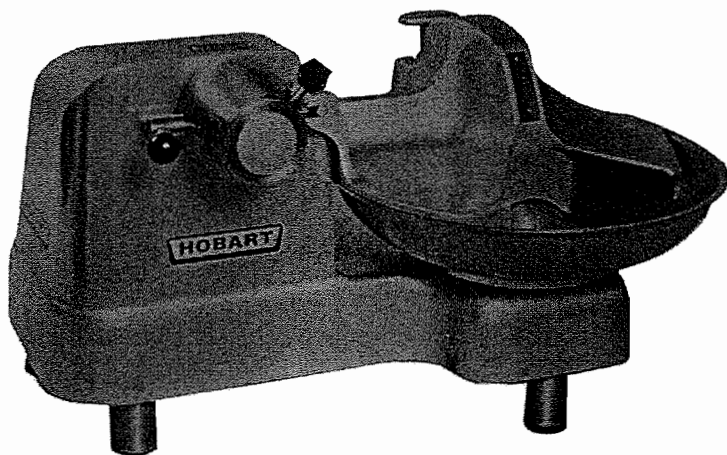




INSTRUCTION MANUAL

... with Replacement Parts



MODELS 8185-D & 84185-D FOOD CUTTERS

(INCLUDES MOTOR PARTS)

ML-31449 8185-D
ML-31448 84185-D

Installation, Operation and Care of MODELS 8185 & 84185 FOOD CUTTERS

Save These Instructions

GENERAL

The 8185 and 84185 Food Cutters are designed to cut and mix a variety of products. They have an 18" stainless steel bowl. The food cutter is powered by a 1 H.P. electric motor and is available for single- or three-phase electrical service.

The 84185 Food Cutter incorporates a #12 attachment hub. Various attachments available for this model through Hobart include: Model 12 Meat and Food Chopper; Model 12 Vegetable Slicer; Model 12 Dicer-French Fry Cutter; and Model 12 Speed Drive (for use with Model 12 Vegetable Slicer only).

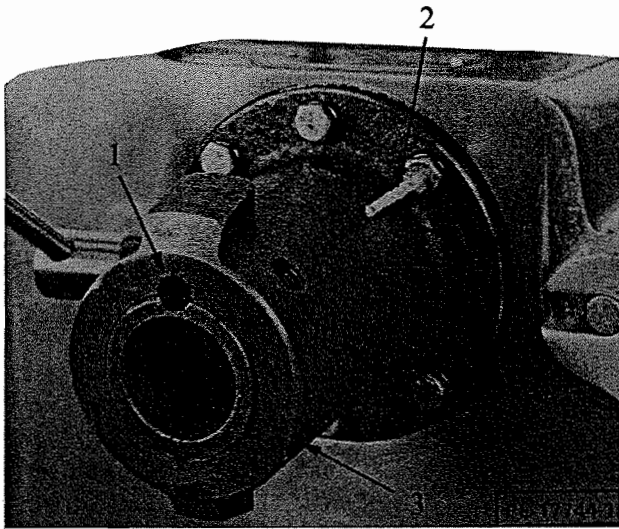


Fig. 1

INSTALLATION

Remove machine from its shipping carton and place in a convenient location. The 4 legs are removed for shipment and packed in a separate carton. To install legs, thread them into the tapped holes on bottom of machine.

On machines with attachment hub (84185), a plastic plug (2, Fig. 1) is installed in the air vent screw for shipment. This plastic plug **MUST** be removed before machine operation. Remove thumb screw (3, Fig. 2) and attachment hub cover

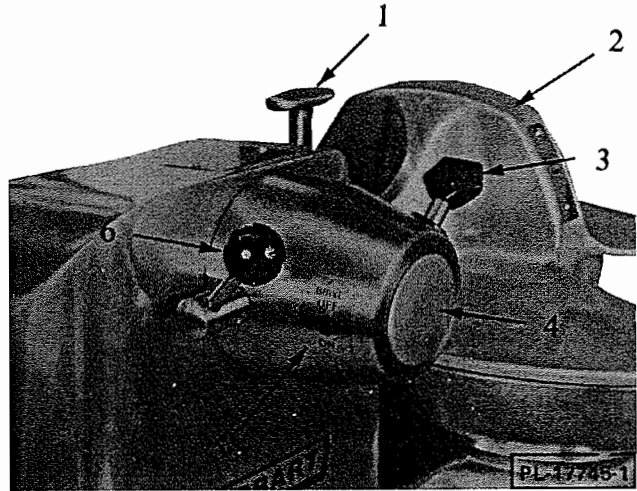


Fig. 2

(5, Fig. 2). Pull out plug and replace attachment hub cover and thumb screw.

A cord with plug is furnished as standard equipment.

Before making electrical connections, check the specifications on the data plate (1, Fig. 3) to assure they agree with those of your electrical service.

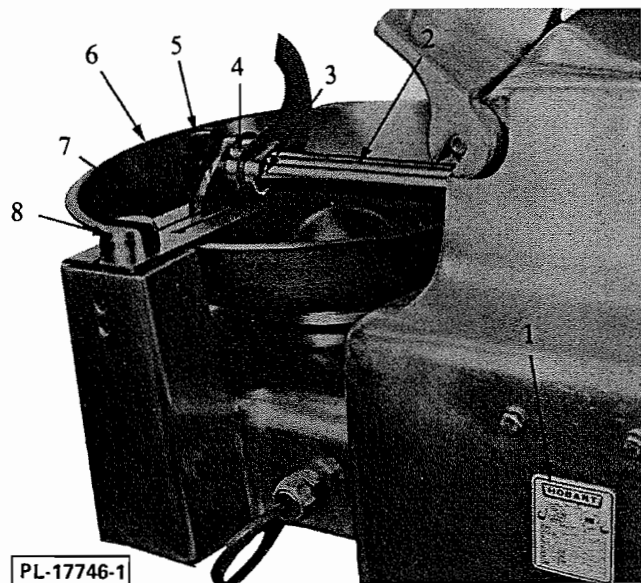


Fig. 3

Electrical and grounding connections must comply with the applicable portions of the National Electrical Code and/or other local electrical codes.

NOTE: It is important that the knife clearance be checked **BEFORE** machine is turned on. Refer to **ADJUSTMENTS** (under **MAINTENANCE**) for instructions.

CLEANING

This machine must be cleaned after installation and before being put into service. Refer to **MAINTENANCE** for instructions.

SAFETY

Safety devices incorporated in this machine **MUST** be in correct operating position anytime machine is in service.

OPERATION

Make sure that the hand knob (5, Fig. 3) is tight and comb (7, Fig. 3) is in position on the locking adapter (8, Fig. 3). Locate dowel in hole of comb for proper position.

Close bowl cover (2, Fig. 2) and lock in place by pressing down on locking knob (1, Fig. 2) and turning it 90°. **NOTE:** The ON-OFF switch cannot be turned ON unless bowl cover is locked in place.

CONTROLS

Start machine by turning switch (1, Fig. 4) to ON position. **NOTE:** With switch ON, bowl cover cannot be unlocked.

On 84185 models, move attachment drive control handle (6, Fig. 2) to OFF when attachment hub is not in use. Machine should be running when shifting attachment drive.

Feed product directly into bowl as it rotates. Product is automatically fed around to knives. The bowl cover is shaped to turn and mix product(s).

WARNING: HANDS MUST NEVER BE INSERTED UNDER THE BOWL COVER DURING OPERATION OF THE MACHINE AS SHARP ROTATING KNIVES ARE LOCATED UNDER THE BOWL COVER.

Should additional mixing be desired, a spatula or similar utensil may be used to turn product. Liquids, such as salad dressing, should be added last.

To remove product, use a spatula (or similar utensil) to scrape product into a pan from open

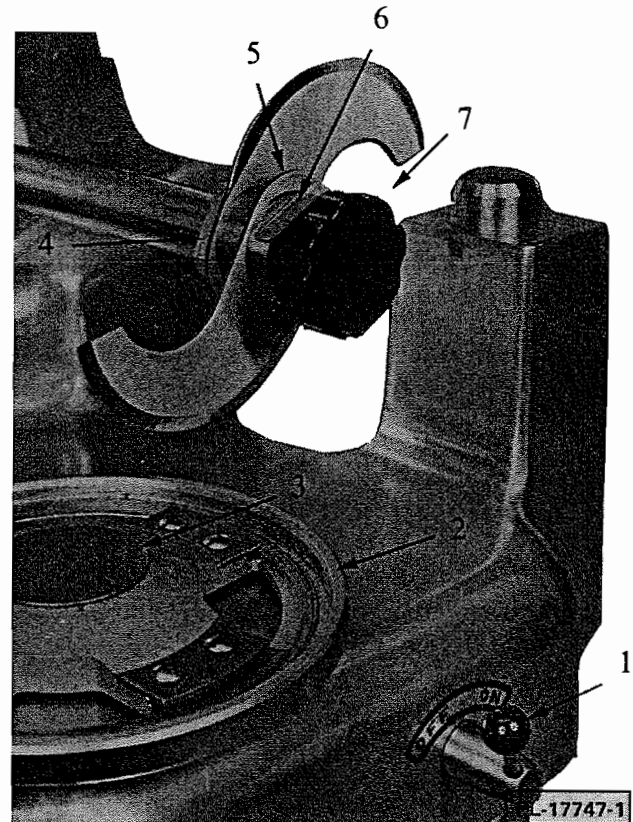


Fig. 4

part of bowl. This may be done while bowl rotates or machine may be turned on then off to rotate product to bowl opening.

ATTACHMENTS

To use an attachment, loosen the thumb screw (3, Fig. 2) and remove attachment hole plug (4, Fig. 2). Insert the attachment with a slight twist to the left so the stop stud of the attachment is tight against the hole (1, Fig. 1) in the machine. With attachment in place, tighten the thumb screw. Turn machine ON and place attachment drive control handle (6, Fig. 2) in the ON position to start attachment.

The Speed Drive may be used with the Vegetable Slicer to increase the speed of operation. **DO NOT** use any other attachment with the Speed Drive.

MAINTENANCE

WARNING: UNPLUG MACHINE POWER CORD BEFORE BEGINNING ANY MAINTENANCE PROCEDURE.

CLEANING

Machines should be wiped with a damp cloth and dried at the end of each day.

The bowl, knives and any attachments used should be removed and washed after each operation. Unlatch, raise, and lift off bowl cover (2, Fig. 2). Remove comb (7, Fig. 3). Carefully turn knife shaft (2, Fig. 3) so that knives are in a horizontal position. Loosen and remove hand knob (5, Fig. 3) and CAREFULLY slide knife unit (4, Fig. 3) off of shaft. Knife unit doesn't need to be disassembled for cleaning. **NOTE:** When reassembling, make sure that leader knife (beveled one side only) is nearer to the motor and the slot in knife hub (3, Fig. 3) is aligned with notch in shaft. To remove bowl (6, Fig. 3), rotate it clockwise to its stop and lift it from bowl support.

WARNING: KNIVES ARE SHARP. EXERCISE EXTREME CAUTION WHEN HANDLING KNIVES.

The removed components should be thoroughly washed and rinsed in a sink.

Reassembly is a reversal of disassembly.

On 84185 models, the attachment hub (3, Fig. 1) should also be cleaned. Remove thumb screw, remove attachment hub cover and thoroughly wipe attachment hub and cover. Replace cover and thumb screw.

LUBRICATION

Motor

The motor has grease-packed ball bearings and requires no lubrication.

Bowl Drive Gear Case

An annual check of lubricant level should be made. To check, raise bowl cover and remove the comb, knife unit and bowl. Remove the adhesive-backed bowl support cover (3, Fig. 4) and the bowl drive retaining screws (1, Fig. 5). Lift off bowl support and remove the inspection plug (2, Fig. 5). Using a 1/8" diameter rod as a dip stick, check the oil level. When using the dip stick, be sure to clear the worm wheel. The amount of oil on the dip stick should be between 3/8" (for minimum lubrication) and 3/4" (for maximum lubrication). If level is below 3/8", more lubricant is required. Use Gearep 140 and add small amounts at a time.

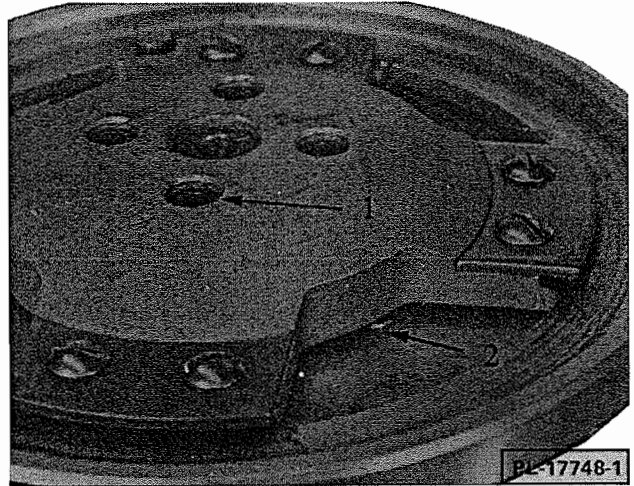


Fig. 5

Attachment Drive Gear Case (Model 84185)

With the attachment hub (3, Fig. 1) removed, the oil level should be such that 1/2" of the bottom of the oil flinger is immersed in oil. If more lubricant is required, use Gearep 140.

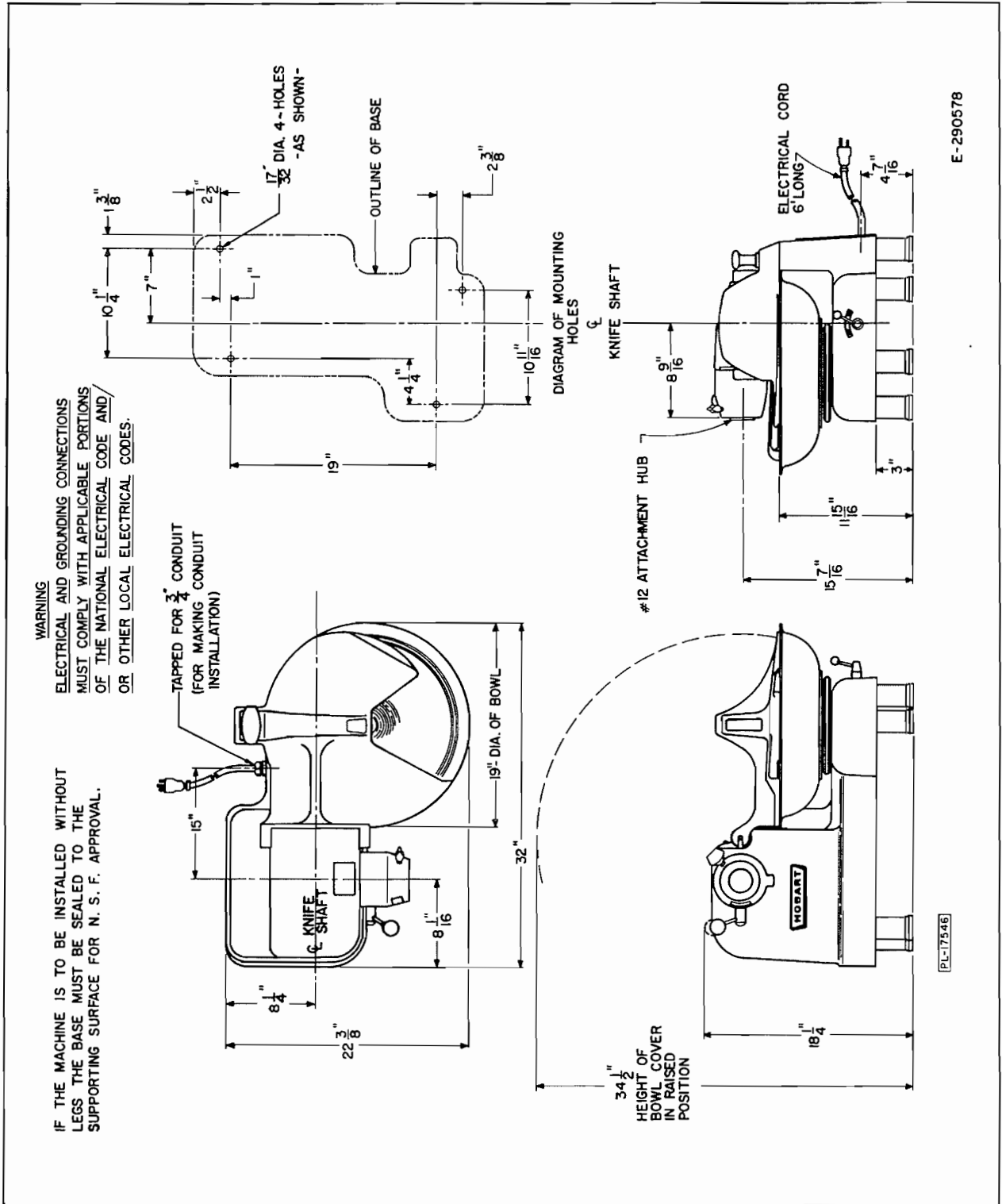
ADJUSTMENTS

Knives

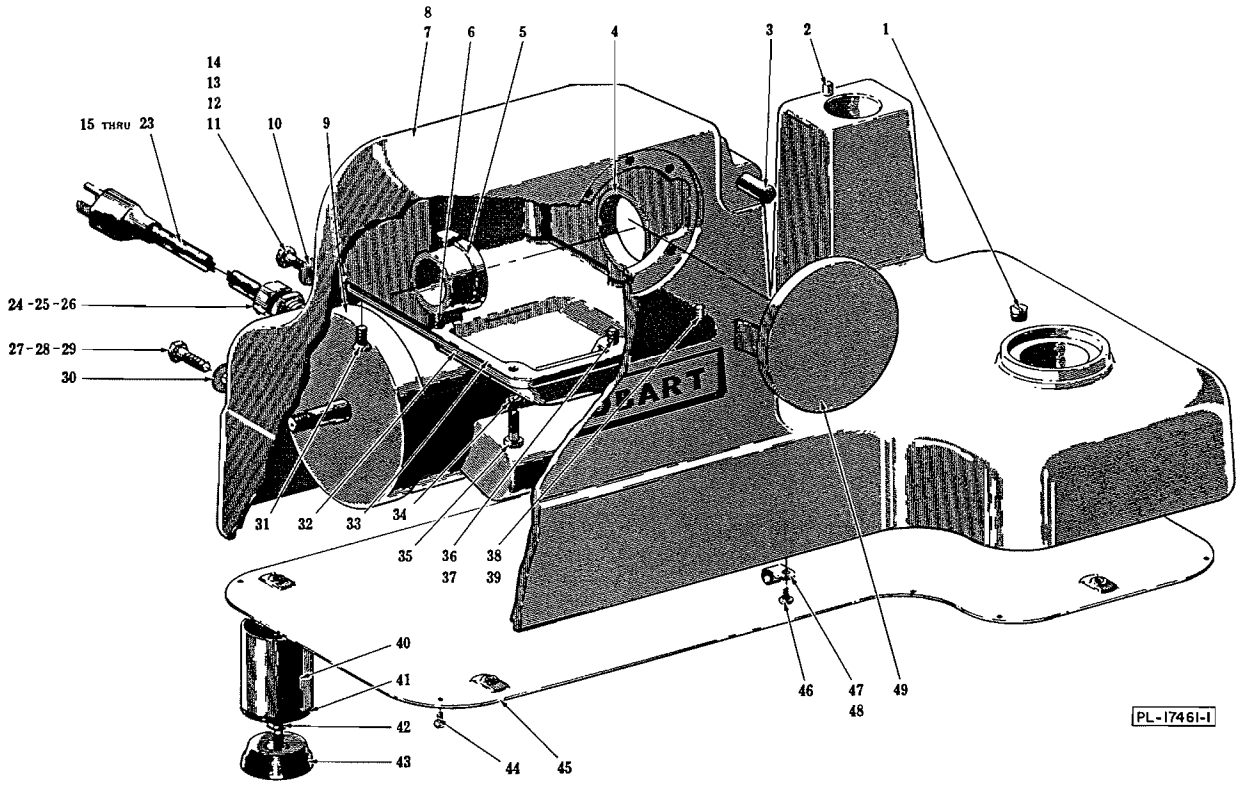
WARNING: KNIVES ARE SHARP. EXERCISE EXTREME CAUTION WHEN HANDLING KNIVES.

The clearance between either knife and the bowl should be .010" to .050". To check clearance or make an adjustment, **UNPLUG POWER CORD.** Unlock and raise bowl cover and remove comb. With knives in a vertical position, check each knife individually at several points around the bowl. If an adjustment is required, loosen hand knob (7, Fig. 4), but don't remove it from shaft. Hold a 1-7/16" open end wrench on flats of sleeve (4, Fig. 4) and loosen nut (6, Fig. 4) with a second wrench. Gently tap heel of knife (5, Fig. 4) until proper clearance is reached. If clearance is too small, pull knife upward and repeat procedure. Adjust clearance of second knife as necessary. Retighten nut and hand knob. **NOTE:** It is very important to check clearance of each knife at several places around bowl before running machine after an adjustment.

To sharpen knives, remove unit from shaft by removing hand knob. It is not necessary to disassemble knife unit. Use an ordinary carborundum (oil) stone to sharpen knives.



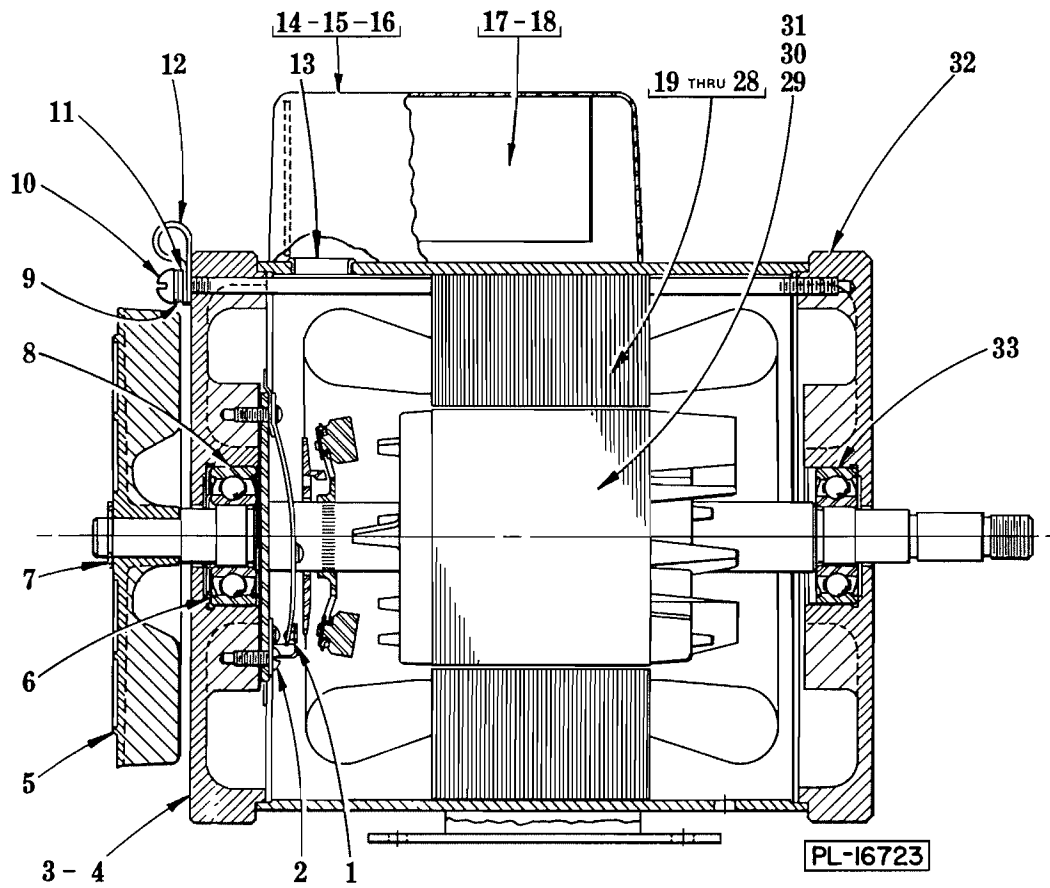
INSTALLATION DIAGRAM



BASE UNIT

BASE UNIT

ILLUS. PL-17461-1	PART NO.	NAME OF PART	AMT.
1	B-118827	Plug - Inspection	1
2	D-11800-244	Dowel	1
3	B-116644	Pin - Bowl Cover Hinge	1
4	M-77362	Insert (Knife End)	1
5	P-77363	Insert (Pulley End)	1
6	SC-47-14	Set Screw - 1/4"-20 x 1/2" Soc. Hdls., Cup Pt	1
7	A-290091-2	Base & Decal Assy. (60 Hz.) (Incls. item #2) (Give data listed on Name Plate)	1
8	A-290091-4	Base & Decal Assy. (50 Hz.) (Incls. item #2) (Give data listed on Name Plate)	1
9	ML-18755	Motor (Give Elec. Spec.)	1
10	WS-5-32	Washer	2
11	SC-41-17	Cap Screw - 5/16"-18 x 1-1/2" Hex Hd	2
12	M-77442	Bar - Motor Mounting	1
13	M-80541-1	Shim - Motor (.018")	AR
14	M-80541-2	Shim - Motor (.010")	AR
15	B-117542-7	Cord & Plug (115 V., 60 Hz., 1 Ph.)	1
16	B-117542-12	Cord & Plug (200/230 V., 60 Hz., 1 Ph.)	1
17	B-117542-18	Cord Assy. (115/220 V., 50 Hz., 1 Ph.)	1
18	C-122292-2	Cord & Plug (200 V., 60 Hz., 3 Ph.)	1
19	C-117612-12	Cord & Plug (230 V., 60 Hz., 3 Ph.)	1
20	C-117612-13	Cord & Plug (460 V., 60 Hz., 3 Ph.)	1
21	C-117613-19	Cord Assy. (I.E.C.) (220/380 V., 50 Hz., 3 Ph.)	1
22	SD-24-13	Self-Tapping Screw - #8-32 x 3/8" Pan Hd. "Taptite" (Ground to Base)	1
23	WL-10-1	Lock Washer - #8 Ext. Shakeproof (Ground to Base)	1
24	FE-8-20	Connector - Strain Relief (50/60 Hz., 1 Ph.)	1
25	FE-8-21	Connector - Strain Relief (60 Hz., 3 Ph.)	1
26	FE-15-38	Connector - Strain Relief (50 Hz., 3 Ph.)	1
27	SC-41-17	Cap Screw - 5/16"-18 x 1-1/2" Hex Hd	2
28	WL-3-44	Lock Washer - 5/16" Medium	2
29	NS-13-11	Full Nut - 5/16"-18 Hex Fin	2
30	WS-5-32	Washer	4
31	SC-13-85	Mach. Screw - 1/4"-20 x 3/4" Flat Hd	3
32	S-77407	Cover - Lower Gear Case	1
33	P-77408	Gasket - Cover	1
34	WL-3-37	Lock Washer - 1/4" Medium	3
35	SC-37-82	Cap Screw - 1/4"-20 x 7/8" Hex Hd	3
36	SC-62-39	Cap Screw - 1/4"-20 x 1-3/4" Hex Hd	1
37	M-75401-3	Washer - Nyltite	1
38	SC-37-82	Cap Screw - 1/4"-20 x 7/8" Hex Hd	1
39	M-75401-3	Washer - Nyltite	1
40	M-77772-2	Leg	4
41	M-64814	Cap - Leg End	4
42	B-290061-3	Stud - Leg	4
43	M-83681	Foot - Rubber	4
44	SD-24-13	Self-Tapping Screw - #8-32 x 3/8" Pan Hd. "Taptite"	9
45	D-290576	Bottom Cover Assy	1
46	SD-24-13	Self-Tapping Screw - #8-32 x 3/8" Pan Hd. "Taptite"	1
47	M-78752-6	Clamp - Motor Lead (1 Ph.)	1
48	M-78752-3	Clamp - Motor Lead (3 Ph.)	1
49	P-78242	Trim Cap Assy. (8185-D)	1
	A-290574	Leg Kit (Incls. items #40 thru 43)	1



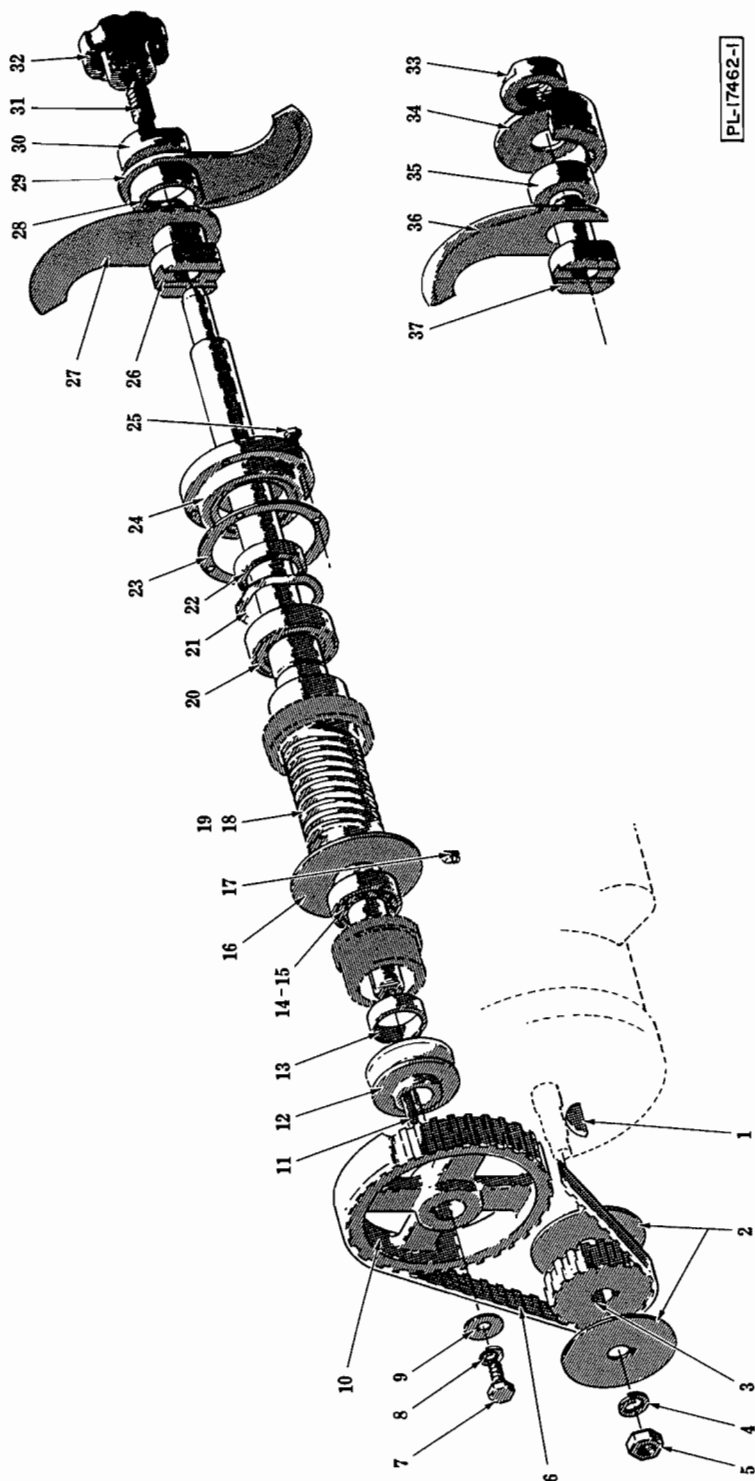
MOTOR UNIT

MOTOR UNIT

ILLUS. PL-16723	PART NO.	NAME OF PART	AMT.
*1	C-119858-2	Switch - Starting (Stationary Part)	1
*2	SC-9-49	Mach. Screw - #6-32 x 3/8" Rd. Hd	2
*3	D-114379-3	Bracket - Bearing (Fan End)	1
**4	D-114379-2	Bracket - Bearing (Fan End)	1
5	D-111493-1	Fan - Ventilating	1
6	SL-2-4	Loading Spring - N.D. #S-17	1
7	RR-4-17	Retaining Ring	1
8	BB-5-30	Ball Bearing - N.D. #Z99503	1
9	WL-8-13	Lock Washer - #10 Int. Shakeproof	4
10	SC-60-68	Mach. Screw - #10-24 x 7-1/2" Rd. Hd	4
11	WS-19-24	Washer	1
12	M-78752-4	Clamp - Motor Lead	1
*13	M-80369	Bushing - Snap (Field Ring)	1
*14	B-104725	Capacitor Cover & Insulator Assy	1
*15	SD-15-3	Self-Tapping Screw - #10-24 x 1/4" Pan Hd. "Taptite"	2
*16	WS-2-15	Washer (Shims Screws to Prevent Bottoming)	2
*17	M-89258	Retainer - Capacitor	1
*18	D-70487-6	Capacitor	1
19	P-65477-53-1	Stator Assy. (115 V., 60 Hz., 1 Ph.)	1
20	P-65477-53-2	Stator Assy. (200 V., 60 Hz., 1 Ph.)	1
21	P-65477-53-3	Stator Assy. (230 V., 60 Hz., 1 Ph.)	1
22	P-65477-53-4	Stator Assy. (115 V., 50 Hz., 1 Ph.)	1
23	P-65477-53-5	Stator Assy. (220 V., 50 Hz., 1 Ph.)	1
24	P-65478-56-1	Stator Assy. (200 V., 60 Hz., 3 Ph.)	1
25	P-65478-56-2	Stator Assy. (230 V., 60 Hz.; 220 V., 50 Hz.) (3 Ph.)	1
26	P-65478-56-3	Stator Assy. (460 V., 60 Hz., 3 Ph.)	1
27	P-65478-56-4	Stator Assy. (380 V., 50 Hz., 3 Ph.)	1
28	M-79118	Bushing - Snap (Field Ring)	1
*29	P-22275-182	Rotor Assy. (60 Hz.)	1
*30	P-22275-183	Rotor Assy. (50 Hz.)	1
**31	C-15747-279	Rotor Assy	1
32	D-114379-4	Bracket - Bearing (Pulley End)	1
33	BB-5-30	Ball Bearing - N.D. #Z99503	1

*1 Ph.

**3 Ph.

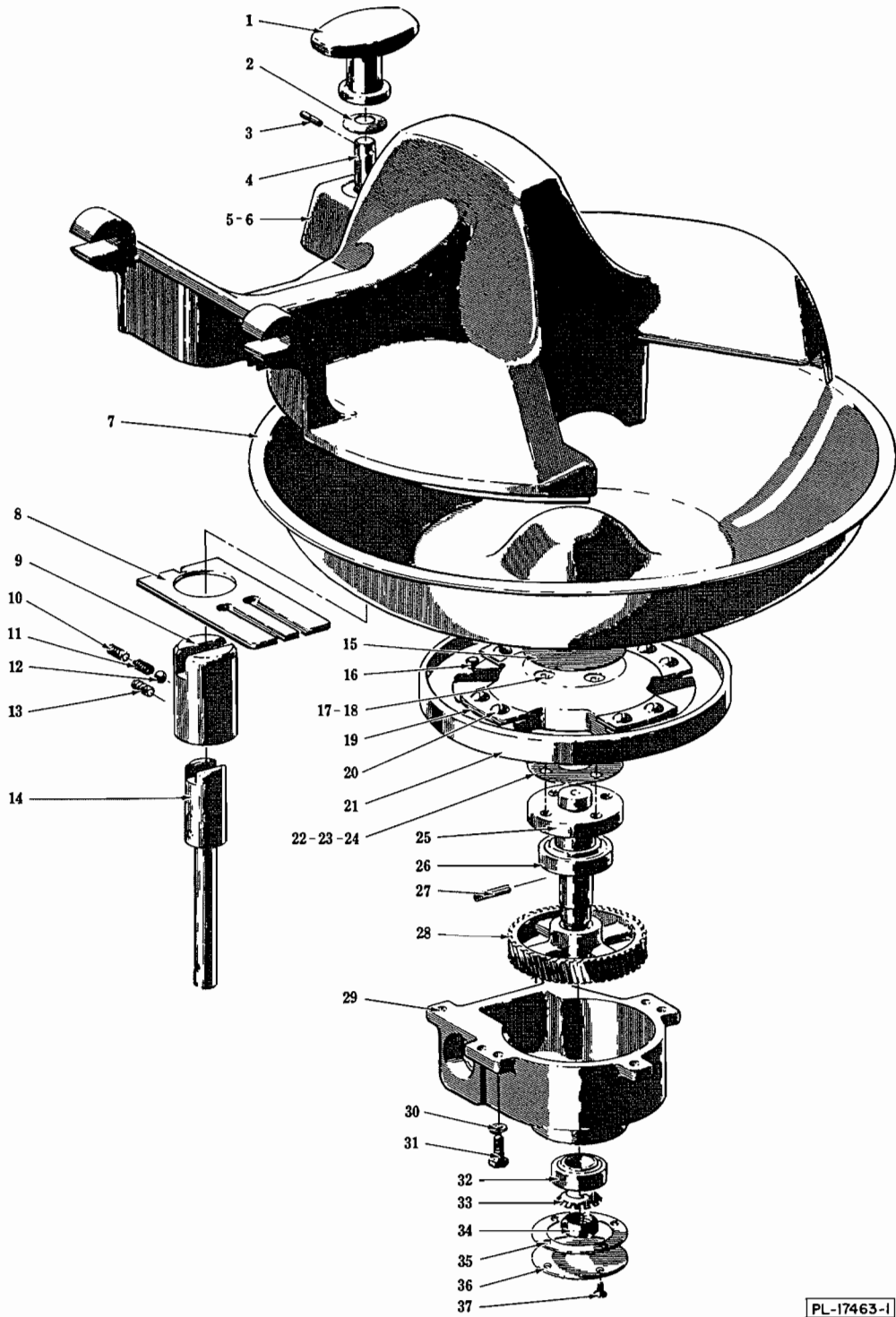


KNIFE DRIVE UNIT

KNIFE DRIVE UNIT

ILLUS. PL-17462-1	PART NO.	NAME OF PART	AMT.
1	KW-3-10	Key - # 606 Woodruff	1
2	P-77358	Flange - Flexa-Gear	2
3	P-77357	Gear - Drive (18T)	1
4	WL-4-13	Lock Washer - 1/2" Medium	1
5	NS-13-35	Full Nut - 1/2"-10 Hex Fin	1
6	P-77370	Flexa-Gear	1
7	SC-36-53	Cap Screw - 3/8"-16 x 7/8" Hex Hd	1
8	WL-4-2	Lock Washer - 3/8" Light	1
9	WS-6-18	Washer	1
10	R-77360	Gear - Driven (36T)	1
11	R-12430-91	Key	1
12	P-77361	Pulley - "V" Drive	1
13	M-77483	Seal - Knife Shaft (Pulley End) (84185-D)	1
14	BB-18-30	Ball Bearing - Fafnir #H9105KD (84185-D)	1
15	BB-15-8	Ball Bearing - MRC #105KSZZ (8185-D)	1
16	P-77366	Flinger Assy. (84815-D)	1
17	SC-46-27	Set Screw - 1/4"-20 x 1/4" Hdls., Cup Pt. (84185-D)	1
18	E-80695	Shaft - Knife (84185-D)	1
19	E-290259	Shaft - Knife (8185-D)	1
20	BB-18-31	Ball Bearing - Fafnir #9107KD	1
21	SL-3-10	Loading Spring - Wavy	1
22	M-77482-1	Seal - Knife Shaft (Knife End)	1
23	M-77365	Gasket (End Cap)	1
24	C-123780	Cap - End (Knife End)	1
25	SC-67-9	Mach. Screw - #10-32 x 5/8" Trimmed Hex Hd	4
26	P-71313	Bushing - Knife Retaining	1
27	C-77372	Knife - Leader	1
28	M-71312	Collar - Knife Retainer Bushing	1
29	C-77373	Knife - Follower	1
30	M-71311	Collar Locking	1
31	M-78398	Insert - Knife Shaft	1
32	M-77371	Knob - Fluted	1
*33	V-103904	Collar - Locking	1
*34	C-118150	Balance & Pin Assy	1
*35	V-103903	Collar - Knife Retaining Bushing	1
*36	C-117675	Knife - Rotary (Follower)	1
*37	P-7157	Bushing - Knife Retaining	1
	M-101790	Knife Assy. (Incls. items #26 thru 30)	1
	*D-117677	Single Following Knife Assy. (Incls. items #33 thru 37)	1

*Not NSF Approved.

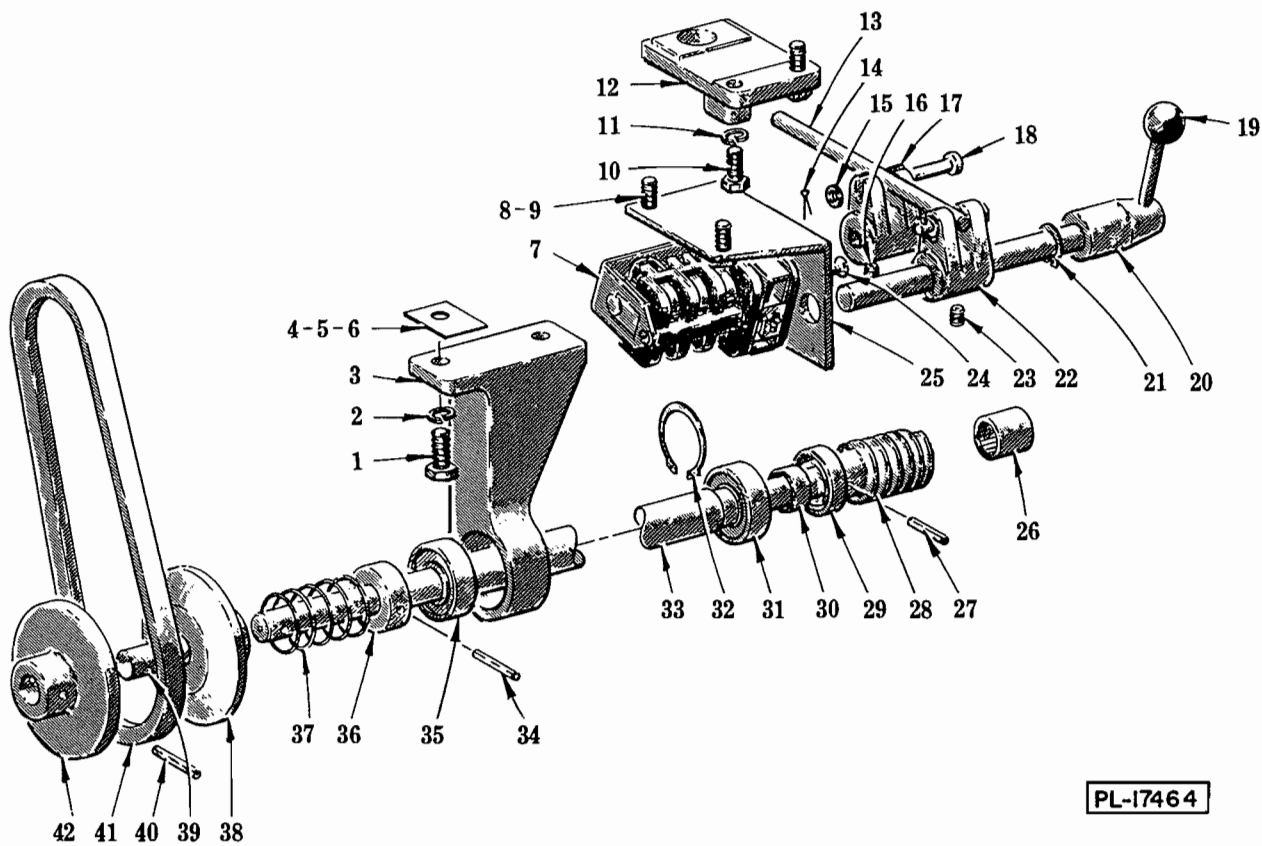


PL-17463-1

BOWL UNIT

BOWL UNIT

ILLUS. PL-17463-1	PART NO.	NAME OF PART	AMT.
1	C-116814	Handle - Locking	1
2	M-77374	Washer - Belleville	1
3	PG-3-27	Groov-Pin - Type A, 3/16" x 7/8"	1
4	B-117168	Bolt - Interlock	1
5	D-290570	Bowl Cover & Caution Plate Assy. (60 Hz.)	1
6	E-124739-2	Cover - Bowl (50 Hz.)	1
7	D-290239	Bowl & Adapter Assy	1
8	C-123934	Comb	1
9	P-77376	Adapter - Locking	1
10	SC-64-23	Set Screw - 5/16"-18 x 3/8" Soc. Hdls., Oval Pt. "Nylok"	1
11	M-77381	Spring - Ball Detent	1
12	BA-2-10	Ball - 1/4" Dia	1
13	SC-64-13	Set Screw - 5/16"-18 x 3/4" Soc. Hdls., Cup Pt. "Nylok"	1
14	M-77377	Interlock Control Shaft Assy	1
15	B-124976	Cover - Bowl Support	1
16	M-88417	Pin - Bowl Stop	1
17	SC-40-80	Cap Screw - 5/16"-24 x 5/8" Soc. Fil. Hd	4
18	WL-3-48	Lock Washer - 5/16" High Collar	4
19	M-78061	Clamp - Bowl Support	4
20	SC-53-9	Mach. Screw - 1/4"-28 x 1/2" Truss Hd	8
21	P-78419	Bowl Support & Pin Assy. (Incls. items #16, 19 & 20)	1
22	M-77441-1	Shim - Bowl Adjusting (.005" Thk., Blue)	AR
23	M-77441-2	Shim - Bowl Adjusting (.010" Thk., Brown)	AR
24	M-77441-3	Shim - Bowl Adjusting (.020" Thk., Yellow)	AR
25	C-290369	Shaft - Vertical Bowl Drive	1
26	BR-2-24	Roller Bearing - Cone & Cup Assy. (Upper)	1
27	PS-4-17	Spirol Pin - 1/4" Dia. x 1-3/8" Lg	1
28	D-77399	Gear - Vertical Bowl Drive (62T)	1
29	S-77395	Case - Gear	1
30	WL-3-37	Lock Washer - 1/4" Medium	5
31	SC-62-54	Cap Screw - 1/4"-20 x 3/4" Hex Hd	5
32	BR-2-23	Roller Bearing - Cone & Cup Assy. (Lower)	1
33	WL-12-4	Lock Washer - N.D. #W-03	1
34	NS-34-4	Lock Nut - N.D. #N-03	1
35	M-77397	Gasket - Gear Case	1
36	M-77396	Plate - Gear Case	1
37	SC-13-14	Mach. Screw - #6-32 x 3/8" Flat Hd	4
	C-290910-1	Bowl Cover & Locking Knob Assy. (60 Hz.) (Incls. items #1 thru 5)	1
	C-290910-2	Bowl Cover & Locking Knob Assy. (50 Hz.) (Incls. items #1, 2, 3, 4 & 6)	1

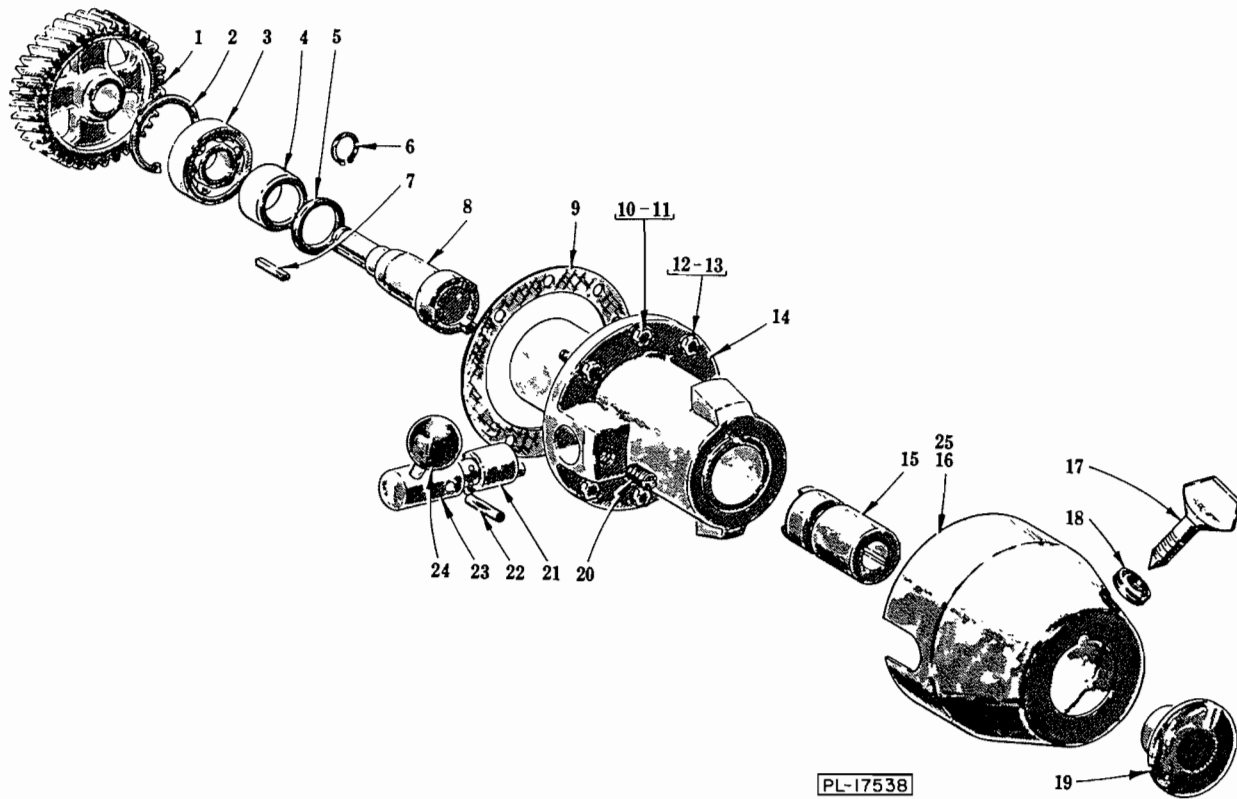


PL-17464

SWITCH AND BOWL DRIVE UNIT

SWITCH AND BOWL DRIVE UNIT

ILLUS. PL-17464	PART NO.	NAME OF PART	AMT.
1	SC-62-54	Cap Screw - 1/4"-20 x 3/4" Hex Hd	2
2	WL-3-37	Lock Washer - 1/4" Medium	2
3	R-87321	Support - Bearing	1
4	M-77353-1	Shim - Brg. Support (.005" Thk., Blue)	AR
5	M-77353-2	Shim - Brg. Support (.010" Thk., Brown)	AR
6	M-77353-3	Shim - Brg. Support (.020" Thk., Yellow)	AR
7	P-87711-83-1	Switch	1
8	SC-110-12	Cap Screw - 1/4"-20 x 5/8" Hex Hd	2
9	WL-3-37	Lock Washer - 1/4" Medium	2
10	SC-62-54	Cap Screw - 1/4"-20 x 3/4" Hex Hd	2
11	WL-3-37	Lock Washer - 1/4" Medium	2
12	P-77393	Bracket - Control Shaft	1
13	M-77389	Shaft - Switch Interlock	1
14	PC-3-23	Cotter Pin - 1/16" x 1/2"	2
15	WS-2-12	Washer	2
16	SC-47-9	Set Screw - 1/4"-20 x 1/4" Soc. Hdls., Kn. Cup Pt	1
17	M-83778	Clevis - Switch Control	1
18	M-77390	Pin - Clevis	2
19	M-77401	Knob - Switch Control	1
20	B-290389	Shaft - Switch Control	1
21	RR-7-9	Retaining Ring	1
22	C-290392	Clevis - Control Rod	1
23	SC-88-19	Set Screw - 5/16"-24 x 1/4" Soc. Hdls., Kn. Cup Pt	1
24	SC-13-24	Mach. Screw - #8-32 x 5/16" Flat Hd	2
25	P-77394	Bracket - Switch	1
26	BN-2-17	Needle Bearing - Torrington #M-10121	1
27	RP-2-10	Rollpin - 3/16" Dia. x 1" Lg	1
28	P-77349	Worm - Horizontal Bowl Driver Shaft (1T)	1
29	M-77484	Seal - Horizontal Bowl Drive	1
30	M-77350	Spacer - Bearing	1
31	BB-5-30	Ball Bearing - N.D. #Z99503	1
32	RR-7-8	Retaining Ring	1
33	S-77348	Shaft - Horizontal Bowl Drive	1
34	RP-3-10	Rollpin - 3/16" Dia. x 1-1/4" Lg	1
35	BB-5-30	Ball Bearing - N.D. #Z99503	1
36	M-77354	Collar - Horizontal Shaft	1
37	M-111183	Spring - Driven Pulley	1
38	P-79741	Flange - Right Hand	1
39	M-79610	Bearing - R.H. Flange	1
40	RP-3-10	Rollpin - 3/16" Dia. x 1-1/4" Lg	1
41	BV-3-46	"V" Belt	1
42	P-77355	Flange - Left Hand	1



ATTACHMENT DRIVE UNIT

ILLUS. PL-17538	PART NO.	NAME OF PART	AMT.
1	C-77339	Gear - Attachment Hub (35T)	1
2	RR-7-7	Retaining Ring	1
3	BB-18-28	Ball Bearing - N.D. #Z9504	1
4	M-83440	Bearing (Oil-less)	1
5	P-70090	Seal - Oil	1
6	RR-6-20	Retaining Ring	1
7	R-12430-60	Key - Attachment Hub	1
8	P-77337	Shaft - Attachment Hub	1
9	P-77347	Gasket - Attachment Hub	1
10	SC-62-47	Cap Screw - 5/16"-18 x 1" Hex Hd	5
11	WL-3-44	Lock Washer - 5/16" Medium	5
12	M-79742	Bolt - Air Vent	1
13	WL-3-44	Lock Washer - 5/16" Medium	1
14	S-77336	Hub - #12 Attachment	1
15	P-77338	Clutch - Attachment	1
16	R-77100	Cap - #12 Hub Trim (50 Hz.)	1
17	C-108197-3	Thumb Screw Assy	1
18	M-79537	Grommet - Thumb Screw	1
19	C-114824-5	Plug - Attachment Hole (Deluxe Model)	1
20	M-77419	Ball Plunger - "Vlier"	1
21	M-77342	Shifter Shaft & Pin Assy	1
22	PG-7-35	Groov-Pin - Type E, 1/4" x 1"	1
23	M-77341	Shifter Hub & Handle Assy	1
24	M-60468	Knob	1
25	D-290209	Trim Cap & Plate Assy. (60 Hz.)	1
	M-77340	Shifter Hub & Shaft Assy. (Incls. items #21 thru 24)	1
	M-78472-1	Attachment Drive Assy. (60 Hz.) (Incls. items #1 thru 15 & 17 thru 25)	1
	M-78472-2	Attachment Drive Assy. (50 Hz.) (Incls. items #1 thru 24)	1