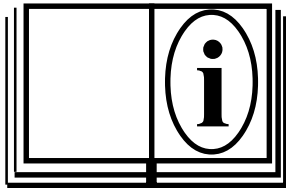




TRAV-L-VAC 300
TRANSPORTABLE
VACUUM SYSTEM
MODEL TLV 300



	PIPE & VALVE	CE
	MAINTENANCE EQUIPMENT	
Model TLV 300 Ser.No. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		
E.H. WACHS COMPANIES 100 Shepard St. Wheeling Il. 60090 Patent Pending		

Part Number: _____

Revision No: 0

REV: 21
 JAN. 2003

WACHS TRAV-L-VAC 300

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SET UP & OPERATING PROCEDURES

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WACHS TRAV-L-VAC 300

SECTION I

STANDARD EQUIPMENT

INTRODUCTION.

Wachs Trav-L-Vac Transportable Vacuum Systems are designed for a wide variety of field applications from curb box, valve box, catch basin and vault clean out, as well as the clean up of sludge and industrial spills, to key hole excavation for curb box installation or replacement.

Trav-L-Vac Systems are completely self contained, built on a structural steel base including: engine, holding tank, blower, filtration system and suction tube.

The TRAV-L-VAC 300, the smallest member of the TRAV-L-VAC line, features strong lifting capability and the largest capacity holding tank in its class.

The TRAV-L-VAC 300 handles solid and liquid debris safely and quickly. Available "skid mount" for operation from pick up truck beds or compact "trailer system" for towing to jobsites.

STANDARD FEATURES:

- Fabricated base of channeled steel and steel plate with fork lift slots.
- Large capacity holding tank with manually activated dump gate and 2" (50.8 mm) drain plug.
- 3-stage filtration system.
- Heavy-duty positive displacement blower with silencer.
- Vacuum relief valve.
- Gasoline drive.
- 2-1/2" (63.5 mm) diameter x 10' (3.0 m) flexible wire reinforced rubber suction hose.
- 2" (50.8 mm) diameter x 6 1/2' (2.0 m) steel suction tube with handles.
- Quick disconnect cam lock couplings.
- High liquid level shut off switch.
- Hour meter & tachometer.

OPTIONAL FEATURES:

- Trailer package
- Light package
- Suction tubes
- Custom colors

SECTION II

MACHINE SPECIFICATIONS

POWER SOURCE

- 20 HP gasoline engine.

BLOWER

- Belt drive positive displacement rotary lobe impeller type with 14" (355.6 mm) Hg maximum capacity.
- 345 CFM (9.77 cmm) @ 3600 RPM with 14" (355.6 mm) Hg.
- 15,813 FPM (4,819.8 cmm) air velocity through 2" (50.8mm) diameter inlet

FILTRATION

- Primary drum filter with 2" (50.8 mm) of polyethylene foam.
- Secondary filter of fine polyethylene foam.
- Final filter, 10 micron polyester cartridge.
- All filters are washable with water.

HOLDING TANK

- 12 cu. ft. (.34 cu. m) 90 liquid gal. (33.7 L.) actual holding capacity.
- 32" (812.8 mm) diameter
- Equipped with vacuum relief valve, high level liquid shut off switch, and hinged dump gate.
- 2" (50.8 mm) drain plug

FINISH:

Durable painted finish w/
plated fasteners throughout.

UNIT DIMENSIONS (LxWxH):

40"x 60"x 55"
(1,016 x 1,524 x 1,397mm)

WEIGHT:

950 lbs (430.9 kg.)

BATTERY

For shipping purposes the battery is left empty. Battery acid is shipped separately allowing for the customer to fill the battery upon delivery.

ENGINE

The Trav-L-Vac 300 utilizes a Kohler 20 HP. twin cylinder, air cooled gasoline engine. Electric key start with speed control.

The engine and vacuum system have been factory tested. Enclosed within the TLV 300 manual is the appropriate engine manual, maintenance and repair information.

GAS TANK

Use only regular grade unleaded gasoline with an octane rating of 87 or higher.

- 6 gallon capacity
- Always keep gas cap vent in the full open position.

BLOWER:

A Roots Universal 45 RAI series. The blower has been properly lubricated at the factory. Enclosed with the Trav-L-Vac manual is the Roots Blower manual, refer to it for specifications, maintenance and repair information.

FILTRATION SYSTEM:

A three stage system, accessed from top of holding tank, utilizing toggle clamp to lock filters in place. Easy clean with mild soap and water.

TRAILER BOLT ON KIT (OPTIONAL):

- 2,300 lbs. Trailer capacity
- Torsion axle
- 2" ball coupler or pintle
- 105" overall length
- 63" overall width

WACHS TRAV-L-VAC 300

SECTION III

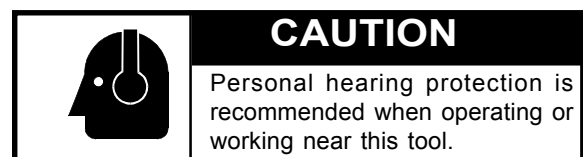
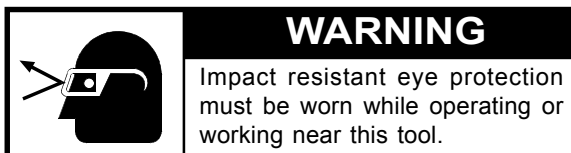
SAFETY INSTRUCTIONS

The E. H. Wachs Company takes great pride in manufacturing safe, quality products with user safety a priority. The E.H. Wachs Company recommends that all users comply with the following safety rules and instructions when operating our equipment. For your safety and the safety of others, read and understand these safety recommendations and operating instructions before operating.



Read the Following thoroughly before proceeding.

- 1. READ THE OPERATING MANUAL!!** Reading the setup and operating instructions prior to beginning the setup procedures can save valuable time and help prevent injury to operators or damage to machines.
- 2. INSPECT MACHINE & ACCESSORIES!** Prior to machine setup physically inspect the machine and it's accessories. Look for worn tool slides, loose bolts or nuts, lubricant leakage, excessive rust, etc. A properly maintained machine can greatly decrease the chances for injury.
- 3. ALWAYS READ PLACARDS & LABELS!** All placards, labels and stickers must be clearly legible and in good condition. Replacement labels can be purchased from the manufacturer.
- 4. KEEP CLEAR OF VACUUM HOSE WHEN OPERATING VACUUM!** Keep hands, arms and fingers clear of vacuum inlet. Always turn machine off before attempting any adjustments, or changing wands.
 - TAKE CARE IN TRANSPORTING VACUUM SYSTEM, ALWAYS CHECK TRAILER HITCH, INSTALL SAFETY CHAINS, CHECK BRAKE LIGHT-TURN SIGNAL OPERATION.
 - DO NOT RUN ENGINE IN ENCLOSED AREA. EXHAUST FUMES ARE DEADLY.
 - DO NOT SMOKE WHEN FILLING FUEL TANK OR OPERATING VACUUM SYSTEM.
 - DO NOT ALLOW GRASS, LEAVES, DIRT, RAGS OR COMBUSTIBLE MATERIALS TO ACCUMULATE AROUND ENGINE AND MUFFLER.
- 4. KEEP CLEAR OF ROTATING PARTS!** Keep hands, arms and fingers clear of all rotating or moving parts. Always turn machine off before attempting any adjustments requiring contact with the machine or it's accessories.
- 5. SECURE LOOSE CLOTHING & JEWELRY!** Loose fitting clothing, jewelry; long, unbound hair can get caught in the rotating parts on machines. By keeping these things secure or removing them you can greatly reduce the chance for injury.
- 6. KEEP WORK AREA CLEAR!** Be sure to keep the work area free of clutter and nonessential materials. Only allow those personnel directly associated with the work being performed to have access to the area if possible.
 - USE THIS TOOL FOR THE MANUFACTURERS INTENDED PURPOSE ONLY.
 - DO NOT FILL OR EMPTY VACUUM TANK WITHOUT TRAILER CONNECTED TO TOWING VEHICLE OR FRAME BOLTED TO TRAILER BED.
 - SHUT SYSTEM DOWN BEFORE PERFORMING ANY SERVICE TO THE EQUIPMENT.
 - USE ALL APPROPRIATE AND APPLICABLE PERSONAL SAFETY EQUIPMENT AS REQUIRED; SUCH AS, SAFETY SHOES, HARD HAT, SAFETY GLASSES, HEARING PROTECTION, ETC.



SECTION IV

**SET-UP
AND
OPERATING
PROCEDURES**

WACHS TRAV-L-VAC 300

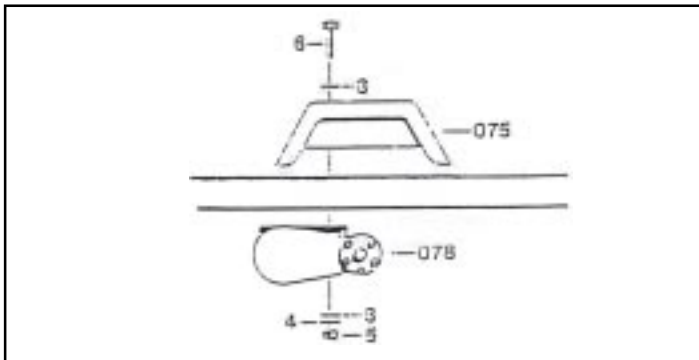
SECTION IV

SET-UP AND OPERATION


TRAILER PACKAGE ASSEMBLY:

NOTE: REFER TO INSTALLATION DIAGRAM

1. Bolt fender braces (076) to dump gate sides by using 3/8-16 x 3/4 HHCS, 3/8 lock washers and 3/8-16 hex nuts.
2. Secure the fenders (075) to the fender braces by using 3/8-16 x 3/4 HHCS, 3/8 lockwashers and 3/8-16 hex nuts. Align the holes in the fender with the holes in the TLV frame (01).
3. Position the axle (078) under the frame with the torsion arms trailing toward the dump gate. The axle is bolted to the frame through the holes closest to the tongue side of the frame.
4. Join the fenders to the axle, through the frame, by using 1/2-13 x 4-1/2 HHCS (6), 1/2 flat washers (3) 1/2 lock washers (4) and 1/2-13 hex nuts (5). (Fig. 1)

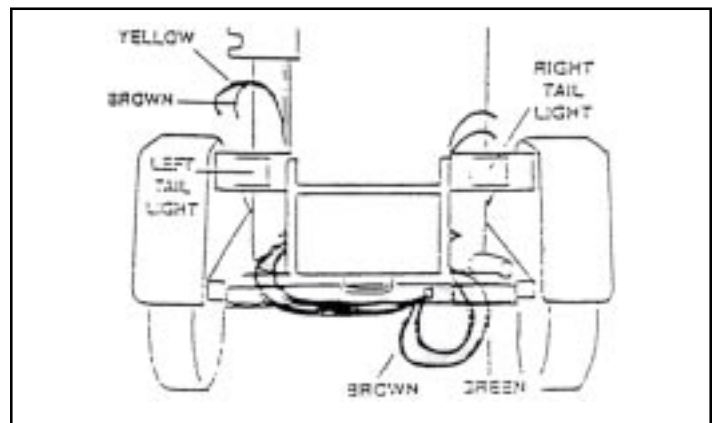


(Fig. 1)

 **NOTE: Ensure** that the axle is mounted perpendicular to the direction of travel. A misaligned axle will decrease tire life and will not tow satisfactorily.

5. Place the center caps (081) in the rim and mount the wheels (079) on the axle using the lug nuts (080).
6. Pull the wire harness (084) wires through the hole at the back of the tongue receiver. Do not remove the protective loom from the wires.
7. Insert tongue (077) into the receivers. Be sure to pull the excess wire with the tongue to avoid damage.
8. Line up the holes in the tongue with the holes in the receiver. Secure the tongue in place with the supplied pull pins (090) and keeper pins.
9. Attach the jack (103) to the tongue using the supplied snap ring (104).
10. Pull the trailer wires through the holes under the TLV frame until they come out the back corner, beneath the drain plug.
11. In addition to pulling the trailer wires through the holes, adhesive wire clips (*106) are provided to keep the wiring secured to the frame.

12. Pull the green and brown wires up through the conduit directly above the exit hole. The green and brown wires are for the RIGHT tail light. (Fig. 2)
13. The yellow and brown wires are strung along the TLV frame below the dump gate. The yellow and brown wires are for the LEFT tail light. (Fig. 2)



(Fig. 2)

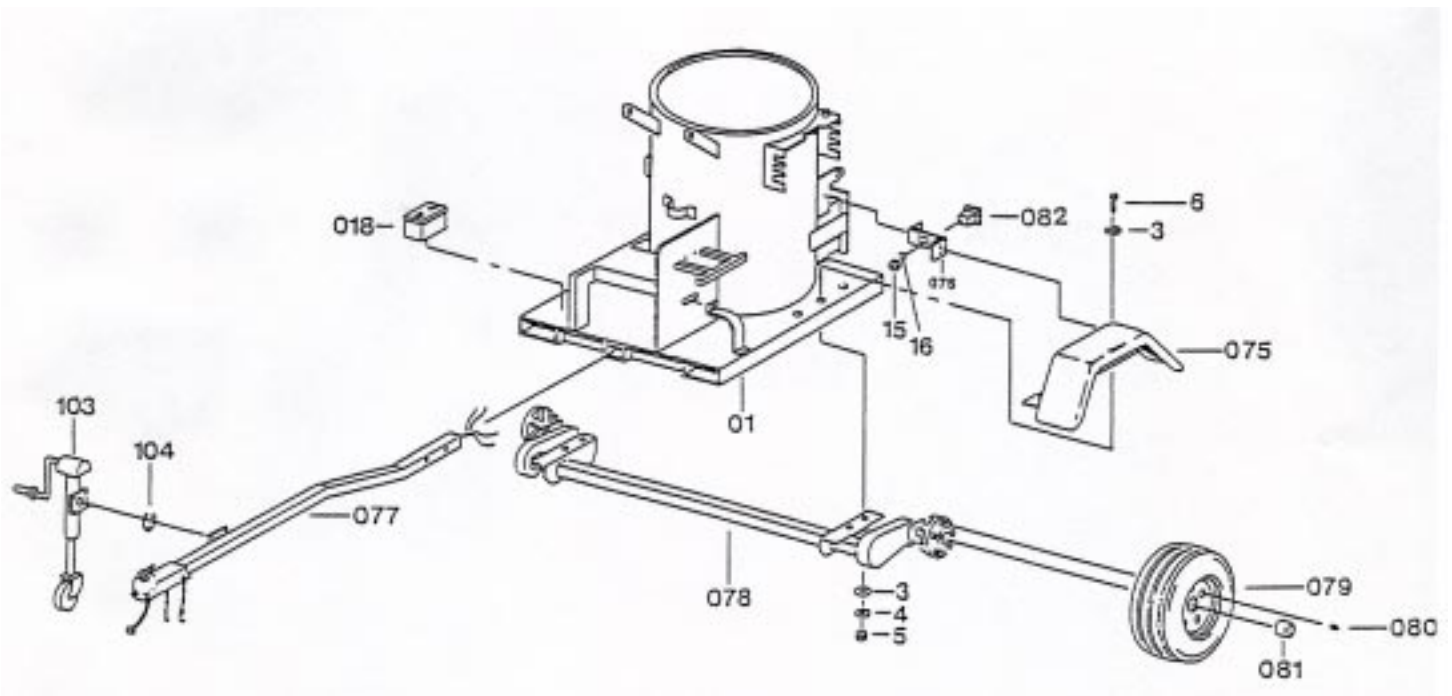
14. Holes are predrilled in the frame to secure the wires using wire clamps and #10 self drilling hex head screws.
15. Pull the yellow and brown wires up through the conduit and out through the hole near the fender brace.
16. Remove the slack from the trailer wires and secure them to the fender braces with the supplied adhesive wire clips.
17. Cut the trailer wires allowing for sufficient length to connect the tail lights (082 & 083)
18. Strip the ends of the trailer wires 1/2" for proper connection.
19. Feed the trailer wires through the upper slots on the fender braces.
20. Push the stripped brown ends into the hole on the trailer lights marked tail.
21. Push the stripped green and yellow ends into the hole on the trailer lights marked stop.
22. Bolt the trailer lights to the fender braces using 1/4-20 hex nuts and 1/4 lock washers.
23. Check that the lights are working properly.
24. Attach your license plate through the holes on the LEFT fender brace. Apply the amber side markers on each side of the TLV 300 frame.

WACHS TRAV-L-VAC 300

SECTION IV

SET-UP AND OPERATION

INSTALLATION DIAGRAM



WACHS TRAV-L-VAC 300

SECTION IV

SET-UP AND OPERATION

PRE-VACUUM CHECKLIST:

1. Insure all scheduled maintenance has been properly performed. See maintenance section in manual or refer to maintenance decal on TLV.
2. Insure that the hitch assembly has been properly attached to the towing vehicle.
3. Check trailer brake lights and turn signals.
4. Check TLV-300 fuel level.
5. Make certain battery is charged and ready to start TLV-300 engine.
6. Make certain suction hose and suction tubes are stored on board TLV-300
7. Check drive belt tension. Adjust as necessary. (Refer to drive belt tensioning diagram in Charts and Graphs Section)



4. Once assembly of these components is complete, unit is ready for operation.

TRAV-L-VAC OPERATING PROCEDURE:

1. Start engine and allow to idle several minutes to properly warm up. (Figure 2)
2. Ensure vacuum diverter valve is closed to achieve proper suction through the suction hose. If diverter valve is open no suction will be present at the wand opening.

TRAV-L-VAC 300 SET UP PROCEDURE:

1. Position TLV system near work area.
2. Connect coupling of suction hose to coupling on vacuum inlet port. (Figure 1)
3. Connect coupling on suction hose to coupling on suction tube.



Figure 1



Figure 2

3. Bring engine RPM up to full running speed.
4. Insert suction tube into valve box and drop down until contact is made with either water or debris. Continue to

WACHS TRAV-L-VAC 300

SECTION IV

SET-UP AND OPERATION

extract debris until valve box is empty or until holding tank is full. (Fig. 3)

5. If the unit fills with liquid to its limit, the high liquid level switch will automatically shut off the engine. Before restarting unit, the holding tank must be drained. If this is not done, unit will not start.



Figure 3

2. Position vacuum system over designated dumping area.
3. If the material collected is primarily liquid, the holding tank drain plug should be used to remove holding tank contents.
4. Once liquid has drained, open dump gate and remove any remaining debris. (Fig. 4)
5. Clean primary filter prior to next use. Filter can be cleaned with only water, however, mild soap and water are recommended if possible. (Fig. 5)



Figure 4



NOTE: If a clog occurs, shake suction hose. If clog remains, open the vacuum diverter valve to remove vacuum from suction hose. Disconnect the hose from the TLV. Either use a ram to dislodge clogged debris or reverse suction hose ends.

6. After the vacuum operation is over, run engine for several minutes to clear out any water which may have reached the blower.



NOTE: If removing heavier or solid debris, the high liquid level switch **may not** cause the unit to shut down. Periodically inspect the holding tank to avoid over filling.

7. Consult the manufacturer for special operating suggestions concerning use in freezing weather.

TLV DUMPING PROCEDURES:

Liquids:

1. Shut down engine.

TLV DUMPING PROCEDURES (CONT.):

Solids:



Figure 5

WACHS TRAV-L-VAC 300

SECTION IV

SET-UP AND OPERATION

1. Shut down engine.
2. Position vacuum system over designated dumping area.
3. If the material collected is primarily solid, first open the holding tank drain plug to allow any trapped liquids to escape. open the holding tank dump gate. (Fig 6)
4. It may be necessary to remove any remaining debris from the holding tank manually.
5. Clean primary filter prior to next use. Filter can be cleaned with only water, however, mild soap and water are recommended if possible. (Fig. 7)

OPERATING TIPS

1. While excavating water, always be sure to submerge the suction tube completely.
2. If debris is packed in the bottom of the valve box, rotate the suction tube assembly back and forth to break up debris.
3. For solid debris, pouring water into the valve box greatly speeds up debris removal.
4. If suction tube on the TLV 300 becomes clogged, use a rod with a smaller diameter than the inside of tube to assist in blockage removal.
5. For optimal efficiency, flush out suction tubes and suction hoses prior to storage.
6. Properly performing all scheduled operators maintenance at the designated times will insure continued peak performance and increase the longevity of the TLV 300 unit.



Fig. 6



Fig. 7

WACHS TRAV-L-VAC 300

SECTION V

MAINTENANCE

WACHS TRAV-L-VAC 300

MAINTENANCE

BLOWER MAINTENANCE SCHEDULE

WEEKLY

CHECK OIL LEVEL:

Stop blower. Wait 5 minutes. Remove oil breather and oil level plug. Add oil until oil runs out level holes. Replace breather and level plugs.

GREASE BEARINGS:

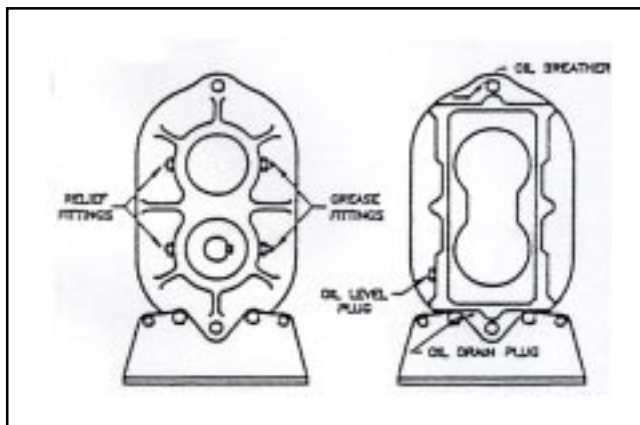
Grease drive end bearings with NLGI grade 2 EP grease in a pressure gun. Force into housing through grease fittings until clean grease emerges from relief fittings. Wipe clean all grease from around relief fittings to prevent spraying onto drive belts.

EVERY 1,000 HOURS

CHANGE OIL.

NOTES

Change oil after initial 100 hours.
Recommended oil: Mobil DTE BB, Amoco 220, Texaco R&O 220, or equivalent.



BLOWER MAINTENANCE DIAGRAM

FILTER MAINTENANCE SCHEDULE

DAILY

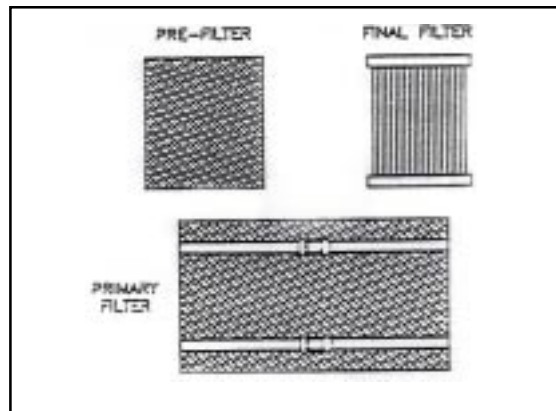
Clean primary filter.

WEEKLY

Clean pre-filter

NOTES

Frequency of cleaning will increase under severe operating conditions.
All filters are washable with mild detergent and water.
Damaged filters must be replaced to prevent debris from reaching blower.



FILTER MAINTENANCE DIAGRAM

ENGINE MAINTENANCE SCHEDULE

DAILY

Check oil level.
Replenish fuel intake supply (Unleaded fuel).
Clean air intake screen.
Check tightness of air cleaner cover.

EVERY 25 HOURS

Service pre-cleaner.

EVERY 100 HOURS

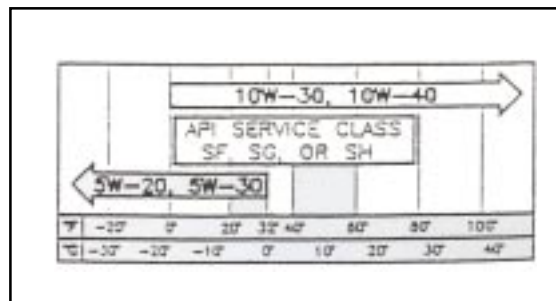
Service paper element.
Remove shrouds, clean cooling fins, and external surfaces.
Check battery electrolyte level.
Change oil.

EVERY 200 HOURS

Check spark plug condition and gap, change oil filter.

NOTES

Change oil after first 5 hours.



OIL GRADE DIAGRAM

WACHS TRAV-L-VAC 300

GENERAL MAINTENANCE SCHEDULE

DAILY

Check suction hoses for any abrasions, holes, kinks or damaged connectors. Replace as needed.

Verify that all dump gate and filter lid camps are secured tight. Adjust if necessary.

Clean any debris from dump door seal.

Verify that all trailer and/or accessory lights are functioning properly. Repair or replace as needed.

WEEKLY

Clean holding tank from excessive debris build-up.

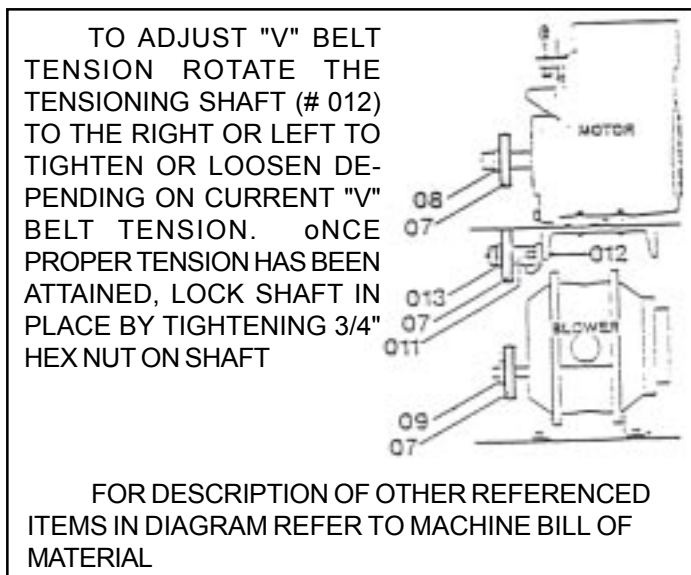
Check lug nuts and fasteners for tightness. Tighten as necessary.

MONTHLY

Check blower drive belts for proper tension, frayed or cracked condition. Adjust or replace as needed.

Check for loose piping, fittings, and connectors. Tighten as needed.

Check tire pressure. Fill as necessary.

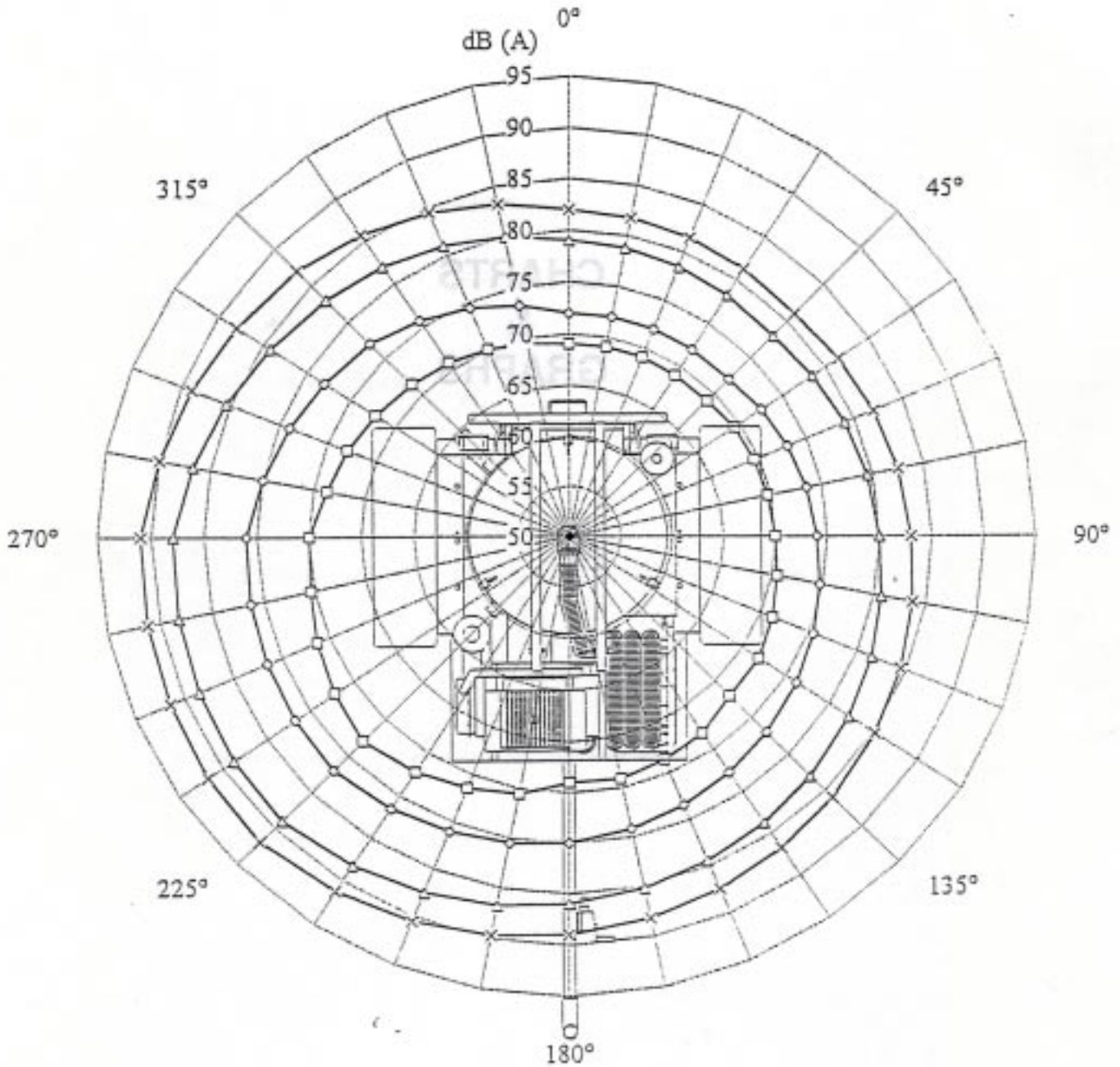


SECTION V

**MISCELLANEOUS
CHARTS
AND
GRAPHS**

WACHS TRAV-L-VAC 300

TRAV-L-VAC 300 ACOUSTIC EVALUATION
SOUND DECIBLE LEVEL DIAGRAM @ 10 FT

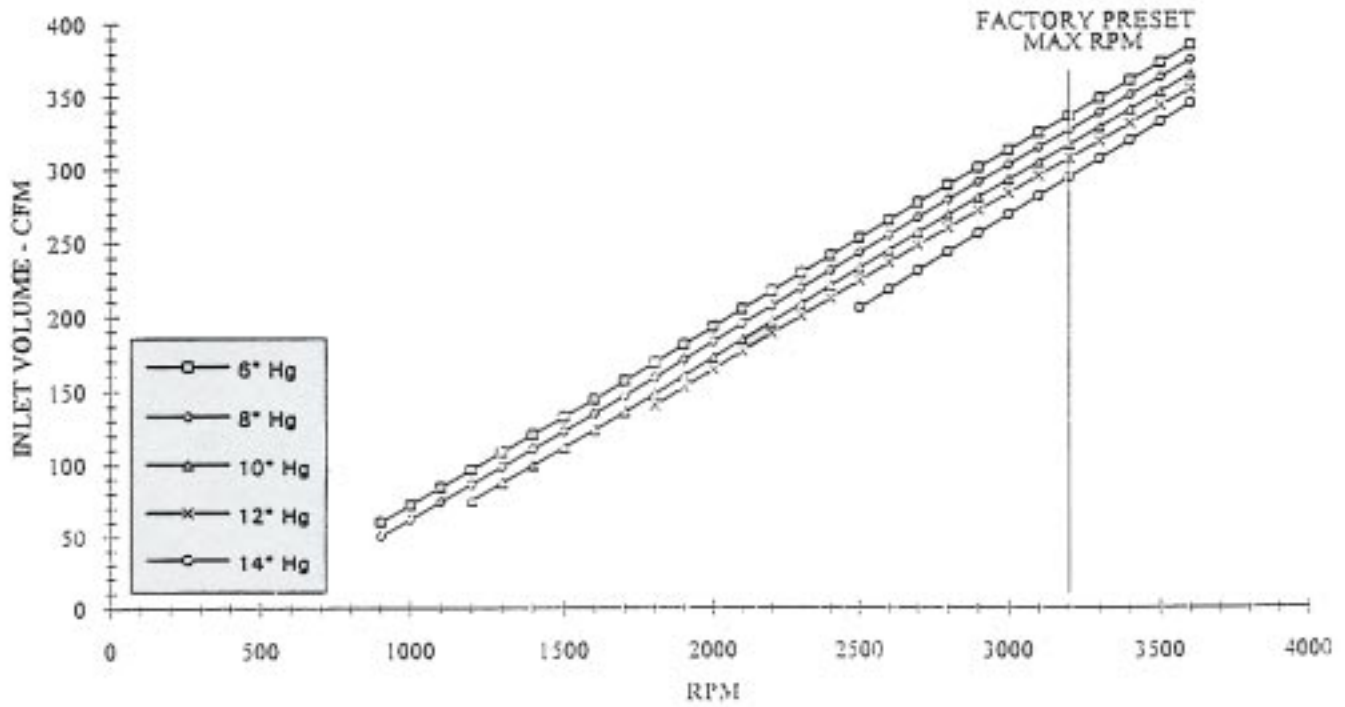


—□— 1200 RPM —◇— 1800 RPM —△— 2750 RPM —×— 3200 RPM

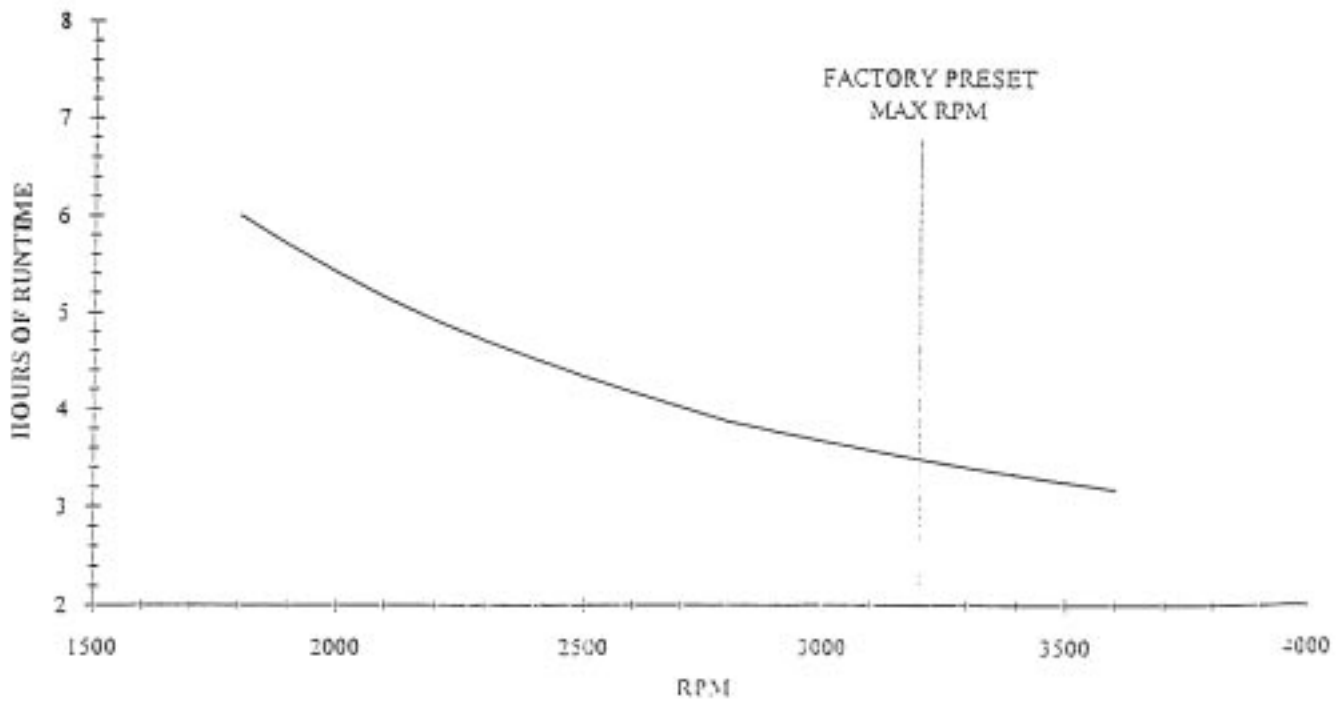
WACHS TRAV-L-VAC 300

TRAV-L-VAC 300 PERFORMANCE CHARTS

TLV 300 VACUUM PERFORMANCE



TLV 300 FUEL CONSUMPTION



WACHS TRAV-L-VAC 300

BILL OF MATERIAL

WACHS TRAV-L-VAC 300

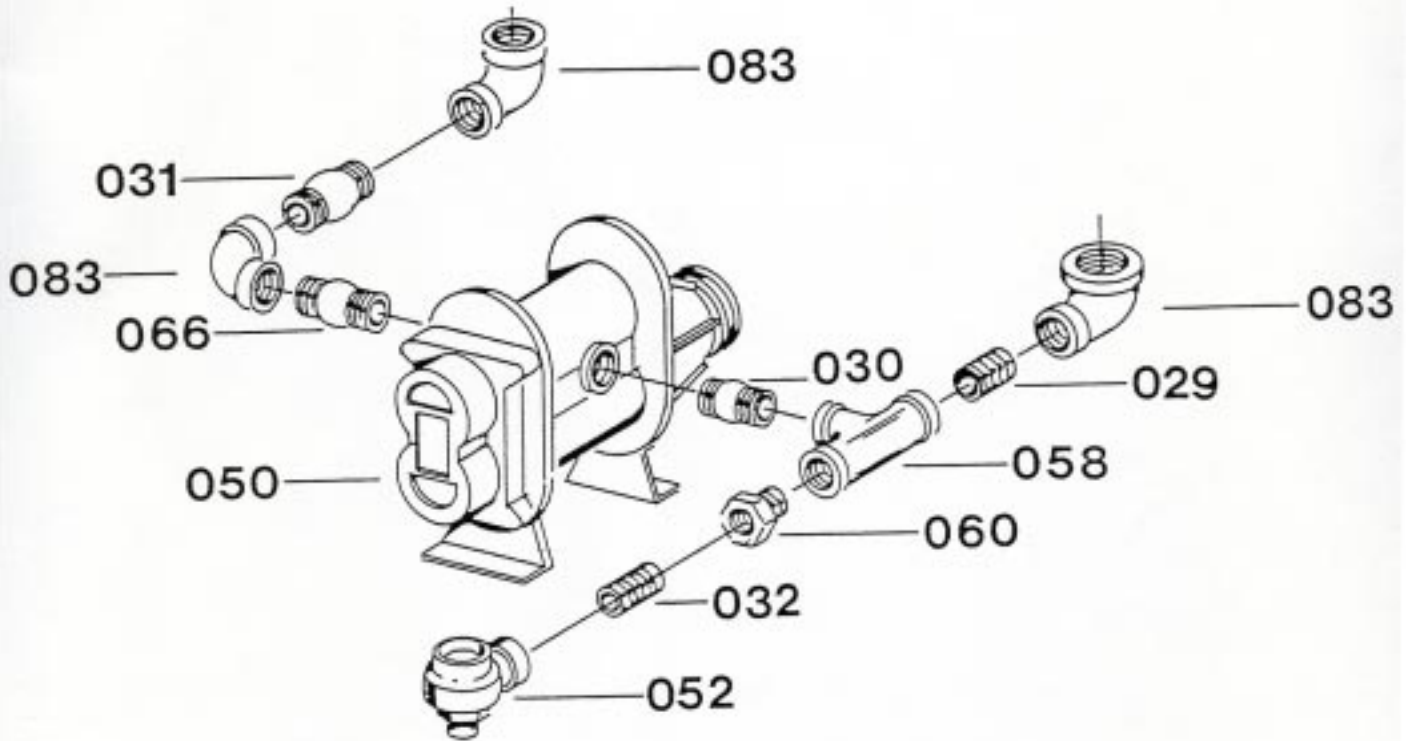
TRAV-L-VAC 300 GASOLINE BILL OF MATERIAL PART NO. 59-000-01 & 59-401-01 (CONT.)

REF.	PART NO.	QTY.	DESCRIPTION
*8	90-071-07	8	3/8-16 x 3/4" HHCS
*9	90-075-53	12	3/8" FLAT WASHERS
*10	90-075-55	12	3/8" LOCK WASHERS
*11	90-075-01	14	3/8-16 HEX NUTS
12	90-075-05	4	3/8-16 LOCK NUTS
13	90-051-10	1	1/4-20 x 1" HHCS
14	90-051-07	2	1/4-20 x 3/4" HHCS
15	90-055-01	7	1/4-20 HEX NUT
16	90-055-52	7	1/4 LOCK WASHERS
17	90-055-53	6	1/4" FLAT WASHERS
21	90-065-52	4	5/16" FLAT WASHERS
22	90-065-51	7	5/16-18 LOCK WASHERS
23	90-065-01	5	5/16-18 HEX NUTS
*24	90-065-06	2	5/16-18 WING NUT
*25	90-051-06	2	HHCS, 1/4-20 x 5/8
*26	90-075-51	1	3/8" SHK PRF LOCKWASHER
*27	90-040-05	2	10-24 x 1/2" SHCS
*28	90-055-54	2	1/4" AN WASHER
*29	90-061-08	2	HHCS, 5/16-18 x 7/8"
*30	90-059-02	1	1/4-20 x 3/8" RHMS
*31	90-501-33	4	3/8" TERMINAL

* = NOT SHOWN

WACHS TRAV-L-VAC 300

TRAV-L-VAC 300 BLOWER ASSEMBLY PART NO. 59-302-01



REF.	PART NO.	QTY.	DESCRIPTION
029	59-029-00	1	NIPPLE, 2-1/2" x 4-1/2"
030	59-030-00	1	NIPPLE, 2-1/2" x 3-1/2"
031	59-031-00	1	NIPPLE, 2-1/2" x 7"
032	59-032-00	1	NIPPLE, 2" x CLOSE
050	62-050-00	1	BLOWER, AIR
*051	62-051-00	1	SILENCER, AIR
052	62-052-00	1	VALVE, KNUCKLE
058	62-058-00	1	TEE, 2-1/2"
060	62-060-00	1	FLANGE BUSHING, HEX
066	62-066-00	1	NIPPLE PIPE 2-1/2" x 4"
083	62-083-00	3	ELBOW, 90° x 2-1/2"

* = NOT SHOWN

WACHS TRAV-L-VAC 300

ORDERING INFORMATION

To place an order or to get more detailed information on any E. H. Wachs product, call us at:

1- (800) - 323 - 8185 In the U.S.A.

1- (847) - 537 - 8800 Worldwide

ORDERING REPLACEMENT PARTS

Please use parts lists provided in manual. Have replacement part number and description to expedite your order and insure the proper part(s) are being ordered.

REPAIR INFORMATION

Please call E. H. Wachs Company prior to returning any equipment for repair. We will advise you of shipping and handling. Please enclose with equipment to be repaired your name, address, phone number and a brief description of problem or work to be done or estimated.

All repair work done at our plant will be estimated and the customer advised of cost and time required to complete repair.

WARRANTY INFORMATION

Enclosed with the manual is a warranty card. Please fill out the warranty registration portion and return it to the E. H. Wachs Company. Retain the owners registration record and purchaser warranty record portion for your information.

RETURN GOODS ADDRESS

E.H. Wachs Company
100 Shepard Street
Wheeling, Illinois 60090

847-537-8800 Worldwide

Toll-Free: 1-800-323-8185 in USA

Fax: 847-520-1147 • Fax: 800-922-4755