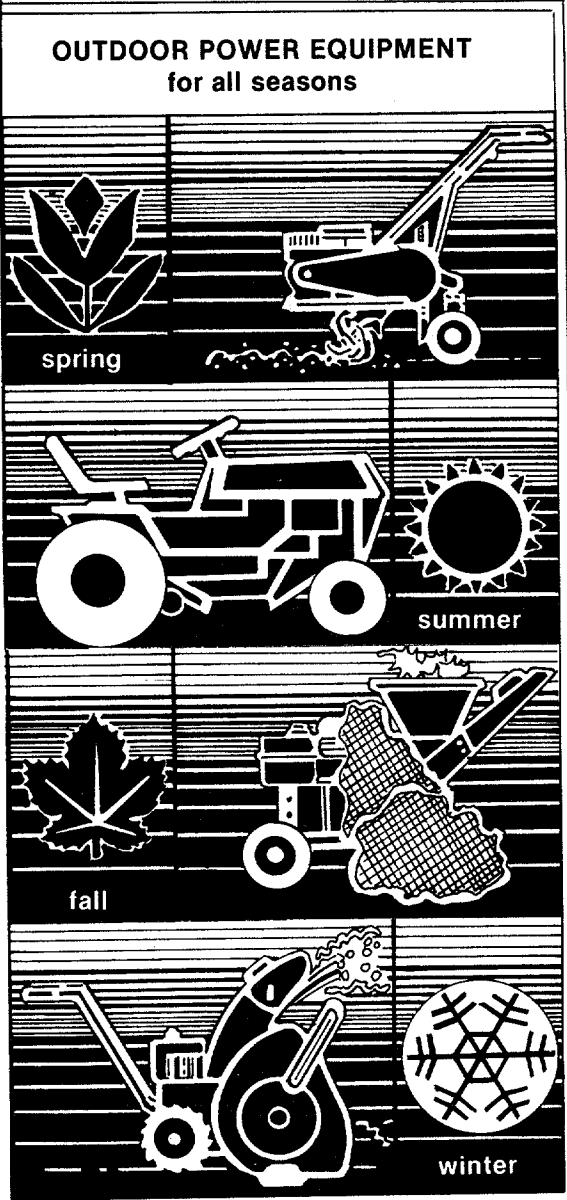


OWNER'S GUIDE



POWER VACUUM

Model Numbers
245-660-000
24665S

Important:
Read Safety Rules and
Instructions Carefully

Thank you for purchasing
an American-built product.

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Instructions given with this symbol are for personal safety. Be sure you follow them.

LIMITED WARRANTY

For one year from the date of original retail purchase, MTD PRODUCTS INC will either repair or replace, at its option, free of charge, F.O.B. factory or authorized service firm, any part or parts found to be defective in material or workmanship. Transportation charges for the movement of any power equipment unit or attachment are the responsibility of the purchaser. Transportation charges for any parts submitted for replacement under this warranty must be paid by the purchaser unless such return is requested by MTD PRODUCTS INC.

This warranty will not apply to any part which has become inoperative due to misuse, excessive use, accident, neglect, improper maintenance, alterations, or unless the unit has been operated and maintained in accordance with the instructions furnished. This warranty does not apply to the engine, motor, battery, battery charger or component parts thereof. Please refer to the applicable manufacturer's warranty on these items.

This warranty will not apply where the unit has been used commercially.

Warranty service is available through your local authorized service dealer or distributor. If you do not know the dealer or distributor in your area, please write to the Customer Service Department of MTD.

The return of a complete unit will not be accepted by the factory unless prior written permission has been extended by MTD.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.



This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester muffler is available at your nearest engine authorized service center.



IMPORTANT

It is suggested that this manual be read in its entirety before attempting to assemble or operate. Keep this manual in a safe place for future reference and for ordering replacement parts.

This unit is shipped WITHOUT GASOLINE or OIL. After assembly, see separate engine manual for proper fuel and engine oil recommendations.

SAFE OPERATION PRACTICES FOR POWER VACUUMS

1. Read this operating and service instructing manual carefully. Be thoroughly familiar with the controls and proper use of the power vacuum.
2. Never allow children to operate this power vacuum.
3. Keep the area of operation clear of all persons, particularly small children and pets.
4. No one should operate this unit while intoxicated or while taking medication that impairs the senses or reactions.
5. Check fuel before starting engine. Do not fill fuel tank indoors, when engine is running, or while engine is hot. Wipe off any spilled fuel before starting engine.
6. Do not change engine governor settings.
7. Do not put hands near rotating parts for any reason.
8. If the power vacuum should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
9. Before cleaning, repairing or inspecting, make certain all moving parts have come to a complete stop. Disconnect spark plug wire and keep wire away from plug to prevent accidental starting. Also keep throttle control lever in the stop position.
10. If the power vacuum should become blocked with debris at any point, shut engine off and wait until the impeller comes to a complete stop before attempting to remove the obstruction. Disconnect spark plug wire to prevent accidental starting.
11. Check all bolts for tightness at frequent periods.
12. Never store this power vacuum with fuel in the tank. Allow engine to cool before storing in any enclosure.
13. Never operate this power vacuum unless air duct and vacuum bag are properly affixed in their place. Large zippered end of bag must be closed when operating to prevent objects from being blown out.
13. Keep bag and equipment free of debris when not in use.
15. Never empty vacuum bag when engine is running.
16. Never change auxiliary hose attachment when engine is running.
17. The manufacturer recommends that the operator wear safety glasses or some other suitable eye protection when operating this machine.
18. Check the vacuum bag frequently for wear and replace when necessary.

ASSEMBLY INSTRUCTIONS

TOOLS REQUIRED:

- (2) 9/16" Wrenches
- (2) 7/16" Wrenches
- (1) Hammer or Rubber Mallet

LOOSE PARTS IN CARTON (See figure 1):

- A (1) Lower Handle
- B (2) Rear Wheels
- C (1) Upper Handle
- D (1) Air Duct Assembly
- E (1) Bag

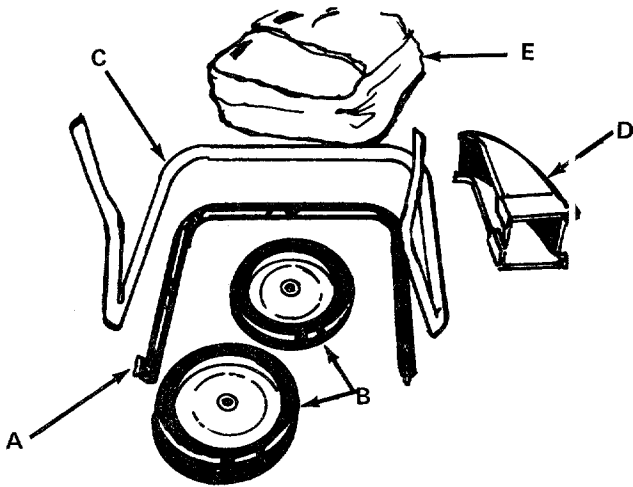


FIGURE 1

CONTENTS OF HARDWARE PACK (See figure 2):

- G (2) Hex Bolts 3/8-16 x 3/4" Long
- H (2) Lock Washers 3/8" I.D.
- I (4) Hex Nuts 3/8-16 Thread
- J (2) Hex Bolts 3/8-16 x 1-1/2" Long
- K (2) Belleville Washers 3/8" I.D. x 1-1/8" O.D.
- L (2) Spacers 1/2" I.D. x 15/16" Long
- M (4) Flat Washers 1/2" I.D. x 1" O.D.
- N (2) Black Push Caps
- O (4) Hex Bolts 1/4-20 x 1-3/4" Long
- P (4) Hex Lock Nuts 1/4-20 Thread
- Q (1) Thumb Screw 5/16-18 Thread
- R (1) Belleville Washer 5/16" I.D. x 7/8" O.D.
- S (2) Stud Pins
- T (2) Push-On Speed Nuts

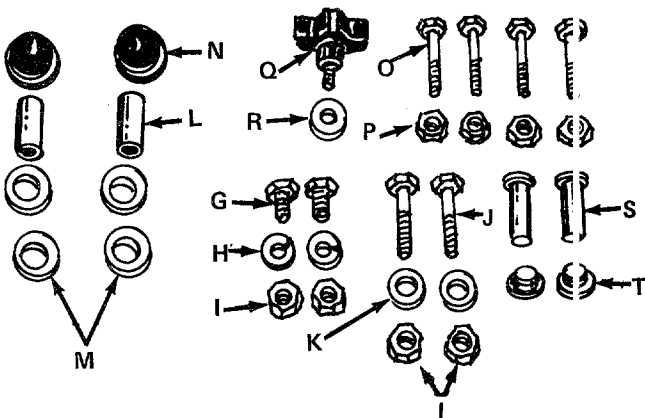


FIGURE 2

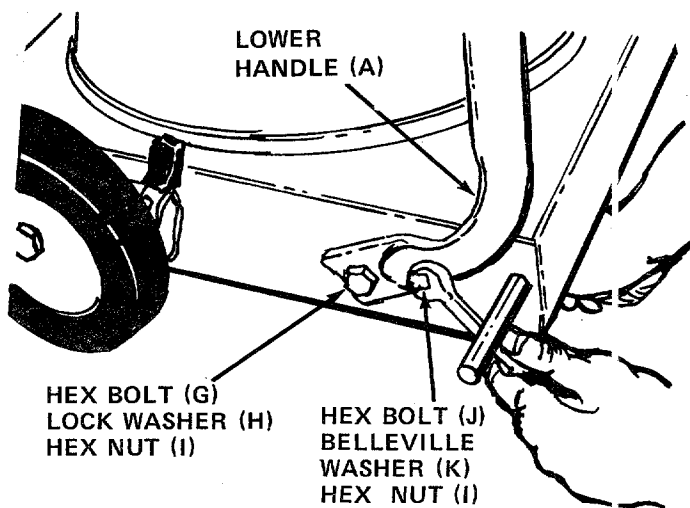
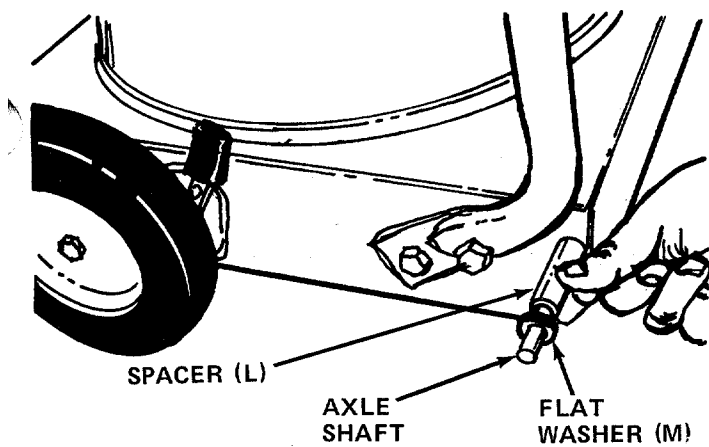


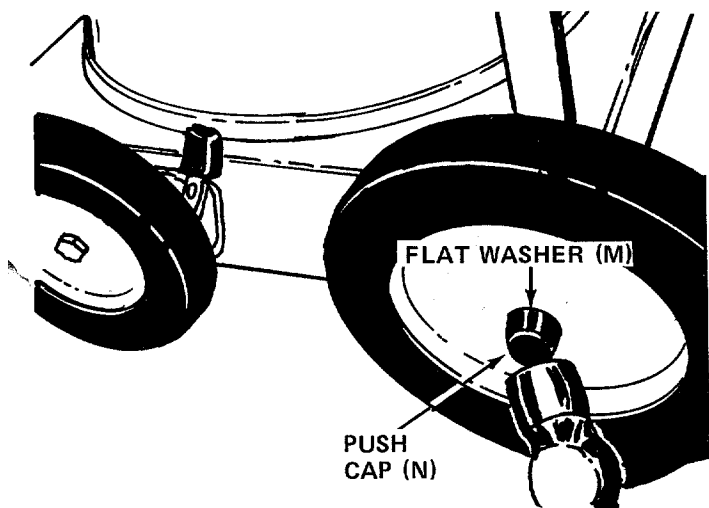
FIGURE 3

1. Remove the vacuum, loose parts, hardware pack and literature from the carton. Make certain all parts and literature have been removed before the carton is discarded.
2. Raise the back of the unit off the floor approximately 3 inches and block it so that the lower handle and rear wheels may be assembled.
3. Place lower handle (A) in position on the vacuum, lining up the holes in the handle with the holes on the frame. See figure 3. Place hex bolts (G) (3/4" long) through lower hole in handle and frame. Secure with lock washers (H) and hex nuts (I) on the inside of frame, finger tight only.
4. Place hex bolts (J) through upper hole in handle and frame. Secure with Belleville washers (K) (cupped side against the frame) and hex nuts (I).
5. Tighten all four nuts and bolts using two 9/16" wrenches.



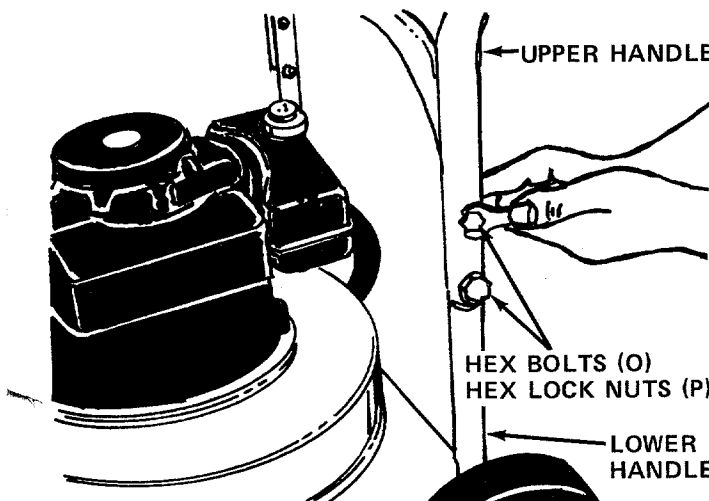
- Slide spacers (L) onto the axle shafts. Place one flat washer (M) on each shaft next to the spacers. See figure 4.

FIGURE 4



- Place rear wheels in position on the shafts, then another flat washer (M). Secure with black push cap (N) by placing the push cap in position and tapping on with hammer or rubber mallet. See figure 5.

FIGURE 5



- Place the upper handle (C) in position over lower handle. Fasten with four hex bolts (O) and hex lock nuts (P) provided. See figure 6. Two $7/16$ " wrenches are required.

FIGURE 6

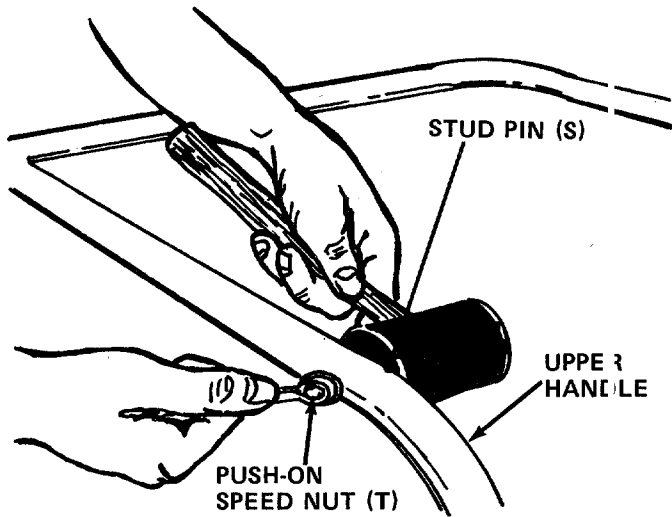


FIGURE 7

9. Place the stud pins (S) in holes in upper handle (head of pins go to the inside of handle). Secure pins with push-on speed nuts (T) by holding speed nut with box wrench and tapping pin with hammer. See figure 7.

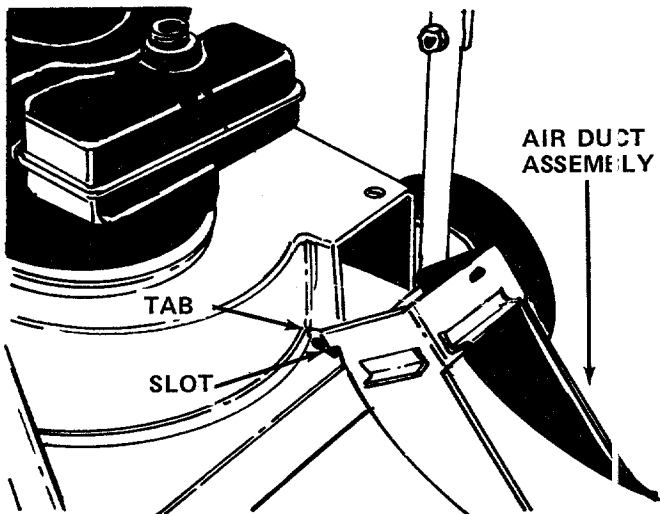


FIGURE 8

10. Place the tabs on the air duct assembly (D) into the slots in the frame as shown in figure 8. Raise the air duct into position.

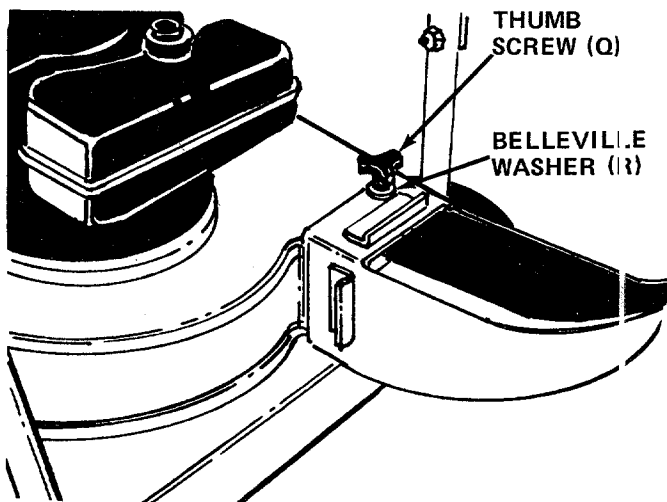


FIGURE 9

11. Secure air duct with thumb screw (Q) and Belleville washers (R). Cupped side of washer must be against the air duct. See figure 9.

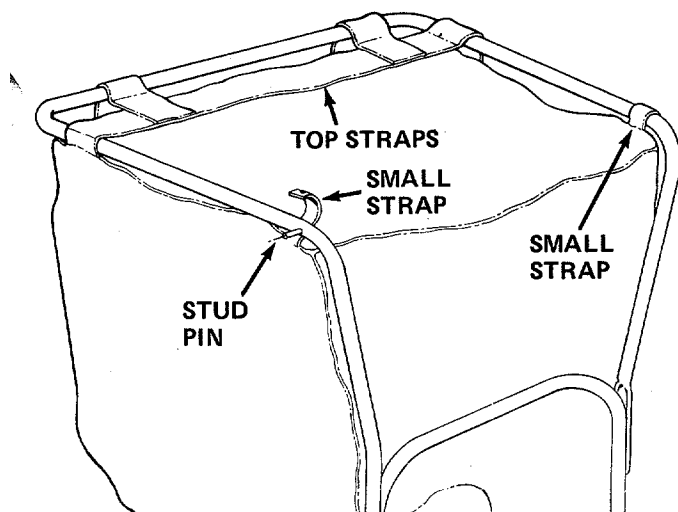


FIGURE 10

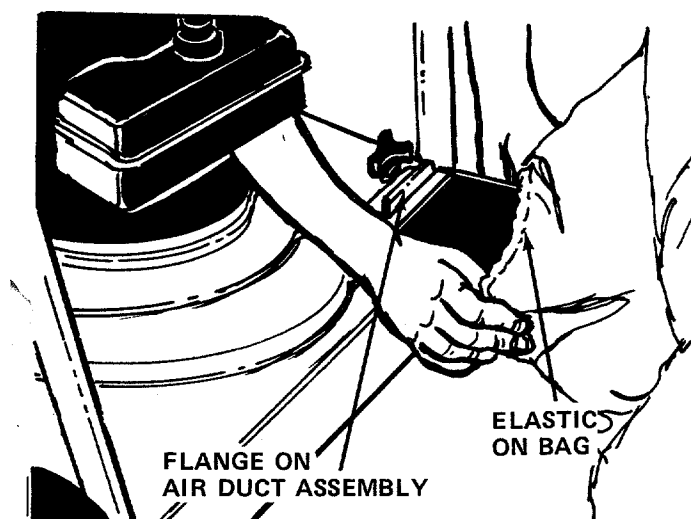


FIGURE 11

OPERATION

BEFORE STARTING

Service engine with gas and oil. See engine manual packed with vacuum for complete instructions for care and maintenance of engine. READ DIRECTIONS CAREFULLY.



CAUTION

Revolving Blades - Keep hands and feet away from all openings.

TO START ENGINE

After the engine has been properly fueled and oiled (refer to engine operating and maintenance instructions), start engine as follows.

1. Move throttle control lever on engine to START position.
2. Crank engine. Pull recoil with quick firm pull. Do not pull out so far the rope stops with a jerk as this will cause rope failure. Do not allow rope and handle to snap back into place.
3. After two or three full firm pulls on recoil (or as soon as engine fires), move speed control to RUN position.

TO STOP ENGINE

1. To stop engine, move throttle control lever to STOP position.
2. Disconnect spark plug wire and ground to prevent accidental starting while equipment is unattended.

Operate a new engine at intermediate speeds and light load for the first few hours as you would a new automotive engine.

The bag may be emptied using the large zipper as shown in figure 12. Be certain the zipper is closed when operating the unit.



FIGURE 12.

ADJUSTMENTS



CAUTION

Do not at any time make any adjustment to the unit without first stopping engine and disconnecting spark plug wire.

HEIGHT ADJUSTMENT

An adjusting plate and thumb lever at both front wheels provide height adjustment for the vacuum. See figure 13. Each adjusting plate has nine positions. Height will be changed when the thumb lever is moved from one position to another. Simply depress thumb lever towards wheel and move wheel and lever assembly to desired position. Both wheels must be placed in the same relative position. Lower the front of the unit to obtain more suction.

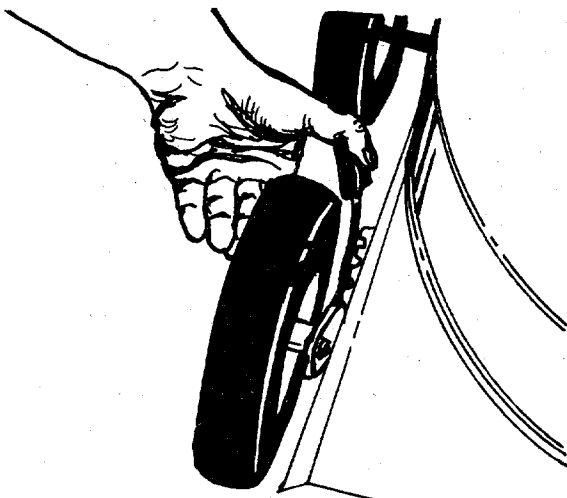


FIGURE 13

CARBURETOR ADJUSTMENT



WARNING

If any adjustments are made to the engine while the engine is running (e.g. carburetor), disengage all clutches. Keep clear of all moving parts. Be careful of heated surfaces and muffler.

If carburetor needs adjustment to start or for operation, see "Carburetor Adjustment" section of engine manual.

MAINTENANCE



WARNING

Disconnect spark plug wire and ground it against the engine before performing any repairs or maintenance.

BAG

Under normal usage the bag is subject to wear, and should be checked periodically. Be sure any replacement complies with the manufacturer's recommendation. Wash bag periodically with water. Allow to dry thoroughly in the shade. Do not use heat.

ENGINE

Refer to engine manual for proper maintenance procedures. Follow instructions carefully.

OFF-SEASON STORAGE

The following steps should be taken to prepare the vacuum for storage.

1. Clean the engine and the entire unit thoroughly.
2. Refer to engine manual for correct engine storage instructions.
3. Store in a clean, dry area.



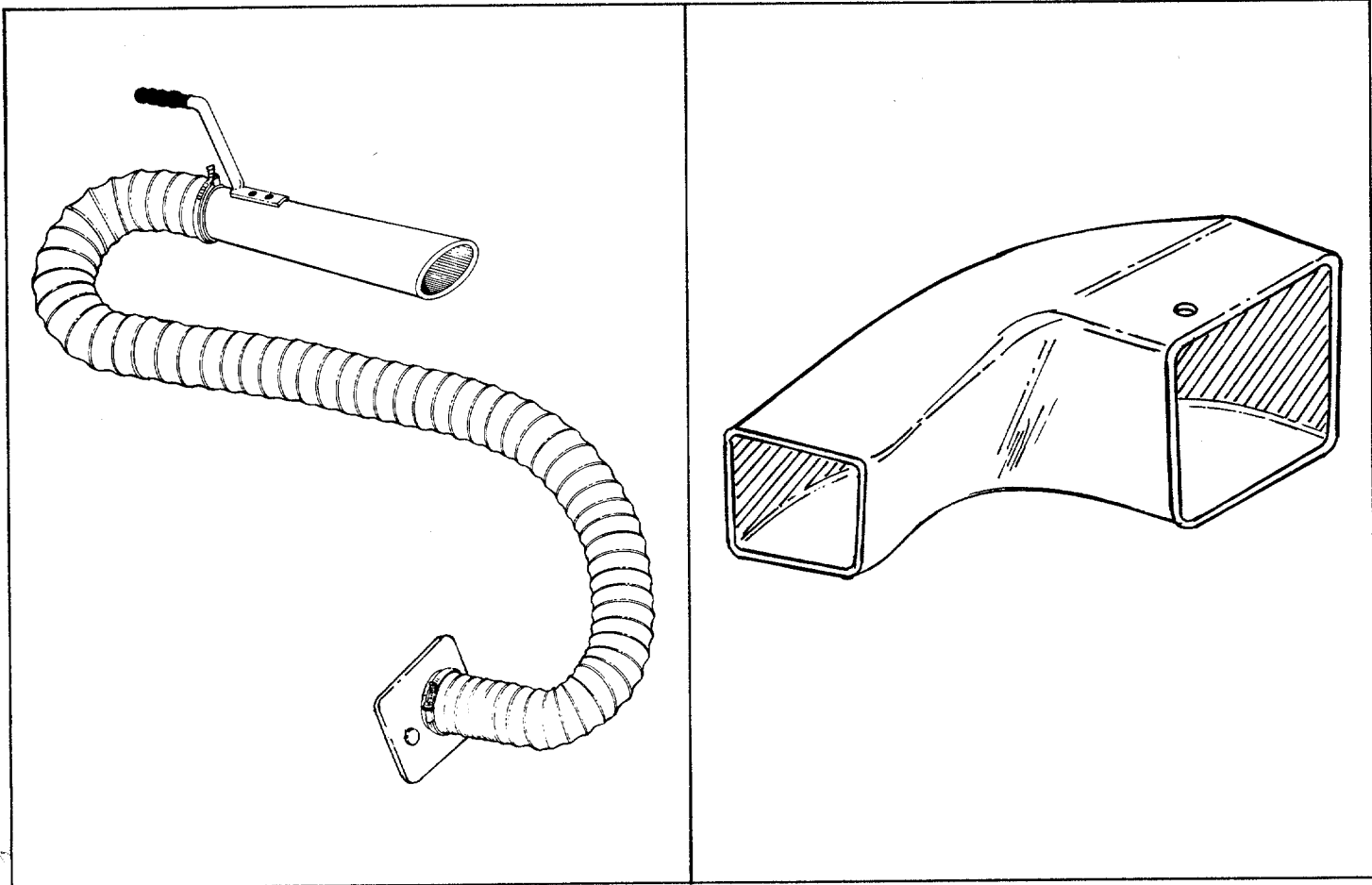
NOTE

When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rust proof the equipment. Using a light oil or silicone, coat the equipment especially all moving parts.

TROUBLE SHOOTING CHART

PROBLEM	CAUSE	REMEDY
1. Engine fails to start.	A. Check fuel tank for gas. B. Spark plug lead wire disconnected. C. Faulty spark plug.	A. Fill tank if empty. B. Connect lead wire. C. Spark should jump gap between control electrode and side electrode. If spark does not jump, replace the spark plug.
2. Hard starting or loss of power.	A. Spark plug wire loose. B. Dirty air cleaner.	A. Connect and tighten spark plug wire. B. Clean air cleaner as described in engine manual.
3. Engine overheats.	A. Carburetor not adjusted properly. B. Air flow restricted. C. Engine oil level low.	A. Adjust carburetor. See engine manual. B. Remove blower housing on engine and clean as described in the engine manual. C. Fill crankcase with the proper oil.
4. Excessive vibration.	A. Bent crankshaft. B. Impeller assembly out of balance.	A. Replace crankshaft (should be done by an authorized service dealer). B. Replace impeller assembly.

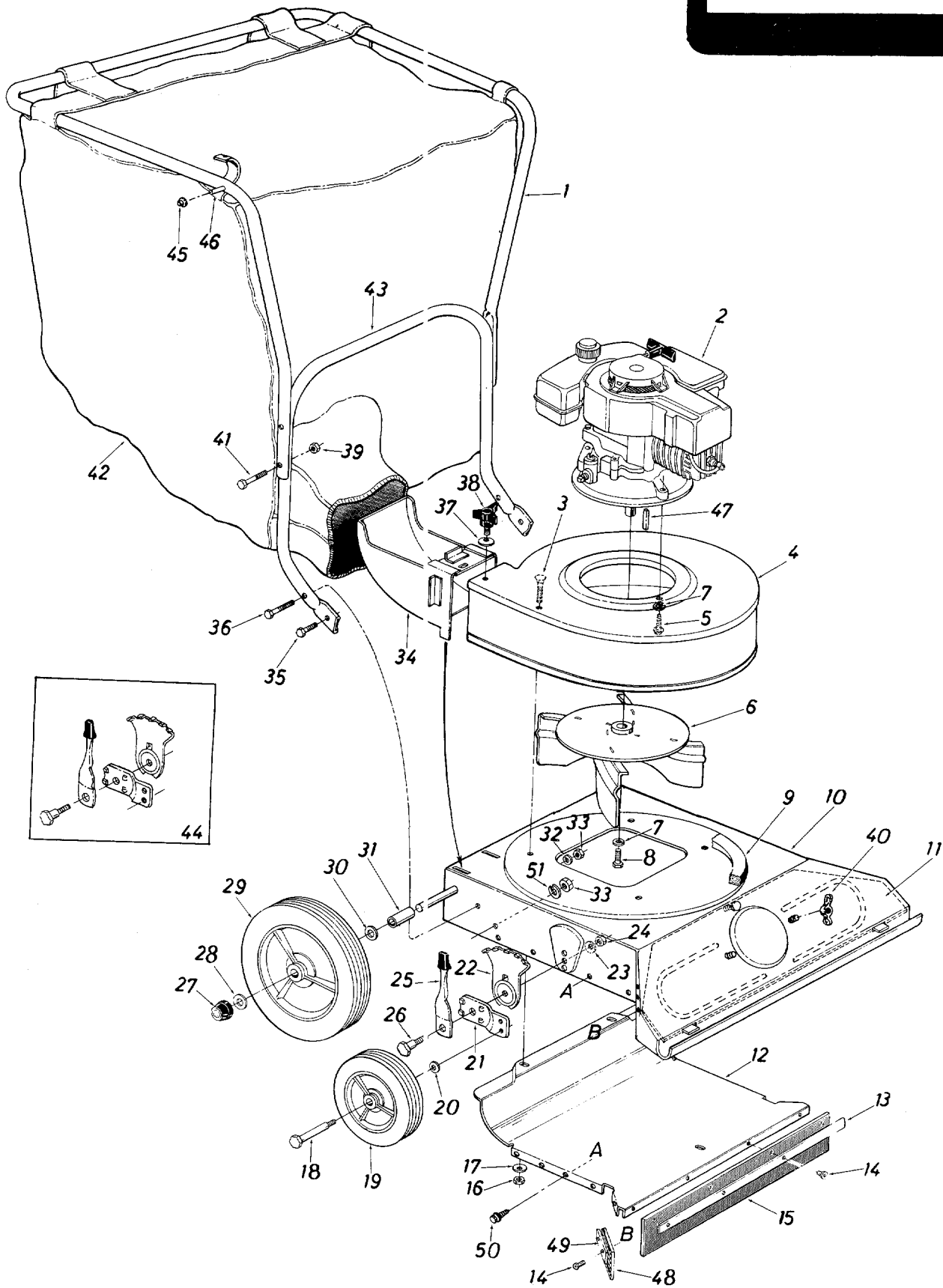
NOTE: For repairs beyond the minor adjustments listed above, please contact your local authorized service dealer.



Hose Attachment Kit Model 295-210-000 and Blower Conversion Kit Model 295-211-000 are available as optional equipment.

Model 660 and 24665

IF YOU WRITE TO US ABOUT THIS ARTICLE
OR IF YOU ORDER REPLACEMENT PARTS AL-
WAYS MENTION THIS MODEL & SERIAL NO
MODEL



Model 660 and 24665

PARTS LIST FOR MODEL 660 POWER VACUUM

Ref. No.	Part No.	Color Code	Description	New Part	Ref. No.	Part No.	Color Code	Description	New Part
1	749-0664		Upper Handle (Painted)	N	28	736-0272		Fl.-Wash. 1/2" I.D. x 1.0" O.D. x .06	N
	749-0480		Upper Handle (Chrome)		29	734-1140		Wheel Ass'y. Comp. 10 x 1.75" - Rear	
2	-----		Engine	30	736-0272		Fl.-Wash. 1/2" I.D. x 1.0" O.D. x .06		
3	710-0260		Carriage Bolt 5/16-18 x .62" Lg.*	31	750-0588		Wheel Spacer 1/2" I.D. x 15/16" Lg.		
4	15784 --- 488		Blower Housing Ass'y.	32	736-0331		Bell.-Wash. .39" I.D. x 1.12" O.D.		
5	710-0654		Hex Tap Scr. 3/8-16 x 1.00" Lg.	33	712-0798		Hex Nut 3/8-16 Thd.*		
6	15786		Impeller Ass'y.	34	15779		Air Duct Ass'y.		
7	736-0217		L.-Wash. 3/8" I.D.*	35	710-0201		Hex Bolt 3/8-16 x .75" Lg.*		
8	710-0591		Hex Bolt 3/8-24 x 1.0" Lg. w/Patch	36	710-0344		Hex Bolt 3/8-16 x 1.50" Lg.*		
9	723-0137		P.V.C. Foam Strip (4-Pcs. 12" Lg.)	37	736-0242		Bell.-Wash. .34" I.D. x .87" O.D.		
10	15780 --- 488		Vacuum Deck Ass'y.	38	720-0170		Thumb Scr. 5/16-18 x .75" Lg.		
11	15796		Front Baffle Ass'y.	39	712-0107		Hex Cent. L.-Nut 1/4-20 Thd.		
12	15788		Lower Baffle Ass'y.	40	712-0113		Wing Nut 1/4-20 (Plastic)		
13	15790		Wiper Retaining Strip	41	710-0136		Hex Bolt 1/4-20 x 1.75" Lg.*		
14	728-0123		Pop Rivet .188" Dia.	42	764-0208		Vacuum Bag (6.6 Bushel)		
15	735-0222		Nozzle Wiper Rear	43	749-0592		Lower Handle (Painted)		
16	712-0267		Hex Nut 5/16-18 Thd.*	44	749-0665		Lower Handle (Chrome)		
17	736-0242		Bell.-Wash. .34" I.D. x .87" O.D.	45	14578		Height Adjuster Ass'y. Comp. - R.H.		
18	738-0102		Shld. Bolt 1/2" Dia. x 1.45" Lg. (3/8-16)		14579		Height Adjuster Ass'y. Comp - L.H. (Not Shown)		
19	734-1139		Wheel Ass'y. Comp. 8 x 1.75" - Front	46	1539-019		Push Speed Nut .25" Dia.		
20	736-0331		Bell.-Wash. .39" I.D. x 1.12" O.D.	47	711-0737		Stud Pin .250" Dia. x 1.75" Lg.		
21	15262		Wheel Pivot Bar	48	714-0105		Sq. Key 3/16 x 3/16 x 1.00" Lg.		
22	15261		Index Plate	49	735-0221		Nozzle Wiper Side		
23	736-0331		Bell.-Wash. .39" I.D. x 1.12" O.D.	50	15789		Wiper Retaining Strip		
24	712-0798		Hex Nut 3/8-16 Thd.*	51	710-0302		Hex Wash. Hd. "F" Tap Scr. #10		
25	14832		Spring Lever Ass'y. w/Knob		736-0169		L-Wash. 3/8" I.D.*		
26	738-0507		Shoulder Bolt .500" x 7/16" Lg. (3/8-16)						
27	726-0128		Push Cap .50" Rod (Black)						

*For faster service obtain standard nuts, bolts and washers locally. If these items cannot be obtained locally, order by part number and size as shown on parts list.

(488 - Mack Truck Yellow)
(615 - Red)

When ordering parts, if color or finish is important use the appropriate color code shown above. (e.g. Mack Truck Finish - 14542 (488).)



This instruction manual covers various models and all specifications shown do not necessarily apply to your model. Specifications subject to change without notice or obligation.

NOTE: The engine is not under warranty by the vacuum manufacturer . . . If repairs or service is needed on the engine, please contact your nearest authorized engine service outlet. Check the "Yellow Pages" of your telephone book under "Engines - Gasoline."



MTD PRODUCTS INC YARD-MAN COMPANY

P.O. BOX 36900 • CLEVELAND OHIO 44136

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