STRAIN RELIEF CORD GRIP          | 1   |
| 8      | 602-464 | POWER CORD 110V                  | 1   |
| 8      | 602-505 | POWER CORD 110V UK               | 1   |
| 8      | 602-491 | POWER CORD 110V CANADA           | 1   |
| 8      | 600-151 | POWER CORD 220V                  | 1   |
| 8      | 600-148 | POWER CORD 220V AUSTRALIA        | 1   |
| 8      | 600-645 | POWER CORD 220V UK               | 1   |
| 9      | 600-411 | SCREW                            | 2   |
| 10     | 600-122 | SWITCH COVER 110V                | 1   |
| 10     | 600-124 | SWITCH COVER 220V                | 1   |
| 11     | 602-465 | SWITCH 110V                      | 1   |
| 11     | 600-126 | SWITCH 220V                      | 1   |
| 12     | 600-366 | SWITCH TO BOARD WIRE (220V Only) | 1   |
| 13     | 602-407 | POTENTIOMETER                    | 1   |

| ITEM # | PART #    | DESCRIPTION                         | QTY |
|--------|-----------|-------------------------------------|-----|
| 14     | 600-419   | O-RING                              | 1   |
| 15     | 600-592   | LOCK WASHER                         | 1   |
| 16     | 600-123   | KNOB                                | 1   |
| 17     | 600-264-1 | EDGE LINER TOP (7.125" Long)        | 1   |
| 18     | 600-264-2 | EDGE LINER BOTTOM (6.125" Long)     | 1   |
| 19     | 602-472   | GROMMET                             | 1   |
| 20     | 602-233   | SCREW                               | 2   |
| 21     | 600-418   | O-RING                              | 1   |
| 22     | 600-036   | TRANSDUCER                          | 1   |
| 23     | 602-605   | PLUG                                | 1   |
| 24     | 602-655   | CONTROL BOARD & BOX 110V            | 1   |
| 24     | 602-656   | CONTROL BOARD & BOX 220V            | 1   |
| 25     | 600-519   | SCREW                               | 1   |
| 26     | 602-447   | SCREW (110V Only)                   | 1   |
|        | 602-657   | CONTROL BOX COMPLETE 110V           | 1   |
|        | 602-658   | CONTROL BOX COMPLETE 110V UK        | 1   |
|        | 602-659   | CONTROL BOX COMPLETE 110V CANADA    | 1   |
|        | 602-660   | CONTROL BOX COMPLETE 220V           | 1   |
|        | 602-661   | CONTROL BOX COMPLETE 220V UK        | 1   |
|        | 602-662   | CONTROL BOX COMPLETE 220V AUSTRALIA | 1   |

## REPLACE THE CONTROL ASSEMBLY

Follow pressure relief procedure before attempting to service or repair the unit. See Page 47.

If the trouble shooting guide suggest replacing the control assembly, follow the directions below.

1. Remove 6 screws (#1) and the control box cover (#2) in Diagram C/C2.
2. Disconnect the transducer wire from the circuit board in Diagram D/E. (Gray wire)
3. Unthread the transducer (#22) Diagram C/C2 from the back of the pump housing (#9) Diagram A using a  $\frac{3}{4}$ " open-end wrench.
4. Disconnect the following wires: The top **BLACK** wire from the on/off switch, the **BLACK** wire from the thermal protection pad, the **RED** & **BLACK** motor leads, the **YELLOW** thermistor wire all on Diagram D/E.
5. Remove the filter housing (#1) Diagram A/A2 for easier access to the three control box mounting bolts.
6. Remove the two screws (#20) Diagram C/C2 using a  $\frac{1}{2}$ " socket wrench.
7. Carefully remove the control box while feeding all of the disconnected wires through the opening in the back of the box.
8. To install the new control box, follow these steps in reverse order.

**NOTE: If the potentiometer, transducer & on/off switch are all good, they will have to be removed from the old box and re-installed into the new box (#24) Diagram C/C2.**

## REPLACE POTENTIOMETER

Follow pressure relief procedure before attempting to service or repair unit. See Page 47.

If trouble shooting guide suggests replacing the potentiometer, follow the directions below.

1. Remove 6 screws (#1) and the control box cover (#2) both in Diagram C/C2.
2. Disconnect the potentiometer leads from the circuit board. (**Red**, **Black** & **Yellow** twisted wire) shown in Diagram D/E.
3. Remove the knob (#16) in Diagram D/E and remove the potentiometer mounting nut. Make sure that all pieces are retained and replace back in the same order prior to removing the potentiometer assembly.
4. To reinstall, follow these instructions in reverse order.

## REPLACE TRANSDUCER

Follow pressure relief procedure before attempting to service or repair unit. See Page 47.

If trouble shooting guide suggests replacing the transducer, follow the directions below.

1. Remove 6 screws (#1) and the control box cover (#2) both in Diagram C/C2.
2. Unplug the transducer wire from the circuit board. (Gray wire)
3. While using a pair of needle-nosed pliers to hold the transducer body from turning, loosen the transducer nut (#22) Diagram C/C2 from pump housing (#9) Diagram A/A2 with a  $\frac{3}{4}$ " open end wrench. Slide the transducer out of the back of the pump housing.
4. Disconnect the **RED** and **BLACK** motor leads and the top **BLACK** wire from the on/off switch, the **BLACK** thermal protection wire and the **YELLOW** thermistor wire Diagram D/E.
5. Remove 2 screws (#20) Diagram C/C2 and carefully remove the control box.
6. Remove the transducer by guiding the wire through the circuit board and out through the grommet on the back of the control box Diagram C/C2.
7. Install the new transducer by following steps 4 - 6 in reverse order.
8. Thread the transducer into the back of the pump housing making sure the o-ring (#21) is in place. Thread the transducer nut into the pump housing and tighten with a  $\frac{3}{4}$ " open end wrench while holding the transducer with a pair of needle nose pliers to keep it from twisting.
9. Reattached the the control box cover plate and gasket with six screws (#6) Diagram C/C2)

## REPLACE / REMOVE MOTOR

Follow pressure relief procedure before attempting to service or repair unit. See Page 47.

If trouble shooting guide suggests replacing the motor, follow the directions below.

1. Remove 3 screws (#5) Diagram B and remove the motor cover (#4) Diagram B.
2. Remove 6 screws (#1) Diagram C/C2 and remove the control box cover plate (#2) and gasket (#3) Diagram C/C2.
3. Disconnect the **BLACK** & **RED** motor leads from the circuit board Diagram D/E.
4. Remove 6 screws (#1) Diagram B and remove the front cover (#13) Diagram B.
5. While using a pair of needle-nosed pliers to hold the transducer body from turning, loosen the transducer nut (#22) Diagram C/C2 from pump housing (#9) Diagram A/A2 with a  $\frac{3}{4}$ " open end wrench. Slide the transducer out of the back of the pump housing.
6. Remove 5 screws (#10) in Diagram B and remove the crank housing (#9) Diagram B and the pump complete (#34) Diagram A or (#37) Diagram A2) together.
7. Remove the reducer gear (#8) Diagram B.
8. Remove 2 screws (#20) Diagram C/C2 and remove the control box from the motor.
9. Remove 4 bolts (#17) Diagram I from underneath the motor assembly to separate the motor and gearbox from the frame assembly.

## INSTALL MOTOR

1. Install reducer gear (#8) Diagram B into the gearbox and rotate the fan to ensure the armature shaft is engaging.
2. Fill the gear box (#7) Diagram B with Phillips 66 Multi-Plex 200 #2 or Lucas Red & Tacky.
3. Insert 4 bolts (#17) Diagram I from underneath to connect the motor and gearbox to the frame assembly.
4. Insert 2 screws (#20) Diagram C/C2 and reattach the control box to the motor.
5. Insert 5 screws (#10) Diagram B and reattach the crank housing (#9) Diagram B.
6. Thread transducer (#22) Diagram C/C2 into the back of the pump housing (#9), Diagram A/A2 and make sure the o-ring (#21) Diagram C/C2 is in place. Tighten using a  $\frac{3}{4}$ " open end wrench.
7. Reattach the transducer wire to the circuit board Diagram D/E.
8. Reattach the **BLACK** and **RED** motor leads to the circuit board Diagram D/E.
9. Reattach the motor thermistor wire to the circuit board Diagram D/E.
10. Insert 6 screws (#1) to reattach the control box cover plate (#2) and gasket (#3) Diagram C/C2.
11. Slide the motor cover (#4) Diagram B back onto the motor and insert 3 screws (#5) Diagram B to attach.

## **REPLACE MOTOR BRUSHES**

**Follow pressure relief procedure before attempting to service or repair unit. See Page 47.**

**If trouble shooting guide suggests replacing the motor brushes, follow the directions below.**

1. Remove 3 screws (#5) Diagram B from motor cover and slide the motor cover back off the motor.
2. Use a straight blade screwdriver to remove the brush retaining cap to expose the motor brushes.
3. Remove the motor brushes (#6) Diagram B one at a time and inspect. Replace if worn or damaged.
4. Reassemble in reverse order. When reinstalling the motor brushes, make sure to have the red and black wire leads to the back of the housing.

## **REPLACE ON / OFF SWITCH**

**Follow pressure relief procedure before attempting to service or repair unit.**

**If trouble shooting guide suggests replacing the on / off switch, follow the directions below.**

1. Remove 6 screws (#1) Diagram C/C2 and remove the control box cover plate (#2) and gasket (#3) Diagram C/C2.
2. Disconnect the leads from the on / off switch Diagram D/E.
3. Remove the mounting screws (#9) Diagram C/C2.
4. Remove switch cover (#10) Diagram B and remove on / off switch (#11) Diagram B.
5. Replace in reverse order.

DIAGRAM D **T15/T15TX 110V WIRING DIAGRAM**

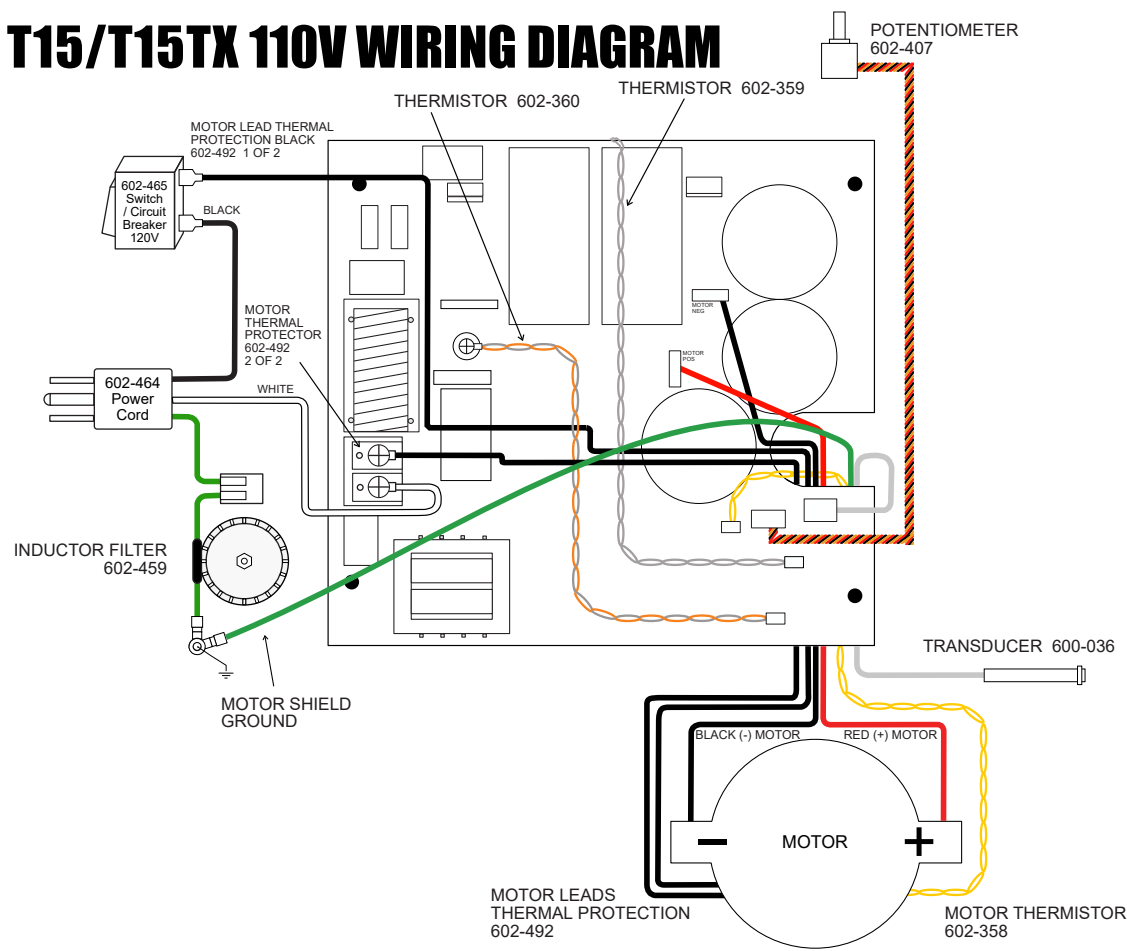
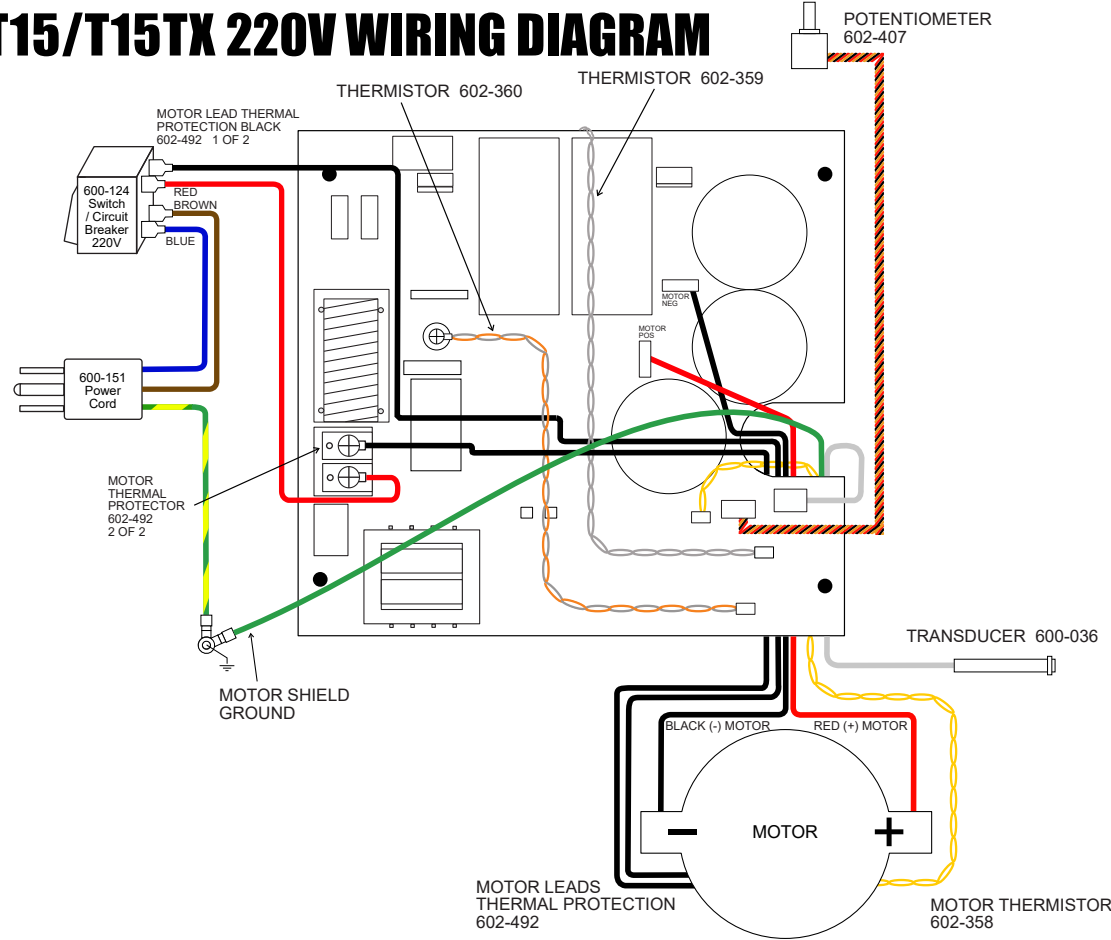
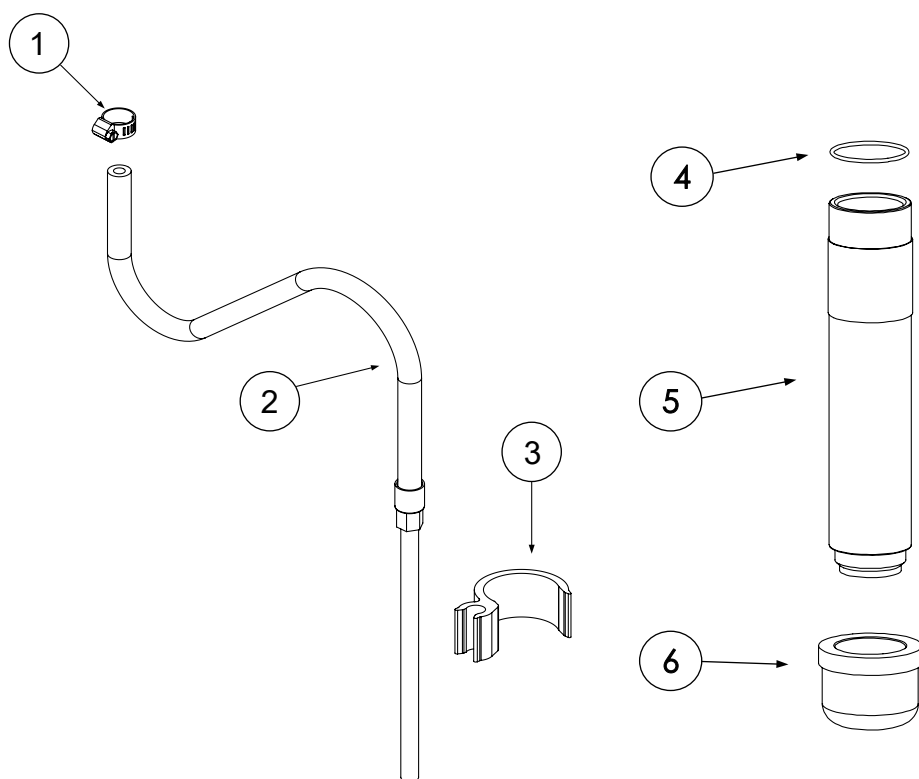


DIAGRAM E **T15/T15TX 220V WIRING DIAGRAM**



## DIAGRAM F SUCTION ASSEMBLY T15



| ITEM # | PART #     | DESCRIPTION                                   | QTY |
|--------|------------|-----------------------------------------------|-----|
| 1      | 600-543    | HOSE CLAMP ( T15 & T15TX )                    | 1   |
| 2      | 602-238    | PRIME HOSE ( T15 & T15TX )                    | 1   |
| 3      | 600-471    | HOSE CLIP (T15 ONLY) (T15TX SEE PAGE 50 & 51) | 1   |
| 4      | 600-406    | O-RING                                        | 1   |
| 5      | 602-533    | SUCTION TUBE                                  | 1   |
| 6      | 600-085-10 | SUCTION FILTER, 10 MESH                       | 1   |

| OPTIONAL SUCTION FILTERS |                        |
|--------------------------|------------------------|
| PART #                   | DESCRIPTION            |
| 600-085-15               | SUCTION FILTER 15 MESH |
| 600-085-30               | SUCTION FILTER 30 MESH |

DIAGRAM H    **55 GALLON SUCTION SET T15**

| ITEM # | PART #     | DESCRIPTION             | QTY |
|--------|------------|-------------------------|-----|
| 1      | 600-233    | NUT                     | 1   |
| 2      | 600-168    | WASHER                  | 1   |
| 3      | 600-236    | SNAP RING               | 1   |
| 4      | 600-164    | O-RING                  | 2   |
| 5      | 600-234    | GASKET                  | 1   |
| 6      | 602-156    | SUCTION HOSE            | 1   |
| 7      | 602-544    | HOSE CLAMP              | 2   |
| 8      | 602-157    | SUCTION TUBE            | 1   |
| 9      | 600-471    | HOSE CLIP               | 1   |
| 10     | 600-087-10 | SUCTION FILTER, 10 MESH | 1   |
| 11     | 602-153    | PRIME HOSE              | 1   |
| 12     | 602-158    | SUCTION SET COMPLETE    | 1   |

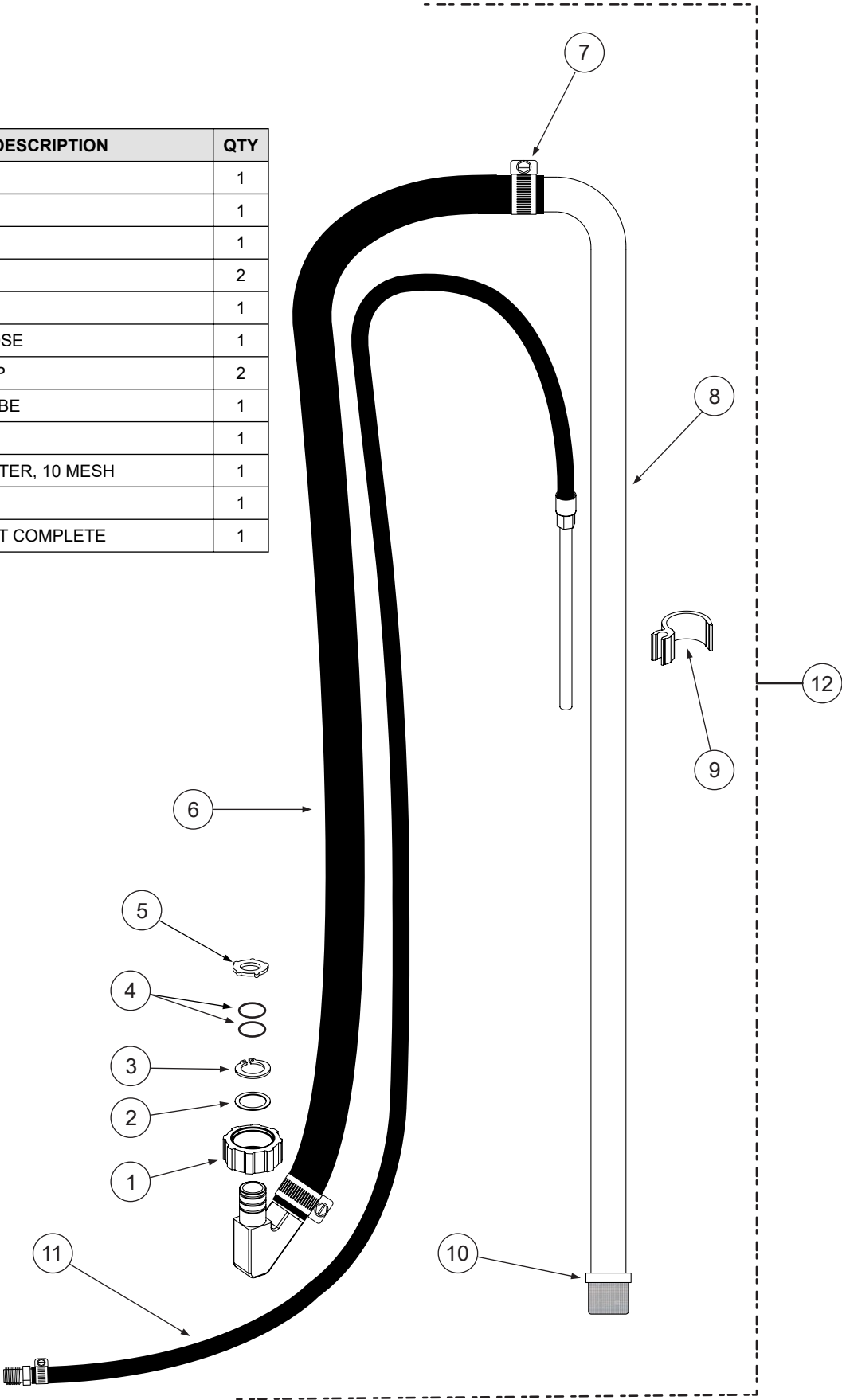
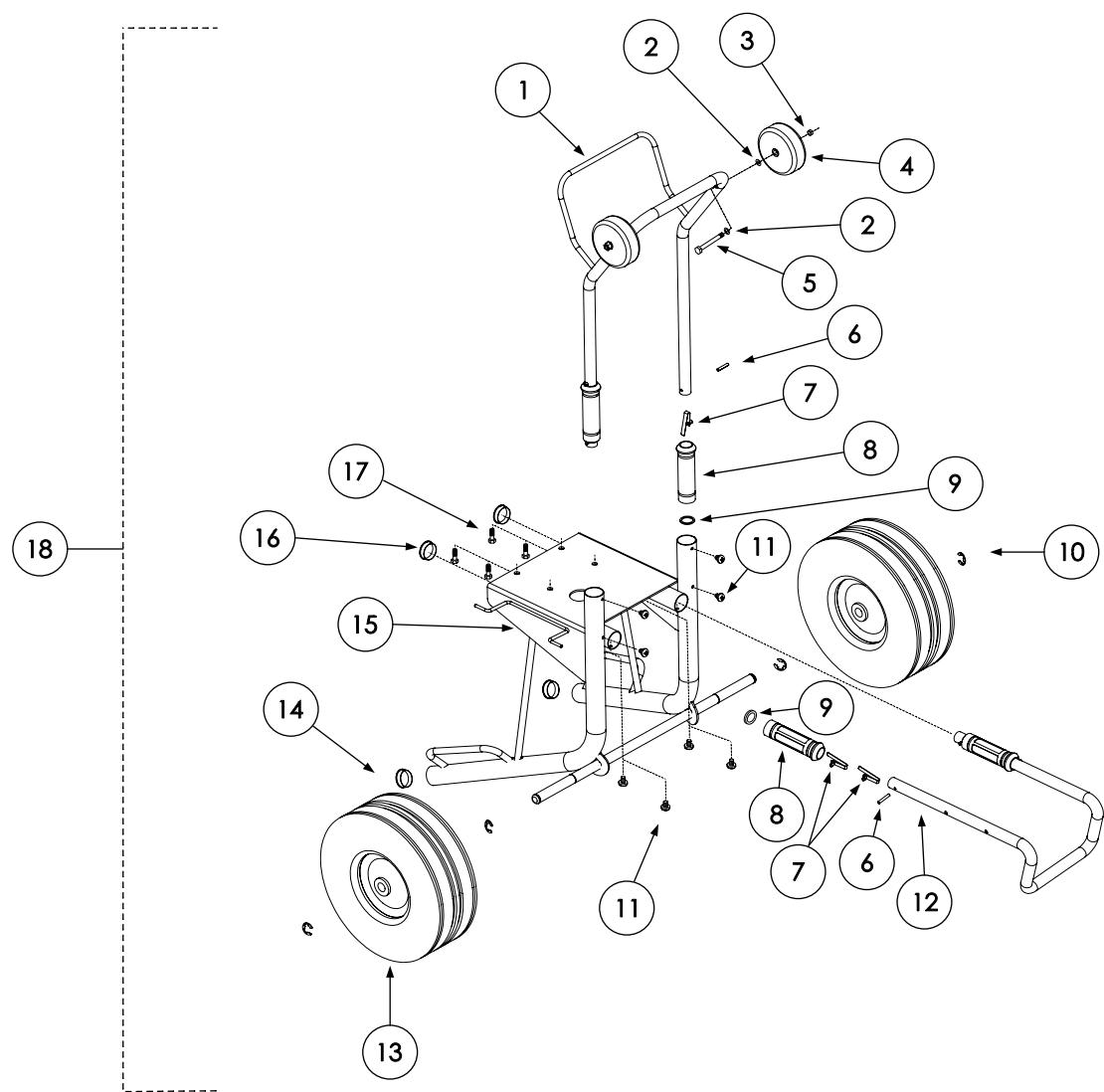


DIAGRAM I **FRAME ASSEMBLY T15 / T15TX**



| ITEM # | PART NUMBER | DESCRIPTION         | QTY |
|--------|-------------|---------------------|-----|
| 1      | 602-598     | HANDLE              | 1   |
| 2      | 602-529     | WASHER (3 Per Side) | 6   |
| 3      | 602-524     | NUT                 | 2   |
| 4      | 602-513     | WHEEL               | 2   |
| 5      | 602-523     | SCREW               | 2   |
| 6      | 600-381     | PIN                 | 2   |
| 7      | 600-391     | BUTTON SNAP         | 5   |
| 8      | 600-378     | GUIDE               | 4   |
| 9      | 600-379     | WASHER              | 4   |

| ITEM # | PART NUMBER | DESCRIPTION                           | QTY |
|--------|-------------|---------------------------------------|-----|
| 10     | 602-399     | SNAP RING                             | 4   |
| 11     | 600-382     | SCREW                                 | 8   |
| 12     | 602-562     | KICK STAND HANDLE                     | 1   |
| 13     | 602-373     | WHEEL                                 | 2   |
| 14     | 600-397     | FRAME CAP                             | 2   |
| 15     | 602-596     | CART FRAME                            | 1   |
| 16     | 602-397     | PLUG                                  | 2   |
| 17     | 602-264     | BOLT                                  | 4   |
| 18     | 602-595     | FRAME ASSEMBLY COMPLETE (Excludes 17) | 1   |

# NOTES