Operating Instructions

Models AV-40, AV-40SS, TD-40, AV-75, TD-75, AV-75DC, TD-75DC



Adjusta-Vibe 40SS



Adjusta-Vibe 75



Adjusta-Vibe 75DC

Your new Raytech Finishing machine is useful for a wide variety of finishing operations, including:

- Deburring metal stampings and machined parts.
- Descaling metal castings.
- Cutting radii on sharp edges of metal parts.
- Polishing metal and plastic parts.
- Grinding and polishing “baroque” gemstones from rough chips.
- Smoothing and polishing preformed cabochons and small slabs.

Each type of product finishing requires its own sequence of steps with appropriate abrasives, polishes and medias. These instructions focus on operating the Adjusta-Vibe finishing machines only. Consult your distributor for recommended media and compounds.

RAYTECH

CE

Raytech Industries
A Division of Lyman Products
475 Smith Street, Middletown, CT 06457
Tel (860) 632-2020 Fax (860) 632-1699
Visit us on the web @ www.raytech-ind.com

Visit our Website
world wide web
www.raytech-ind.com

Instruction No: 04315

11/2014

RAYTECH TUMBLERS

General Operating Instructions

Your new Raytech Adjusta-Vibe finishing machine comes from the factory completely assembled and ready to run. The working capacity of the Adjusta-Vibe 40 and 40SS is .35 cubic feet, or three gallons. The working capacity of the model 75 is .75 cubic feet, or approximately 6 gallons. This capacity includes both the media and the workpieces. The general rule of thumb is 70% media and 30% parts. Raytech finishing machines are actuated by an eccentric weight system which is factory set at the mid-range tumbling action. By adjusting the eccentric weights, the amplitude of the machine can be changed infinitely, resulting in vibratory action ranging from mild to very aggressive, depending on media and material being tumbled, e.g. corncob media/mild tumbling action, and ceramic media/more tumbling action.

Maintenance

The following maintenance should be performed every 500 hours of use:
1. Lubricate lower shaft assembly threads and motor plate threads with a light grease such as Lubriplate.
2. Check tightness of all hardware.
3. Inspect interior of bowl to ascertain any premature wear.

Health & Safety Cautions

1. Do not cover the machine with anything (such as a blanket or a box) to insulate the noise as this could cause overheating and become a fire hazard.
2. Always connect the machine to a power source that has been properly grounded to prevent any possible electrical shock.
3. Models 40 and 75 are designed not to “walk” during normal operation. We recommend that the machine be placed on a Raytech Compound Rinsing System or on a solid floor away from any combustible materials. If the machine is used on a bench, it should be blocked in to prevent any accidents. Do not bolt or attach these units to a workbench by any means, as this will void warranty.
4. Prior to any adjustments to the eccentric weight assembly, disengage the machine from its electrical power source.
5. Never attempt to operate or experiment with other than recommended media and compounds.
6. Do not dispose of grits down drain. Remove as much grit as possible by straining.
7. Always use ear protection in the work area while the machine is running. Machine noise level at maximum conditions is 82 dB. Noise levels can be less depending on media applications.

Amplitude Adjustment

To change the amplitude, unplug the electric cord and turn the machine on its side. Remove the bottom cover with the three #8 seIf-tap screws. Use a 5/16" Allen wrench to adjust the eccentric weights. Refer to Figures I and 2 below for adjustment, Note: The 5/16" Allen head bolt is a left-hand thread. With a 5/16" Allen wrench, loosen this bolt to change the position of the adjustable weight. Once adjusted, secure tightly.

FIGURE 1:

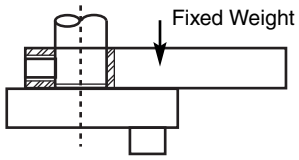


Figure 1 shows weight adjusted to minimum amplitude/aggressiveness. Adjustable weight in this position counter balances the fixed weight and reduces the amplitude/aggressiveness. (Ex. Tumbling using corncob media or any light media.)

FIGURE 2:

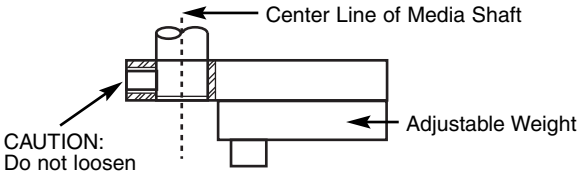
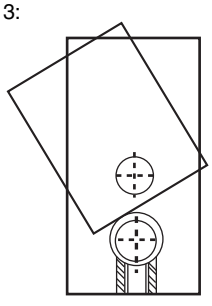


Figure 2 shows weight adjusted to maximum amplitude/aggressiveness. Adjustable weight in this position adds to the fixed weight and increases the amplitude/aggressiveness. (Ex. Tumbling using ceramic or steel shot media or any heavy media.)

FIGURE 3:



Recommended Position for Light Media

Bowl Removal

Note: Never turn the machine on without the bowl being installed. To remove the bowl from the Adjusta-Vibe machine, unscrew the large nut at the center of the bowl and lift off. When replacing the bowl, it is essential that the nut be tightened properly so that the bowl will not vibrate loose.

AV-40, AV-40SS, AV-75

SHAFT ASSEMBLY INSTALLATION:

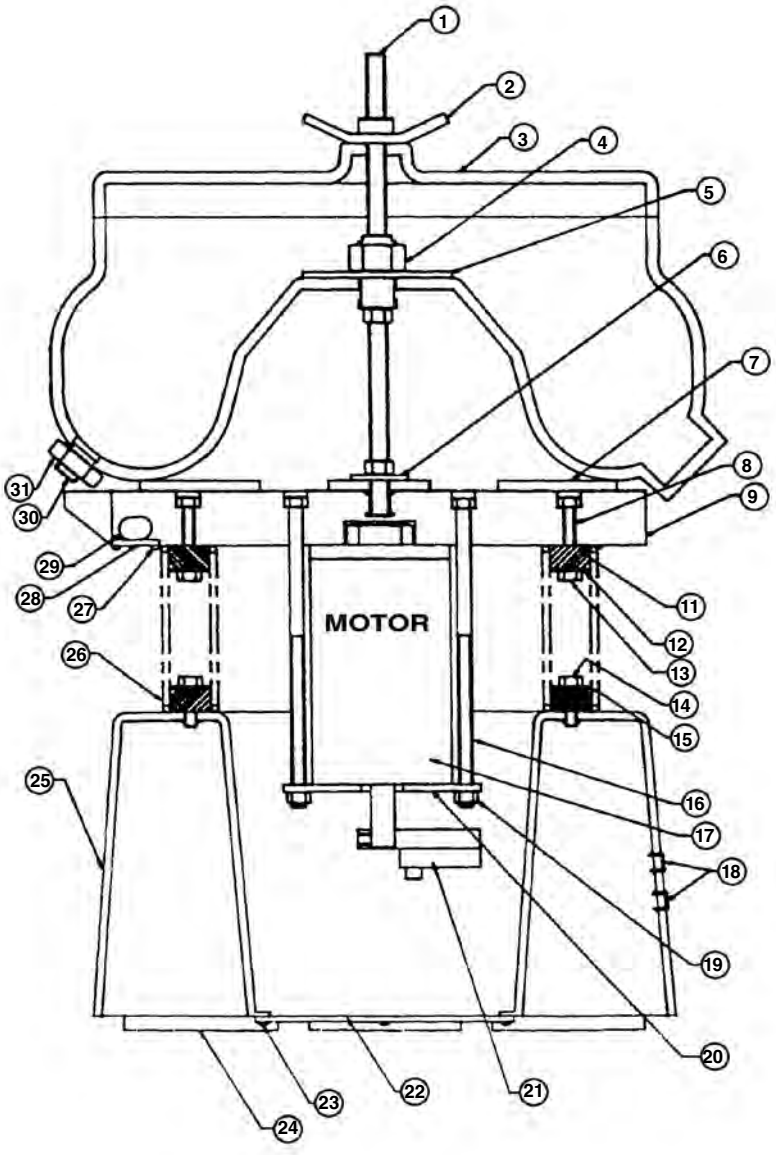
Screw the 1/2-13 nut approximately 1-1 1/2" from the end of the shaft. Place the 9/16" flat washer onto the bottom of the shaft so that it is against the 1/2-13 nut. insert the shalt, preferably with thread-locking liquid (such as Loctite®) into the threaded center of the motor plate. Tighten 7 to 9 turns FINGER TIGHT. Excessive tightening will cause motor damage. When bottomed out, unscrew 1-1/4 full turns. run a 1/2-13 nut down, and tighten against the motor plate.

BOWL ASSEMBLY:

Screw both 1/2-13 hex nuts and brass stud toward the motor plate, approximately one-half the distance of the shaft. Place the bowl in position on the motor plate. Adjust the brass stud until the amount showing above the bowl is equal to the height of the bowl washer and the 1-8 hex nut combined. Remove the bowl and use the 1/2-13 nut as a jam nut for the brass stud. Make sure the brass stud does not move. Install the bowl, bowl washer, and 1-8 hex nut and tighten securely.

NOTE ON THE A V-JOSS (Steel Shot):

The AV-40SS bowl has a special spout and plug to allow the steel shot to drain from the bowl when needed. To drain the bowl of steel shot, turn the T-handle on the plug counterclockwise until it is loose and then remove. Drain the steel shot as desired. Wipe clean the interior of the spout and the rubber ridges on the drain plug prior to resealing it. Loosen the plug into the drain spout and turn the T - handle clockwise until you feel resistance. The plug is now sealed again and the tumbler is ready to run.



ITEM	PART NO.	DESCRIPTION	QTY
1	07967	Shaft Assembly AV-40	1
1	07965	Shaft Assembly AV-75	1
2	07943	Cover Wing/Perm Nut Assembly	1
3*	23032	Bowl with Cover AV-40	1
3**	23046	Bowl with Cover AV-75	1
4	03376	Nut 1" -8 Hex Full Zc	1
5	07925	Bowl Holddown Plate	1
6	03249	Washer 9/16 Flat	1
7	07779	Rubber Pad	5
7a	07796	Top Pad Cut (Not Shown)	1
8	03299	Hex Head Screw 5/16 - 18 x 1 1/2	6
9	07773	Motor Plate	1
11	07942	Spring Grommet	12
12	03243	Washer 5/16 USS STD	12
13	03349	Nut 5/16-18 Hex Zc	6
14	03284	Hex Head Screw5/16-18 x 1 1/4	6
15	03243	Washer 5/16 USS STD	6
16	03480	Carriage Bolt 3/8-16 x 8" Long	4
17***	30255	Motor 40/75 110V	1
17***	30293	Motor 40/75 230V	1
18	03325	Jack Nut Molly #10-24	4
19	03388	Nut 3/8-16 Locking	4
20	07772	Motor Bar	1
21	07972	Counterweight Assy	1
22	07784	Bottom Cover	1
23	03440	Screw #8 x 3/8 Typ A Pan	3
24	07882	Rubber Feet	3
25****	07782	Base Model 40	1
25****	07783	Base Model 75	1
26	07941	Compression Spring	6
27	03462	Screw #10-32x3/8 Pan Zc	3
28	07781	Strap for Capacitor	1
29	03928	Capacitor 115V R	1
29	03927	Capacitor 230V R	1
30	07909	Strainer Fitting	1
31	03374	Nut 3/4-16 Jam Zc	1
32	07936	Drain Tube 3/8 LD x 30" S/A	1

*Includes 30,31,32 (Not Shown)
**Includes 30,31,32 (Not Shown)
***Includes 7,7a,9,11,12,13,16,17,19,20,28,29
****Includes 11,14,15,18,22,23,24,25

TD-40, TD-75

SHAFT ASSEMBLY INSTALLATION:

Holding the shaft assembly by the threaded shaft only (not brass stud) install center stud spring onto shaft assembly (end opposite pinned nut). With spring end up, insert the shaft assembly through the center tube and Tumble-Dump plate until brass stud contacts center tube. Apply Loctite® onto brass stud and screw into center tube - approximately 4 turns - until wrench flats on brass stud are flush with center tube. Set aside to dry.

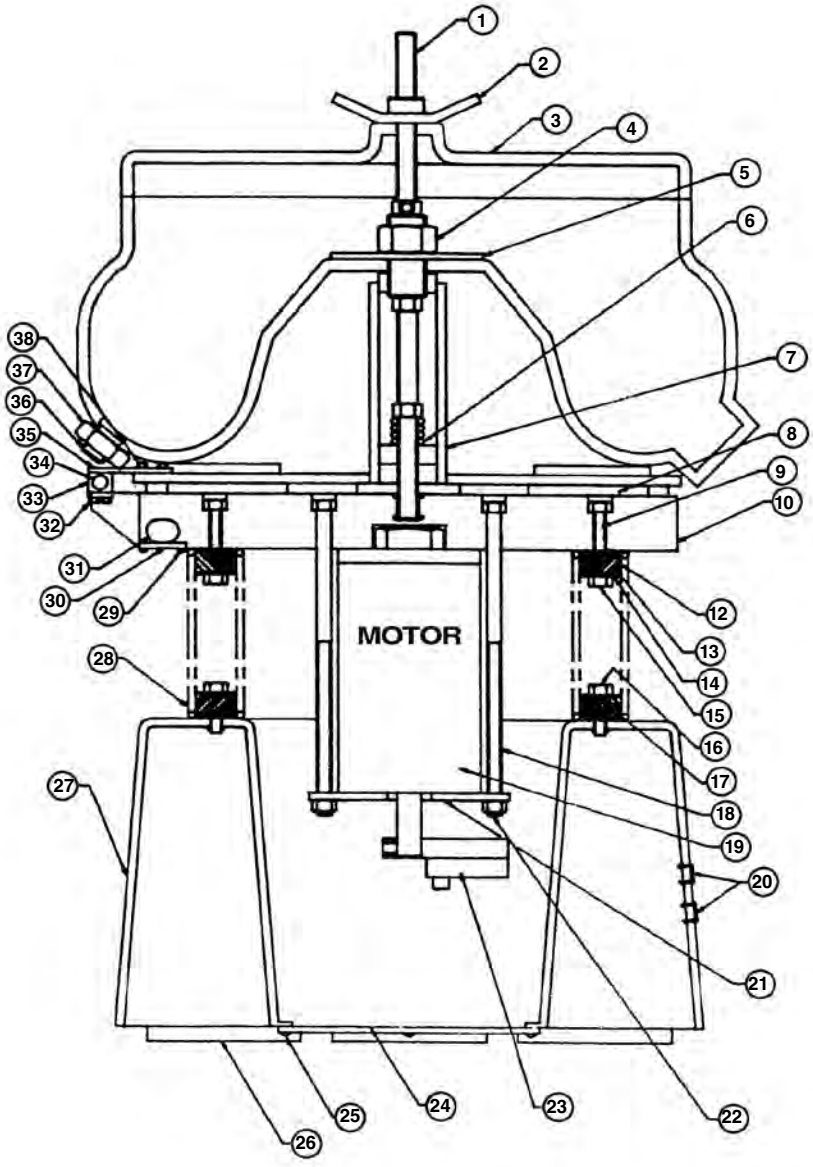
BOWL ASSEMBLY:

Place the bowl over the center hole and screw the shaft assembly into the motor plate and back off two turns. Install bowl washer and fasten with the 1-8 nut and tighten. With the wrench provided, tighten the shaft assembly to obtain the desired operating tightness.

TUMBLE-DUMP FEATURE:

Raytech's Tumble-Dump models (TD-40 and TD-75) feature a built-in hinge system that allows the parts and media to be easily removed from the machine. Used with a Raytech Separator (MS-75) the Tumble-Dump saves time and money by eliminating the tedious tasks of unloading and separating by hand. With the special 3/4" hex wrench provided, loosen the 3/4" hex nut until the shaft and nut spring up - approximately 6 turns. This will release the tumble-dump plate and bowl assembly from the motor plate. Raise the dump handle to dump media and parts. To secure, return the tumble-dump plate and bowl assembly to the "run" position. With the special wrench provided, compress the internal spring by pushing down on the 3/4" hex nut and turn to engage threads into the motor plate. Tighten securely.

NOTE: Occasionally lubricate lower shaft assembly threads and motor plate threads with a light grease such as “Lubri-Plate.”



ITEM	PART NO.	DESCRIPTION	QTY
1	07968	Shaft Assembly TD-40	1
1	07966	Shaft Assembly TD-75	1
2	07943	Cover Wing/Perm Nut Assembly	1
3*	23032	Bowl with Cover AV-40	1
3**	23046	Bowl with Cover AV-75	1
4	03376	Nut 1” -8 Hex Full Zc	1
5	07925	Bowl Holddown Plate	1
6	07883	Center Stud Spring	1
7	08377	Tilting Plate TD-40	1
7	07933	Tilting Plate TD-75	1
8	07796	Top Pad Cut (Not Shown)	1
8a	07779	Rubber Pad	5
9	03299	Hex Head Screw 5/16 - 18 x 1 1/2	6
10	07773	Motor Plate	1
12	07941	Compression Spring	6
13	07942	Spring Grommet	12
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30	07781	Strap for Capacitor	1
31	03928	Capacitor 115V R	1
31	03927	Capacitor 230V R	1
32	03065	Screw 1/4-20 x 1 1/4 Hex Zc	4
33	07923	Hinge Pivot Block	2
34	07770	Hinge Bar	1
35	07920	Tilting Hinge	2
36	07909	Strainer Fitting	1
37	03374	Nut 3/4-16 Jam Zc	1
38	03055	Screw 1/4-20 x 3/4 Hex Zc	4
39	07936	Drain Tube 3/8 LD x 30” S/A	1

*Includes 36,37,39 (Not Shown)
**Includes 36,37,39 (Not Shown)
***Includes 8,8a,9,10,13,14,15,18,19,21,22,29
****Includes 14,16,17,20,24,25,26,27