

BIRO[®]

DOUBLE DRUM VACUUM TUMBLER OPERATION MANUAL & PARTS LIST MODEL VTS-43 WITH REMOTE PUMP



The **BIRO VTS-43 VACUUM TUMBLER** is a versatile machine used for vacuum tumbling all types of meats with one of the "**BIRO BLEND**" brand blends of herbs and spices. All marinades are FDA approved and meet F.S.I. standards. The **BIRO VTS-43** will produce equally impressive results with beef, pork, poultry and fish.

All marinades have instructions for twenty-five (25) pound loads, which is the maximum recommendation for proper tumbling. Any amount beyond twenty-five (25) pounds may take away the benefits of tumbling, and proper marinating might not be achieved.

The unit is both easy to clean and maintain as well as sanitary in design and construction. The entire machine is built to give many years of trouble free service while providing a unique line of marinated products for your customers.

SAFETY TIPS



ROTATING DRUM TO AVOID SERIOUS PERSONAL INJURY

- NEVER Touch This Machine Without Training and Authorization By Your Supervisor,*
- ALWAYS Read Operating and Parts Manual **BEFORE** Operating, Cleaning or Servicing,*
- ALWAYS Keep Hands Clear of the Rotating Drum and Other Moving Parts.*
- NEVER Operate or Work Around This Machine With Loose Fitting Clothing That Could Become Entangled.*
- NEVER Attempt to Remove the Drum Lid Unless Vacuum Has Been Released and the Drum is Positioned Vertically with the Lid at the Top.*
- NEVER Operate Vacuum Pump Unless Properly Connected to Tumbler Drum.*
- ONLY Operate Vacuum Pump in Recommended Vacuum Range (15-20 Inches of Mercury)
NEVER TO EXCEED 20 INCHES Hg.*
- ONLY Use a Qualified Electrician to Install According to Local Building Codes: Machine **MUST** Be Properly Grounded.*
- ONLY Install on Level, Non-Skid Surface in a Clean, Well-Lighted Work Area Away From Children and Visitors.*
- DO NOT Store or Operate Machine in Meat Cooler.*
- DO NOT Allow Food Particles, Liquids or Any Other Foreign Material to Enter the Vacuum Pump or Vacuum Hose.*
- ALWAYS Turn Off, Unplug From Power Source and Perform Lockout/Tagout Procedure to This Machine **BEFORE** Cleaning or Servicing.*
- NEVER Leave Machine Unattended While Operating.*
- PROMPTLY REPLACE** Any Worn or Illegible Warning and/or Instruction Labels.*

CLEANING



ROTATING DRUM TO AVOID PERSONAL INJURY

***ALWAYS** Turn Off, Unplug From Power Source and Perform Lockout/Tagout Procedures to This Machine Before Cleaning, Servicing or When Not in Use.*

***ONLY** Use Recommended Cleaning Equipment, Materials and Procedures.*

***NEVER** Spray Water or Other Liquid Substances Directly at Motor, Power Controls or Any Other Electrical Components.*

***ALWAYS** Thoroughly Clean Equipment Daily.*



DO NOT Use Harsh Chemicals, Scouring Pads or Cleansers. Ordinary Liquid Detergent for Manual Dish or Pot/Pan Washing Will Not Harm the Machine. Dish Machine Chemicals Will Cause Brown "Rusty" Stains, as will Chlorine Bleach and Similar Products if Allowed to Stand In or On the Machine for Any Length of Time.

CLEANING THE BIRO VACUUM TUMBLER:

1. Turn "OFF", unplug machine from power source, and perform lockout/tagout procedure.
2. The drum, drum lid, baffles in Stainless Steel drum and gasket can be removed and washed in utensil sink. Be sure to flush the vacuum valve with warm soapy water and rinse with clean water thoroughly. The drum, drum lid, baffles from Stainless Steel drum and gasket should be sanitized with a chlorine solution or another appropriate sanitizer approved by your local Health Dept. All parts should be air dried before reassembly and storage.
3. The exterior of the tumbler base can be wiped down with the same type soap solution followed by a rinse water wiping.
4. If food stains are not removed, use a product such as "Bon Ami" or "Soft Scrub". Be sure to wipe with the grain of the Stainless Steel with a soft cloth or sponge.
5. Streaks or water spots can usually be removed with a solution of vinegar and water.

MAINTENANCE



ROTATING DRUM TO AVOID SERIOUS PERSONAL INJURY

ALWAYS Turn Off, Unplug From Power Source and Perform Lockout/Tagout Procedure to This Machine **BEFORE** Servicing.

NEVER Touch This Machine Without Training and Authorization By Your Supervisor.

NEVER Bypass, Alter, or Modify This Equipment in Any Way From Its Original Condition.

PROMPTLY REPLACE Any Worn or Illegible Labels.

USE ONLY GENUINE BIRO Parts and Accessories Properly Installed.

A. PUMP FILTER

1. Check filter daily. Filter must be drained before the separated moisture and oil reaches the bottom of the lower white baffle. Drain by unscrewing the black drain plug in bottom of sight bowl.
2. The filter element should be removed and cleaned monthly.
 - a. Unscrew clear threaded bowl.
 - b. Unscrew filter element assembly
 - c. Clean bowl and filter element. Reassemble filter element. Clean bowl with mild soap and water only. Do not use detergents, cleansing agents, such as acetone, alcohol, benzene or gasoline, which are damaging to plastic.
 - d. Lubricate bowl gasket to assist initial sealing. Use only mineral based oils or grease. Do not use synthetic oils or silicones.
 - e. Screw bowl into body of filter. Close black drain plug.

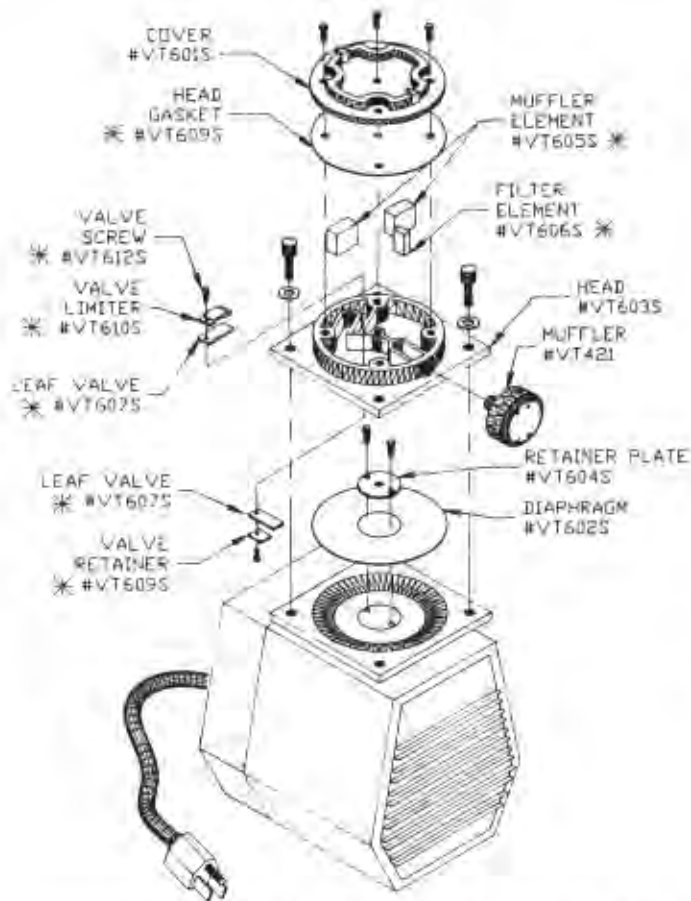
B. VACUUM PUMP

WARNING: THE MOTOR IS THERMALLY PROTECTED AND CAN AUTOMATICALLY RESTART WHEN THE OVERLOAD RESETS. ALWAYS DISCONNECT FROM POWER SOURCE BEFORE SERVICING. PERSONAL INJURY COULD BE THE RESULT.

1. Do not at any time lubricate any parts of the vacuum pump with oil, grease or petroleum products or clean with acids, caustics or chlorinated solvents. Never allow the diaphragm to contact any petroleum products. This can reduce greatly the service life of the vacuum pump.
2. To clean or replace the internal filters and/or rubber gasket. Remove the five screws in the top of the pump. The filter and gasket are located beneath this top plate. Remove the filters and wash them in solvent and blow off with air or replace. The gasket may be cleaned with water. Replace the filters in proper position and replace the gasket. The gasket and top plate will fit in one position only.
3. To replace the diaphragm, remove the socket cap screws from the head of the pump. The diaphragm is held in place by two phillips head screws. Remove screws, retainer plate and diaphragm. The diaphragm will fit in any position on the connecting rod. Replace the plate and the two phillips head screws. Torque to 30 inch pounds.

CAUTION: DO NOT RAISE ANY BURRS OR NICKS ON THE HEADS OF THESE SCREWS. THESE BURRS COULD CAUSE DAMAGE TO THE INLET VALVE.

VT 418 or VT479S VACUUM PUMP ASSEMBLY



* NO. VT611S DENOTES PARTS
IN SERVICE KIT

OPERATING AND MAINTENANCE INSTRUCTIONS

Do not at any time lubricate any of the parts with oil, grease, or petroleum products nor clean with acids, caustics or chlorinated solvents. Be very careful to keep the diaphragm from contacting any petroleum product or hydro carbons. It can affect the service life of the pump.

WARNING: To prevent explosive hazard, Do NOT pump combustible liquids or vapors with these units. Personal Injury and/or Property Damage would result.

To clean or replace the filters and/or rubber gasket, remove the five screws in the top of the unit. The filters and gasket are located beneath this top plate. Remove the filters and wash them in solvent and/or blow off with air and replace. The gasket may be cleaned with water. Replace the filters in proper position and replace the gasket. Note that the gasket and top plate will fit in one position only.

To replace the diaphragm, remove the socket cap screws from the head of the pump. The diaphragm is held in place by two phillips head screws. Remove screws, retainer plate, and the diaphragm. The diaphragm will fit in any position on the connecting rod. Replace the plate and the two phillips head screws. Torque to 30 inch-pounds on DOA and DAA. Torque to 12 inch-pounds on MOA and MAA.

CAUTION: Do not raise any burrs or nicks on the heads of these screws. These burrs could cause damage to the inlet valve.

For replacing the inlet and the outlet valve, remove the slotted machine screw that holds each valve in place. The stainless steel inlet and outlet valves are interchangeable.* Clean them with water. When replacing the outlet valve, place the new valve in location and note there is a retaining bar near the machine screw hole. The retaining bar holds the valve in position. When replacing the inlet valve, note that the valve holder is marked with an X in one corner. This X should be in the lower right hand corner toward the inlet of the air chamber. Replace the head and tighten the socket head screws. to 90-100 inch-pounds of torque on DOA and DAA. Torque to 30 inch-pounds on MOA and MAA. *DOA and DAA models only.

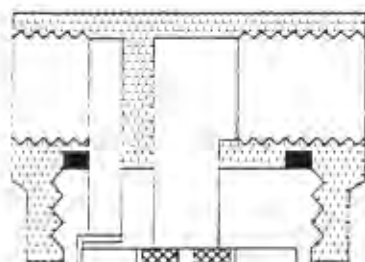
WARNING: The motor may be thermally protected and can automatically restart when the overload resets. Always disconnect power source before servicing. Personal Injury and/or Property Damage could result.

Do not attempt to replace the connecting rod or motor bearings. If after cleaning the unit and/or installing a new Service Kit, the unit still does not operate properly, contact your representative, the factory, or return the pump to one of our authorized Service Centers.

IF YOUR PUMP IS EQUIPPED WITH PLASTIC PLUGS IN THE EXHAUST AND/OR INTAKE PORTS, REMOVE BEFORE STARTING THE UNIT.

No. VTS7121
INLET FILTER
DRAINING INSTRUCTIONS

AIR FLOW



ELEMENT

BULB

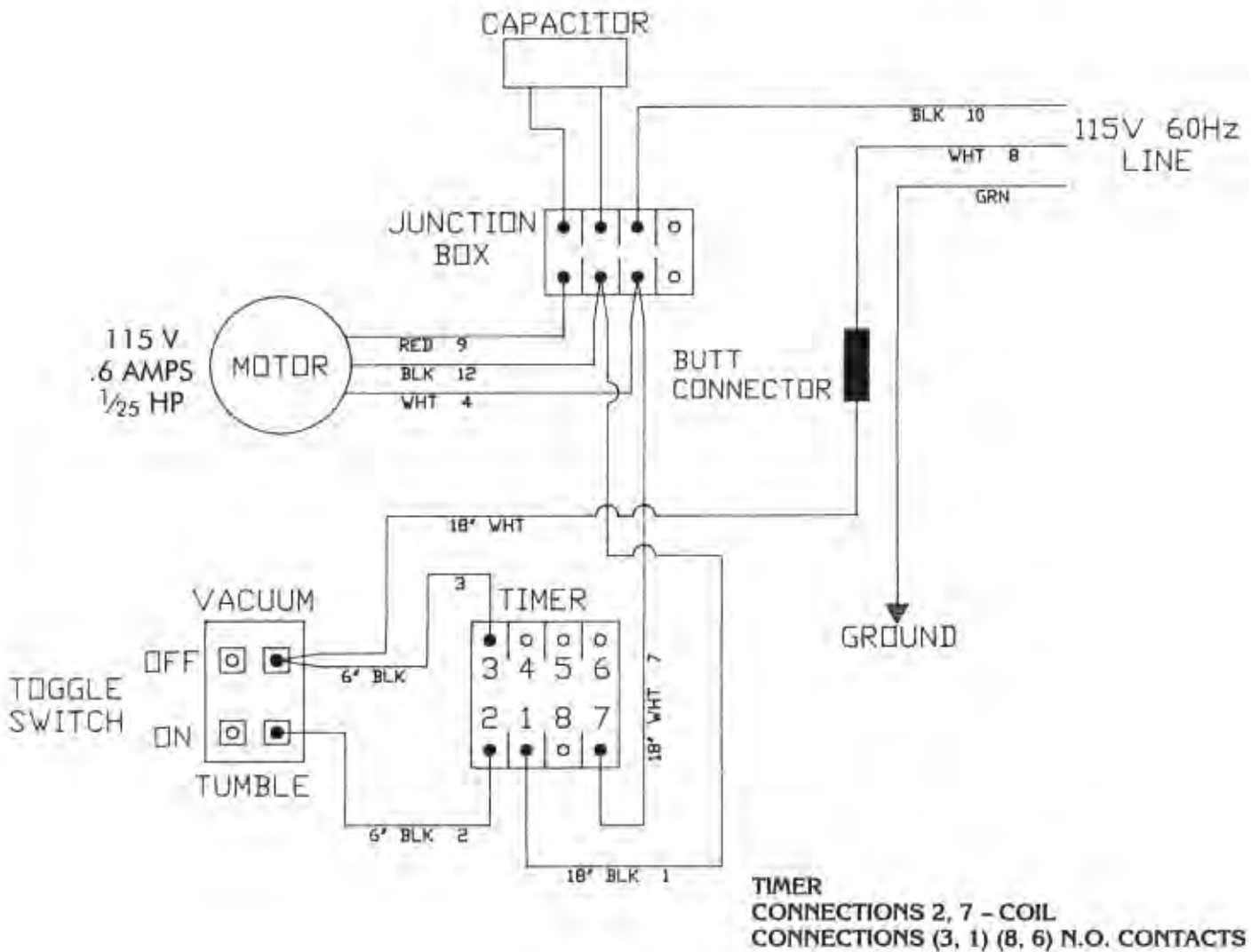
UNSCREW
DRAIN
VALVE TO
DRAIN

OPERATION & SERVICE

1. Both free moisture and solids are removed automatically by the filter. There are no moving parts.
2. Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the lower baffle. Automatic drain models will collect and dump liquids automatically.
3. The filter element should be removed and replaced when the pressure differential across the filter is 10 PSIG.
4. To remove the filter element: **SHUT OFF AIR SUPPLY** and depressurize the unit.
 - a. Unscrew threaded bowl
 - b. Unscrew element assembly
 - c. Clean bowl and internal parts before cleaning reassembling. See polycarbonate bowl cleaning section.
 - d. Attach clean element assembly and tighten firmly.
 - e. Replace bowl gasket; lubricate gasket to assist in retaining it in position. Use only mineral base oils or grease. Do NOT use synthetic oils such as esters, and do NOT use silicones.
 - f. Screw bowl into body and tighten firmly.

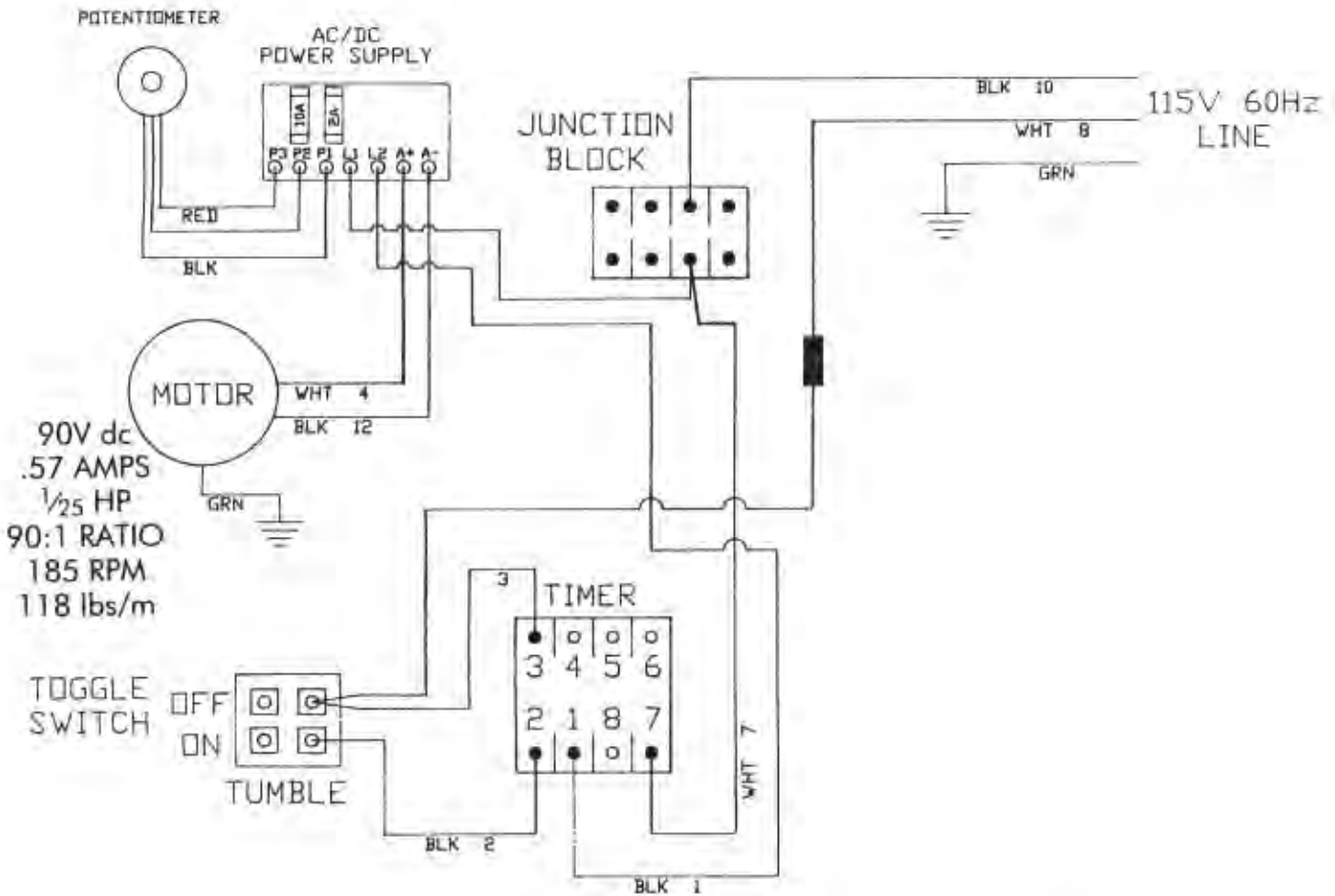
VTS-41 WIRING DIAGRAM

IMPORTANT: Always Advise Model & Serial Number



VTS-41 WIRING DIAGRAM FOR VARIABLE SPEED

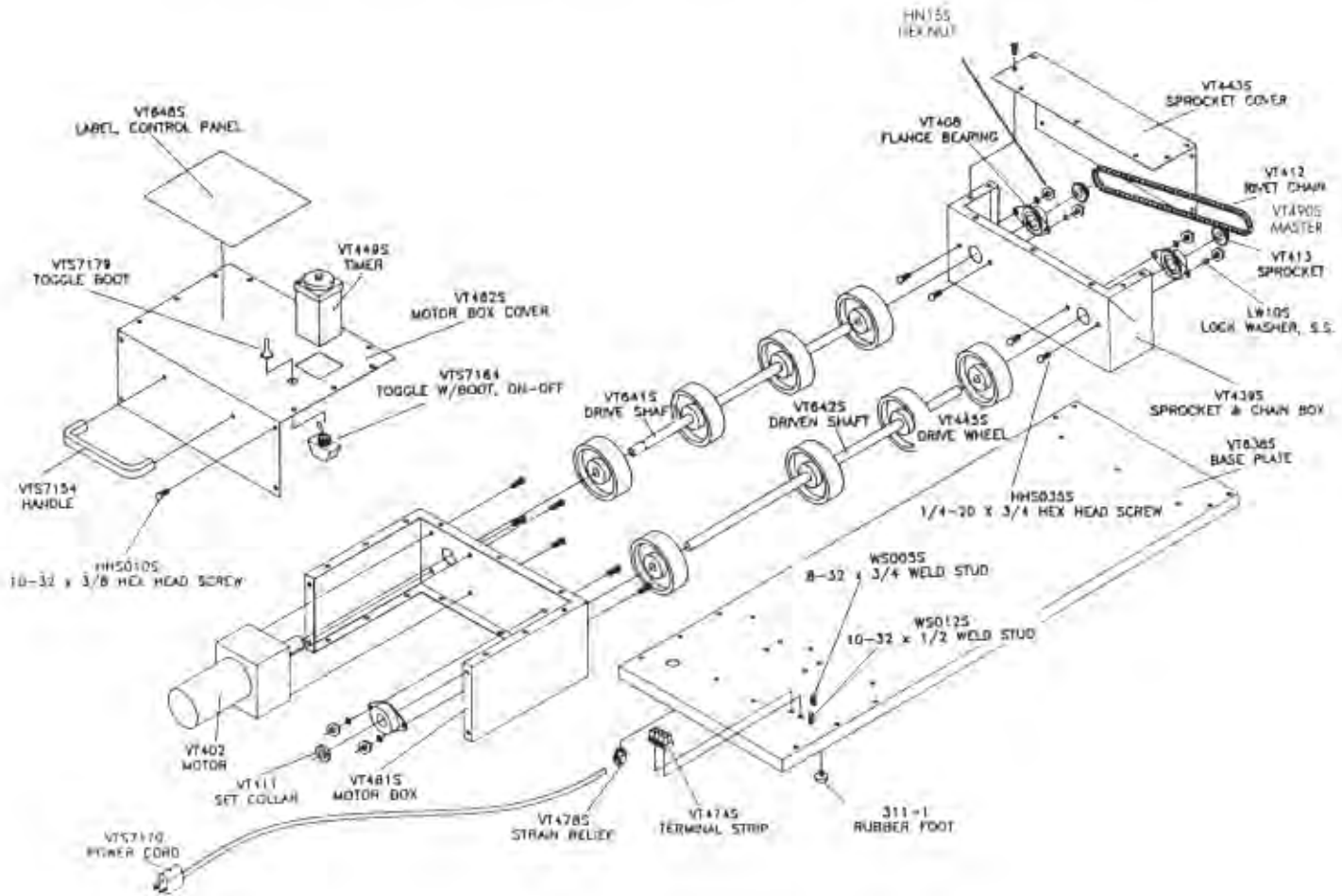
IMPORTANT: Always Advise Model & Serial Number



TIMER
CONNECTIONS 2, 7 - COIL
CONNECTIONS (3, 1) (8, 6) N.O. CONTACTS

VTS-43 TUMBLER BASE

IMPORTANT: Always Advise Model & Serial Number When Ordering Parts



Part No.

Description

| | |
|---------|--|
| 311-1 | Rubber foot |
| HHS010S | Hex head screw, 10-32 x 3/8, SS |
| HHS035S | Hex head screw, 1/4-20 x 3/8, SS |
| HN15S | Hex nut, 1/4-20 |
| LW10S | Lock washer, 1/4, SS |
| VT402 | Motor, 1/25HP, 115-60-T, 17.7RPM, 90:1 |
| VT408 | Flange Bearing |
| VT411 | Set collar |
| VT412 | Rivet chain |
| VT413 | Sprocket |
| VT638S | Tumbler base plate, double drum |
| VT439S | Sprocket & chain box less cover |
| VT641S | Driving shaft, double drum |
| VT642S | Driven shaft, double drum |
| VT443S | Sprocket & chain cover |
| VT445S | Drive wheel, caster |

Part No.

Description

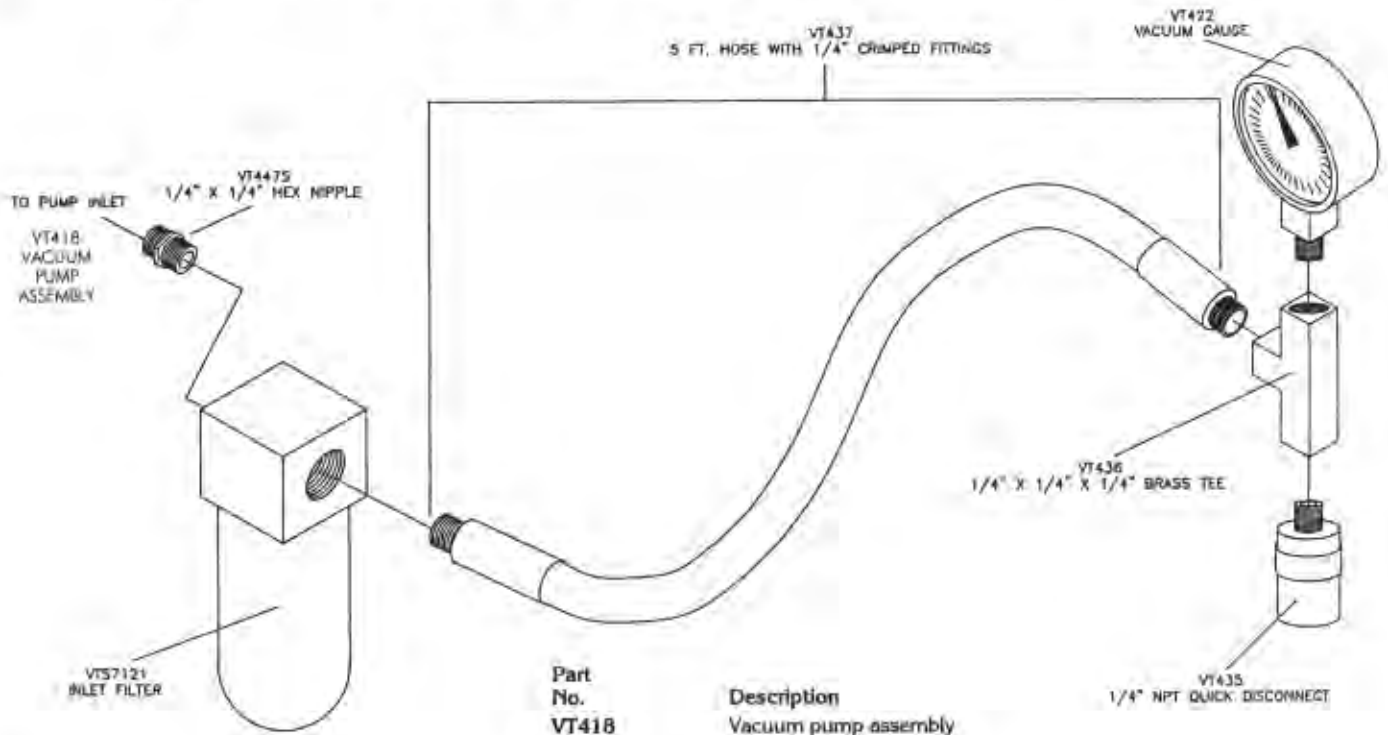
| | |
|---------|--------------------------------------|
| VT648S | Label, VTS-43 control panel |
| VT449S | Timer, pushbutton start, 0-50 minute |
| VT461S | Motor box less cover |
| VT462S | Motor box cover |
| VT474S | Terminal strip, 4 circuit |
| VT478S | Strain relief, 90 deg. |
| VT480S | Master link |
| VT57154 | Oval handle |
| VT57164 | Toggle switch w/boot, ON-OFF |
| VT57170 | Power cord w/120V plug, 8', 16/3 |
| VT57179 | Toggle switch boot |

NOT SHOWN

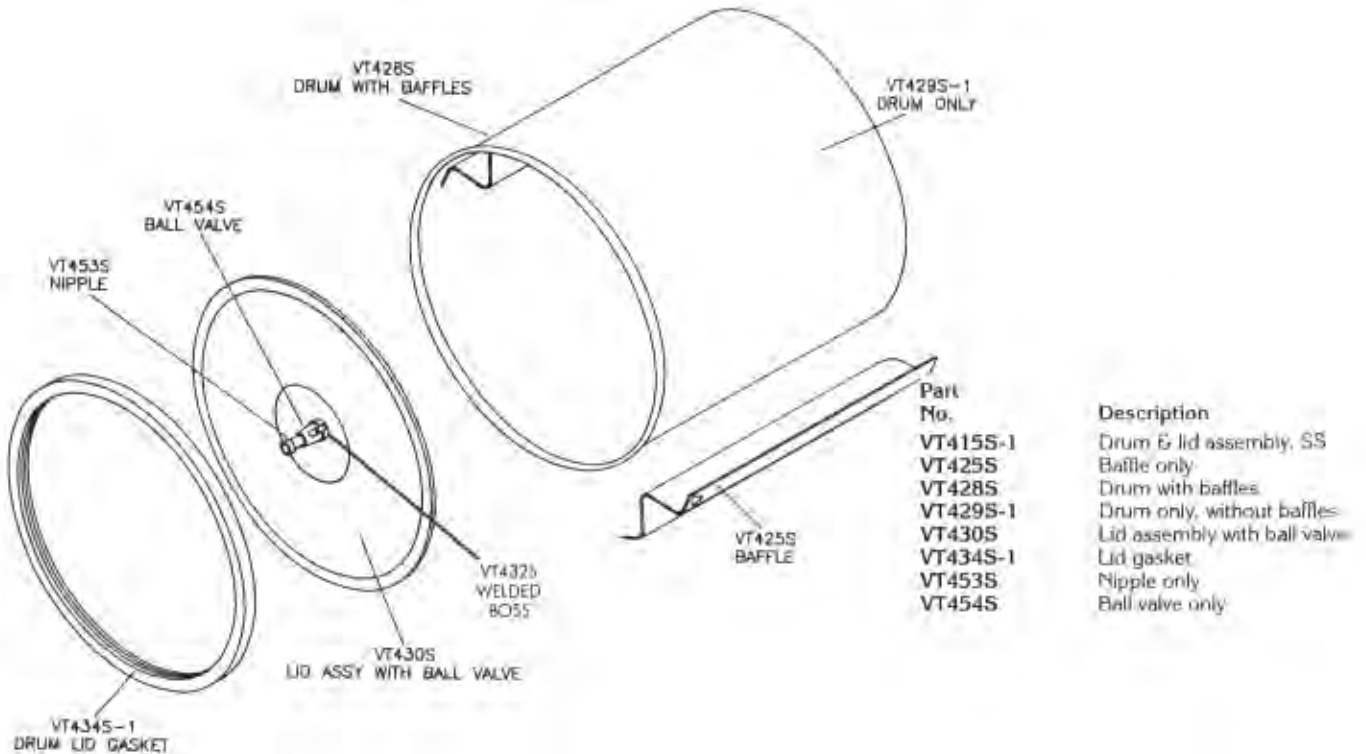
| | |
|--------|--------------------------------|
| VT418 | Vacuum pump w/toggle, 110-60-1 |
| VT479S | Vacuum pump w/toggle, 220-50-1 |

VTS-41

IMPORTANT: Always Advise Model & Serial Number When Ordering Parts



| Part No. | Description |
|----------|-----------------------------------|
| VT418 | Vacuum pump assembly |
| VT422 | Vacuum gauge |
| VT435 | Coupler, 1/4MPT |
| VT436 | Tee, 1/4 x 1/4 x 1/4FPT, brass |
| VT437 | Hose, 5' with 1/4MPT crimped ends |
| VT447S | Hex nipple, 1/4NPT |
| VTS712I | Inlet filter |



| Part No. | Description |
|----------|------------------------------|
| VT415S-1 | Drum & lid assembly, SS |
| VT425S | Baffle only |
| VT428S | Drum with baffles |
| VT429S-1 | Drum only, without baffles |
| VT430S | Lid assembly with ball valve |
| VT434S-1 | Lid gasket |
| VT453S | Nipple only |
| VT454S | Ball valve only |

LIMITED WARRANTY:

WARRANTY: The BIRO Manufacturing Company warrants that the BIRO Vacuum Tumbler will be free from defects in material and workmanship under normal use and with recommended service. BIRO will replace defective parts, which are covered by this limited warranty, provided that the defective parts are authorized for return, shipping charges prepaid, to a designated factory for inspection and/or testing.

DURATION OF WARRANTY: The warranty period for all parts covered by this limited warranty is one (1) year from inspection/demonstration as advised on the returned Warranty registration card, or eighteen (18) months from original factory shipping date, whichever occurs first, except as noted below.

PARTS NOT COVERED BY WARRANTY: The following parts are **not** covered by this limited warranty: the vacuum pump inlet filter assembly, the drum lid gasket, and the ball valve on drum lid. This limited warranty does not apply to machines sold as used, rebuilt, modified, or altered from the original construction in which the machine was shipped from the factory. Water contaminated electrical systems are not covered under this limited warranty. BIRO is not responsible for electrical connection of equipment, adjustments to switch gear or any other electrical requirements, which must be performed only by a certified electrician. BIRO is not responsible for service charges or labor required to replace any part covered by this limited warranty or for any damages resulting from misuse, abuse, lack of proper or recommended service.

EXCLUSION OF WARRANTIES AND LIMITATION OF REMEDIES: BIRO gives no warranties other than those expressly stated in this limited warranty. THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR PROCESSING OF FOOD PRODUCTS, AND ALL OTHER IMPLIED WARRANTIES ARE SPECIFICALLY EXCLUDED. BIRO IS NOT LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, EXPENSES, OR LOSSES. THE REMEDIES PROVIDED IN THIS BIRO LIMITED WARRANTY ARE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES AGAINST BIRO.

REGISTRATION CARDS: You must sign, date and complete the warranty card supplied with each machine. The warranty card must be returned to The Biro Manufacturing Company for proper registration. If no warranty registration card is returned to BIRO, the warranty period will begin from the date the machine was originally shipped from the factory.

HOW TO GET SERVICE:

1. Contact the agency from whom you purchased the machine.
2. Consult the yellow pages of the phone directory for the nearest authorized dealer.
3. Or call BIRO Service Department (419) 798-4451 who will put you in contact with the nearest service agency.