



Tool & Hoist Products

OPERATOR'S MANUAL

**INCLUDING: OPERATION, INSTALLATION & MAINTENANCE
ELECTRIC SCREWDRIVER**

Released: 11-15-91

Revised: 9-21-92

Form: 3847-2

**Models: SLE16A-20-Q, SLE17A-10-Q, SLE26A-7-Q,
SPE16A-20-Q, SPE17A-10-Q, SPE24A-12-Q,
SPE26A-7-Q and SPE40A-4-Q.**

**IMPORTANT: READ THIS MANUAL CAREFULLY BEFORE INSTALLING,
OPERATING OR SERVICING THIS TOOL.**

SAFETY PRECAUTIONS

Disconnect the tool power cord from the receptacle before performing any maintenance on this tool.

This tool should be repaired only by a qualified electrician.

- **Keep work area clean.** Cluttered areas and benches invite injuries.
- **Consider work area environment.** Don't expose the tool or components to water. Keep work area well lit. Do not use tool in the presence of flammable liquids or gases.
- **Guard against electric shock.** Prevent body contact with grounded surfaces, such as pipes, radiators, metal structures or other electrical products.
- **Keep bystanders away.** Do not permit unauthorized personnel to operate this tool.
- **Store idle tools.** When not in use, tools should be stored in a dry, secure area.
- **Don't force tool.** It will do the job better and safer at the rate for which it was intended.
- **Use the right tool.** Don't use a small tool or attachment to do the job of a heavy duty tool.
- **Dress properly.** Do not wear loose clothing or jewelry. They can be caught in moving parts.
- **Use safety glasses.**
- **Don't abuse power cord.** Never carry a tool by its cord or yank the cord to disconnect it from a receptacle. Keep the cord away from heat, oil, solvents and sharp edges.
- **Keep work secure.** Use a clamp, fixture or vise to hold work. Operators often need both hands to perform job functions.
- **Don't over-reach.** Keep proper footing and balance at all times.
- **Maintain tools with care.** Inspect tool cords periodically and if damaged, have repaired by an authorized service facility. Keep handles dry, clean and free from oil and grease.
- **Disconnect tools when not in use and when changing accessories.**
- **Remove adjusting keys and wrenches.** Form a habit of checking to see that keys and adjusting wrenches are removed from the tool before turning it on.
- **Avoid accidental starting.** Be sure power switch is off before connecting the screwdriver plug.
- **Stay alert.** Watch what you are doing. Use common sense. Do not

operate the tool when you are tired.

- **Check damaged parts.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other condition that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual.
- **Replace defective switches immediately.** Do not use tool if switch does not turn tool on and off.

OPERATING PRECAUTIONS

- Whenever changing a bit, make certain the Forward/Reverse switch is in the "OFF" position and the tool is unplugged.
- Do not allow chemicals such as acetone, benzene, thinner, ketone, trichloroethylene or other similar chemicals to come in contact with the screwdriver housing, as damage will occur.
- Do not drop or abuse the screwdriver.
- Do not adjust the torque setting higher than 7 on the torque scale.
- There should be a tool rest interval when cycles are three seconds or longer.
- Do not tighten more than 900 tapping screws (size: 2 mm, length: 4 mm) per hour.
- Do not use this screwdriver for tightening wood screws.
- Do not operate the Forward/Reverse switch when the motor is running.
- Whenever a tool is not being used, move the Forward/Reverse switch to the "OFF" position and unplug the tool.

RECOMMENDED LUBRICANTS AND ADHESIVES

- Threadlocker 222 (Loctite)
- Threadlocker 242 (Loctite)
- ARO 33153 Grease

For parts and service information, contact your local ARO distributor, or the Customer Service Dept. of the Ingersoll-Rand Distribution Center, White House, TN at PH: (615) 672-0321, FAX: (615) 672-0601

ARO Tool & Hoist Products

Ingersoll-Rand Company

1725 U.S. No. 1 North • P.O. Box 8000 • Southern Pines, NC 28388-8000

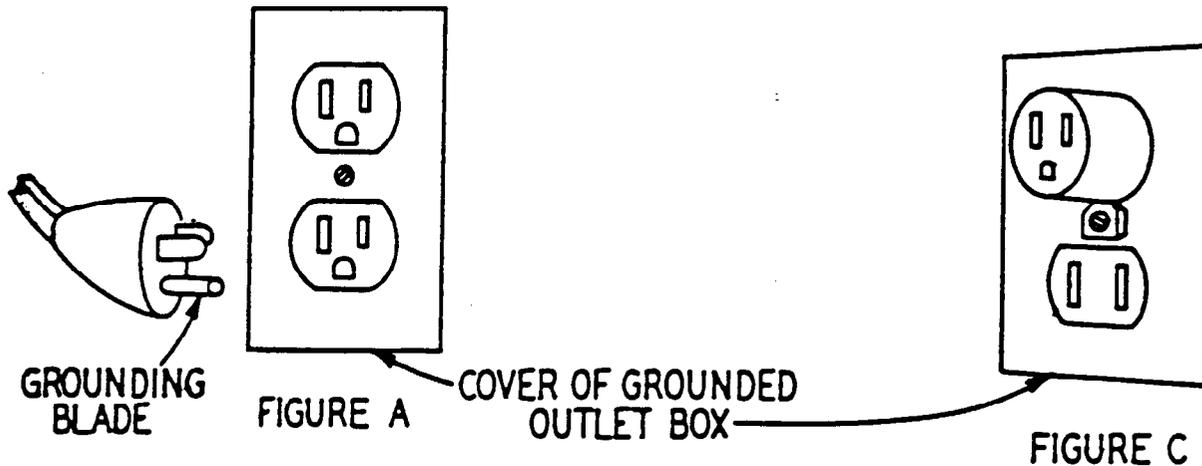
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INGERSOLL-RAND®
PROFESSIONAL TOOLS

MODEL IDENTIFICATION

MODEL NUMBER	R.P.M.	THROTTLE TYPE	TORQUE RANGE (IN. LBS)
SLE16A-20-Q	2000	TRIGGER	4.0 - 16.0
SLE17A-10-Q	1000	TRIGGER	4.0 - 17.0
SLE26A-7-Q	700	TRIGGER	8.0 - 26.0
SPE16A-20-Q	2000	PUSH TO START	4.0 - 16.0
SPE17A-10-Q	1000	PUSH TO START	4.0 - 17.0
SPE24A-12-Q	1200	PUSH TO START	12.0 - 24.0
SPE26A-7-Q	700	PUSH TO START	8.0 - 26.0
SPE40A-4-Q	400	PUSH TO START	10.0 - 40.0

GROUNDING INSTRUCTIONS



The tool should be grounded while in use to protect the operator from electric shock. The tool is equipped with a three conductor cord and three prong grounding type plug to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect the green (or green and yellow) wire to a live terminal. If your unit is for use on less than 150V, it has a plug that looks like that shown in figure A. An adapter (see figure B) is available for connecting Figure A type plugs to a 2 prong receptacle. The green colored rigid grounding strap must be connected to a permanent ground such as to a properly grounded outlet box.

NOTE: For safe use of adapters, the outlet box must be grounded. If there is any doubt, have a qualified electrician check connections. Use only 3 wire extension cords that have 3 prong grounding type plugs and 3 pole receptacles that accept the controllers plug. Replace or repair damaged cords.

DISASSEMBLY/ASSEMBLY INSTRUCTIONS

- Never apply excessive pressure by a holding device which may cause distortion of a part.
- Apply pressure evenly to parts which have a press fit.
- Apply even pressure to the bearing race that will be press fitted to the mating part.
- Use correct tools and fixtures when servicing this tool.
- Don't damage "O" rings when servicing this tool.
- Use only genuine ARO replacement parts for this tool. When ordering, specify part number, description, tool model number and serial number.

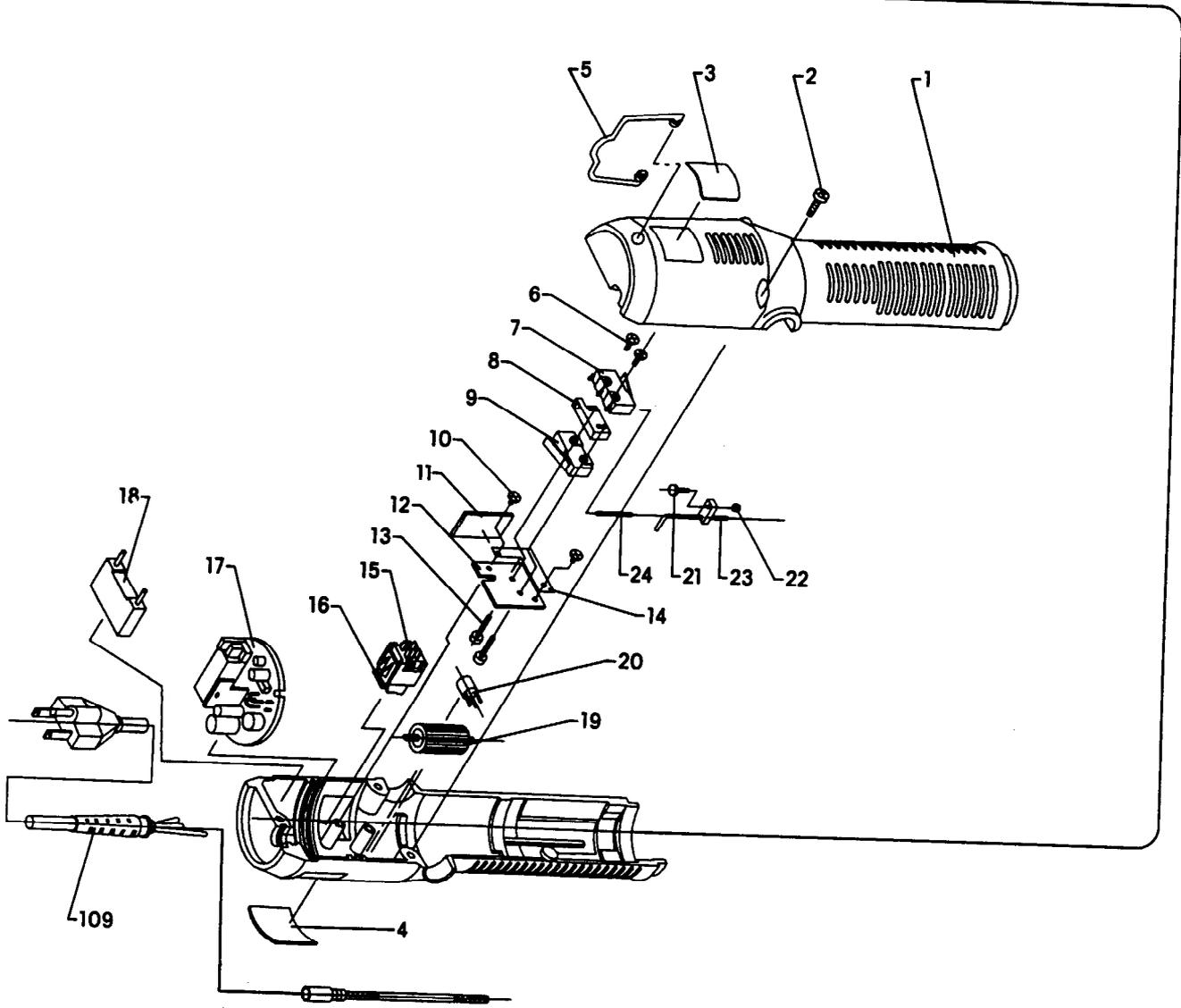
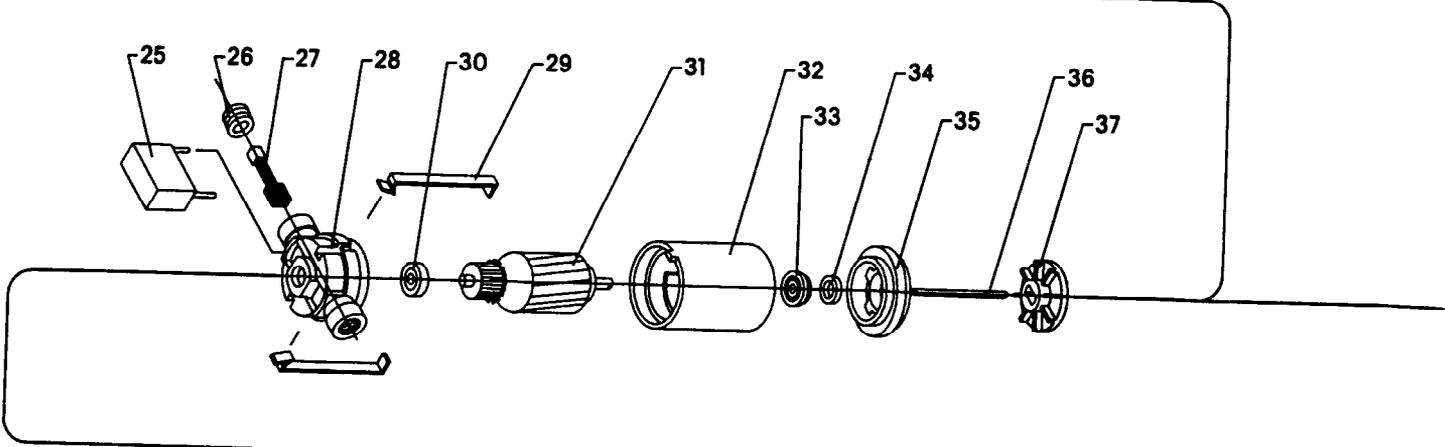
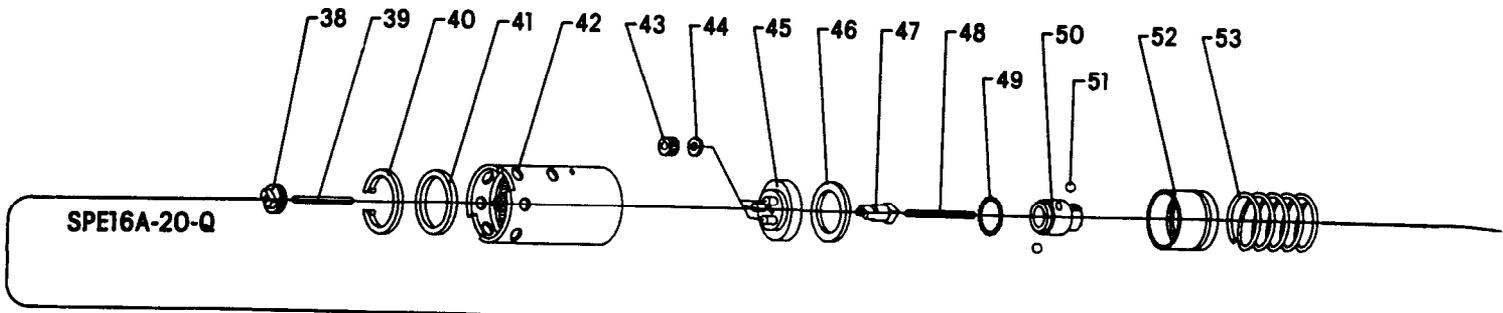
MODELS SPE()A-()-Q

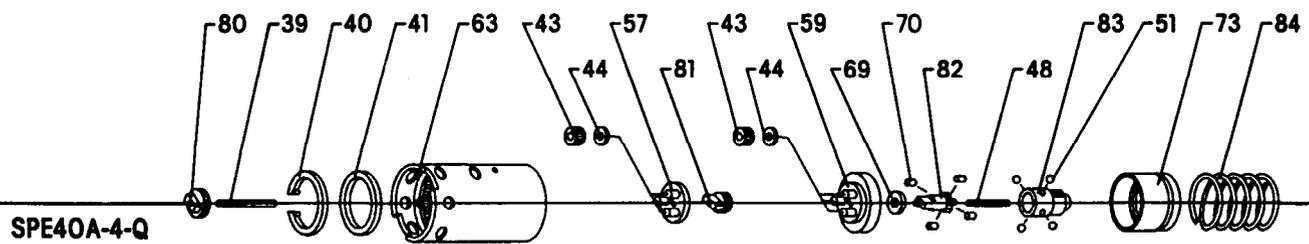
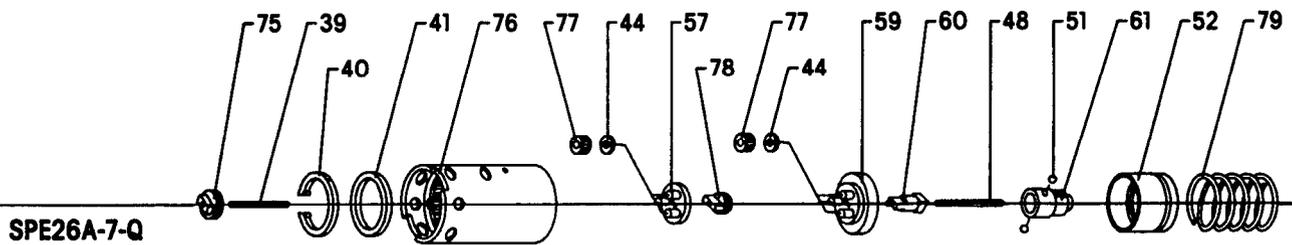
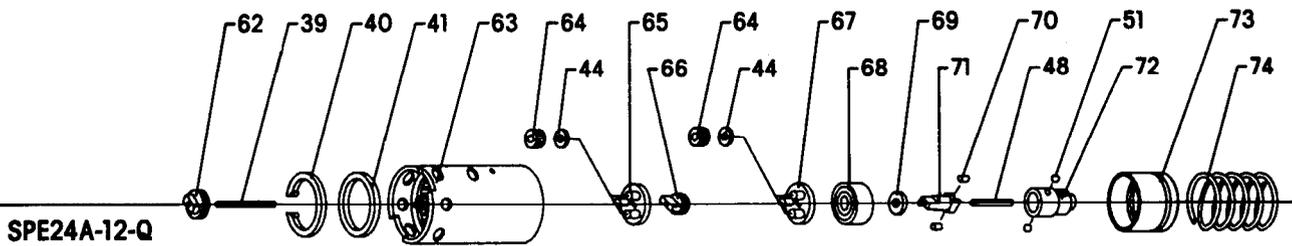
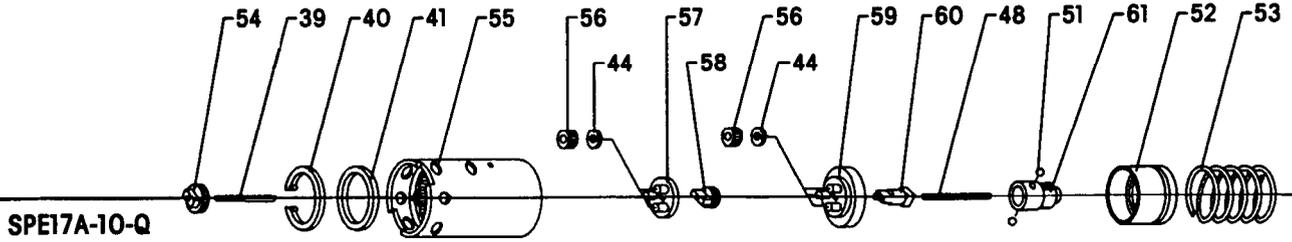
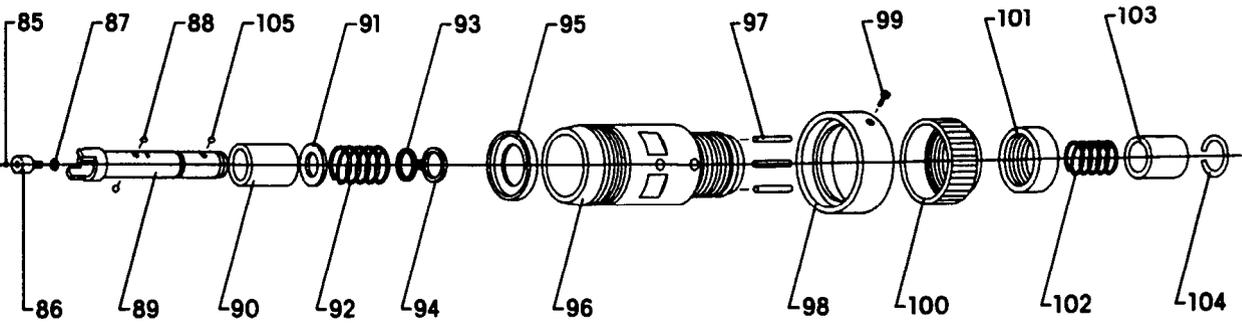
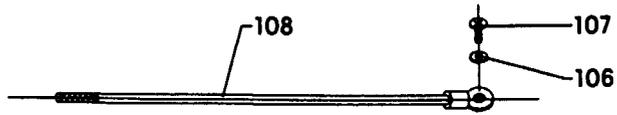
TOOL DISASSEMBLY

- Using a no. 1 Phillips screwdriver, remove two screws (99) and pull coupling (98) off the front end of the tool. NOTE: Screws (99) are assembled with thread adhesive (Threadlocker 222).
- Using a no. 2 Phillips screwdriver, remove three screws (2). NOTE: Screws are assembled with thread adhesive (Threadlocker 222).
- Separate the two housing halves (1) by prying apart with a thin blade screwdriver.
- While lifting the motor slightly, remove ring gear (42, 55, 63 or 76) and components from the motor.
- Remove the pilot rod (48) from the ring gear.
- Remove the retaining ring (104) from the clutch housing (96), releasing sleeve (103), spring (102) and balls (105).
- Loosen ring (100) until it is just finger tight.
- Fit the two notches at the rear of the ring gear (42, 55, 63 or 76) into an assembly fixture. Using a wrench on flats of clutch housing (96), unthread and remove clutch housing and components. NOTE: Clutch housing has left hand threads.
- Remove the taper ring (52 or 73), cam guide (50, 61, 72 or 83) and balls (51) from the ring gear.
 - Models SPE16A-20-Q: Remove cam (47). Remove spindle (45) and washer (46).
 - Models SPE17A-10-Q and SPE26A-7-Q: Remove cam (60). Remove spindle (59), sun gear (58 or 78) and carrier (57).
 - Models SPE24A-12-Q and SPE40A-4-Q: Remove cam (71 or 82), pins (70) and washer (69). Remove spindles and gearing.
- Slide the bit holder (89) and components, clutch spring (53, 74, 79 or 84) and spring plate (95) out of the clutch housing.
- Unscrew and remove cover (101).
- Remove ring (100), releasing three pins (97).
- Remove retaining ring (94) from bit holder (89), releasing washer (93), spring (92), washer (91) and slide ring (90). NOTE: Removal of slide ring (90) releases two balls (88).
- After removal of balls (88), pilot ball (85), pilot (86) and retaining ring (87) can be removed from bit holder (89).
- Remove sun gear (38, 54, 62, 75 or 80) and armature fan (37) from the motor.
- Carefully remove pilot rod (39) from the sun gear. NOTE: Do not lose or damage pilot rod (39).
- To remove capacitors (18 and 25), unsolder and remove.
- Unscrew and remove two brush caps (26) and pull two brush assemblies (27) from rear end plate (28). NOTE: Mark the brushes so they can be re-installed exactly as removed (unless they are being replaced).
- Remove motor springs (29).
- Remove end plates (28 and 35) from the yoke assembly (32).
- Do not remove armature assembly (31) from the yoke assembly (32). The magnet in the yoke will become slightly demagnetized and adversely affect the motor performance.

TOOL ASSEMBLY

- To reassemble the tool, reverse the disassembly procedure.
- Assemble bearings (30 and 33) to end plates (28 and 35) and assemble end plates to yoke assembly (32), securing with motor springs (29).
- Assemble brush assemblies (27) into end plate (28). NOTE: Install in the same position as before disassembly. Secure with brush caps (26).
- Assemble capacitors (18 and 25) to tool and re-solder.
- Carefully assemble pilot rod (39) to sun gear (38, 54, 62, 75 or 80) and assemble sun gear and armature fan to motor. WARNING: Pilot rod (39) is to be free of grease. Grease on this rod could cause electric shock.
- Inject a small amount of grease into pilot (86) and assemble retaining ring (87), pilot (86) and pilot ball (85) to bit holder (89), securing with two balls (88).
- Apply a film of grease to the inner surface of slide ring (90) and assemble slide ring to bit holder, securing balls (88).
- Assemble washer (91), spring (92) and washer (93) to bit holder, securing with retaining ring (94).
- Assemble three pins (97) to clutch housing (96), securing with ring (100).
- Assemble cover (101) to tool.
- Assemble spring plate (95), bit holder (89) and clutch spring (53, 74, 79 or 84) into clutch housing.
- Apply a moderate amount of grease to the outer surface of cam (47, 60, 71 or 82), cam guide (50, 61, 72 or 83) and balls (51).
- Apply a thin coat of grease to each of the gears. CAUTION: Do not pack gearing with grease, as excessive grease may be pulled into the motor by the armature fan.
- Apply a very thin coating of grease to pilot rod (48) and to the i.d. of taper ring (52 or 73).
- Assemble washers (44) and gears to spindle(s).
 - Models SPE16A-20-Q: Assemble spindle (45), washer (46) and cam (47) into ring gear (42). Assemble balls (49) to cam guide.
 - Models SPE17A-10-Q and SPE26A-7-Q: Assemble carrier (57), sun gear (58 or 78), spindle (59) and cam (60) into ring gear.
 - Models SPE24A-12-Q and SPE40A-4-Q: Assemble carrier (65 or 57), sun gear (66 or 81), spindle (67 or 59) and bearing (68)(where applicable) into ring gear. Coat pins (70) with grease and assemble to cam. Assemble washer (69) and cam into ring gear (63).
- Insert balls (51) into holes in cam guide (50, 61, 72 or 83).
- Assemble cam guide and taper ring (52 or 73) to tool.
- Carefully thread the ring gear and components onto the clutch housing (96) approximately two threads. NOTE: Clutch housing has left hand threads.
- At the middle of the clutch housing thread, apply thread adhesive, such as Loctite 242, to approximately three threads.
- Thread the clutch housing into the ring gear until contact is made with the cam, then unscrew the clutch housing two complete revolutions.
- Insert a 1/4" hex wrench into the end of the bit holder. While pushing in with the wrench, rotate the ring gear until the jaws of the cam guide (50, 61, 72 or 83) engage the cam. While maintaining engagement, hand tighten the ring gear as much as possible.
- With the assembly fixture (refer to page 15) held securely in a vise, position the notches of the ring gear onto the fixture. Using a torque wrench, tighten the clutch housing to 21 ft lbs.
- Tighten ring (100).
- Assemble two balls (105), spring (102) and sleeve (103) to bit holder, securing with retaining ring (104).
- Slide pilot rod (48) into ring gear.
- Assemble the ring gear and components to the motor.
- The brake switch must be timed to actuate when the clutch cams over. To adjust the timing, loosen the adjusting nut (22) and turn the adjusting screw (21) in or out until the microswitch (7) is actuated at the same time the clutch cams over or slightly before. If the motor drags before the brake switch actuates, shorten the adjusting screw (21).
- Assemble the two housing halves (1), securing with three screws (2).
- Assemble coupling (98) to the tool, securing with two screws (99).





MODELS SPE()A-()-Q

PART NUMBER FOR ORDERING

PART NUMBER FOR ORDERING

1	Housing (2 pieces)(includes item 2)	48999-1	49	Ball (23 req'd)	48999-111
2	Screw (3 req'd)	48999-2	50	Cam Guide (includes items 49 and 51)	48999-136
3	Nameplate	48958	51	Ball (2 req'd)(4 req'd on models SPE40A-4-Q)	48999-53
4	Warning Label for models SPE16A-20-Q and SPE24A-12-Q for models SPE17A-10-Q, SPE26A-7-Q and SPE40A-4-Q	48959 48960 48999-5	52	Taper Ring	48999-127
5	Bail	48999-5	53	Clutch Spring	48999-56
6	Screw (2 req'd)		54	Sun Gear	48999-41
7	Microswitch		55	Ring Gear (includes items 40 and 41)	48999-45
8	Switch Plate		56	Gear (6 req'd)	48999-46
9	Microswitch		57	Carrier	48999-48
10	Screw (2 req'd)		58	Sun Gear	48999-49
11	Insulating Plate		59	Spindle	48999-50
12	Switch Base		60	Cam	48999-51
13	Screw (2 req'd)		61	Cam Guide (includes item 51)	48999-137
14	Insulating Plate Switch Assembly (includes items 6 thru 14)	48999-208	62	Sun Gear	48999-91
15	Switch (includes item 16)	48999-13	63	Ring Gear (includes items 40 and 41)	48999-93
16	Reverse Switch Rocker (included with item 15)		64	Gear (6 req'd)	48999-94
17	Control	48999-10	65	Carrier	48999-95
18	Capacitor	48999-31	66	Sun Gear	48999-96
19	Resistor	48999-11	67	Spindle (includes item 68)	48999-97
20	Coil	48999-12	68	Bearing (included with item 67)	
21	Adjustment Screw		69	Washer	
22	Nut		70	Pin (2 or 4 req'd)	
23	Pilot Rod		71	Cam	
24	Spring Adjusting Rod Ass'y (includes items 21 thru 24)	48999-203	72	Cam Assembly (includes items 69, 70 and 71)	48999-214
25	Capacitor	48999-32	73	Cam Guide (includes item 51)	48999-92
26	Brush Cap (2 req'd)	48999-30	74	Taper Ring	48999-55
27	Brush Assembly (2 req'd)	48999-29	75	Clutch Spring	48999-102
28	Rear End Plate	48999-28	76	Sun Gear	48999-79
29	Spring (2 req'd)	48999-33	77	Ring Gear (includes items 40 and 41)	48999-80
30	Bearing	48999-34	78	Gear (6 req'd)	48999-81
31	Armature Assembly for models SPE16A-20-Q for models SPE17A-10-Q, SPE26A-7-Q and SPE40A-4-Q	48999-104 48999-35 48999-86	79	Sun Gear	48999-82
32	Yoke Assembly for models SPE16A-20-Q and SPE24A-12-Q for models SPE17A-10-Q, SPE26A-7-Q and SPE40A-4-Q	48999-87 48999-36	80	Clutch Spring	48999-83
33	Bearing for models SPE16A-20-Q, SPE17A-10-Q, SPE26A-7-Q and SPE40A-4-Q	48999-37 48999-88	81	Sun Gear	48999-113
34	Washer (used on models SPE24A-12-Q only)	48999-89	82	Sun Gear	48999-114
35	Front End Plate Motor Assembly (includes items 25 thru 35) for models SPE16A-20-Q for models SPE17A-10-Q, SPE26A-7-Q and SPE40A-4-Q	48999-38 48999-209 48999-204	83	Cam	
36	Pilot Rod (2.465" long)	48999-39	84	Cam Assembly (includes items 69, 81 and 82)	48999-213
37	Armature Fan for models SPE16A-20-Q, SPE17A-10-Q, SPE26A-7-Q and SPE40A-4-Q	48999-40 48999-90	85	Cam Guide (includes item 51)	48999-54
38	Sun Gear	48999-105	86	Clutch Spring	48999-116
39	Pilot Rod (.385" long)	48999-42	87	Ball	
40	Retaining Ring		88	Pilot	
41	Seat		89	Retaining Ring	
42	Ring Gear (includes items 40 and 41)	48999-106	90	Ball (2 req'd)	
43	Gear (3 or 6 req'd)	48999-107	91	Bit Holder	
44	Washer (3 or 6 req'd)	48999-47	92	Slide Ring	
45	Spindle	48999-108	93	Washer	
46	Washer	48999-109	94	Spring	
47	Cam	48999-110	95	Washer	
48	Pilot Rod (2 3/60" long)	48999-52	96	Retaining Ring	
			97	Bit Holder Ass'y (includes items 85 thru 94)	48999-210
			98	Spring Plate	48999-67
			99	Clutch Housing for models SPE16A-20-Q, SPE17A-10-Q, SPE24A-12-Q and SPE26A-7-Q	48999-68 48999-117
			100	for models SPE40A-4-Q	48999-69
			101	Pin (3 req'd)	48999-70
			102	Coupling (includes item 99)	48999-71
			103	Screw (2 req'd)(included with item 98)	48999-72
			104	Adjustment Ring	48999-73
			105	Cover	
			106	Spring	
			107	Bit Sleeve	
			108	Retaining Ring	
			109	Ball (2 req'd)	
				Sleeve Assembly (includes items 102 thru 105)	48999-211
				Washer (included with item 108)	48999-9
				Screw (included with item 108)	48999-8
				Wire Assembly (includes items 106 and 107)	48999-7
				Cord	48999-6
				OPTIONAL EQUIPMENT	
				Pistol Grip Handle (not shown)	48999-135

MODELS SLE()A-()-Q

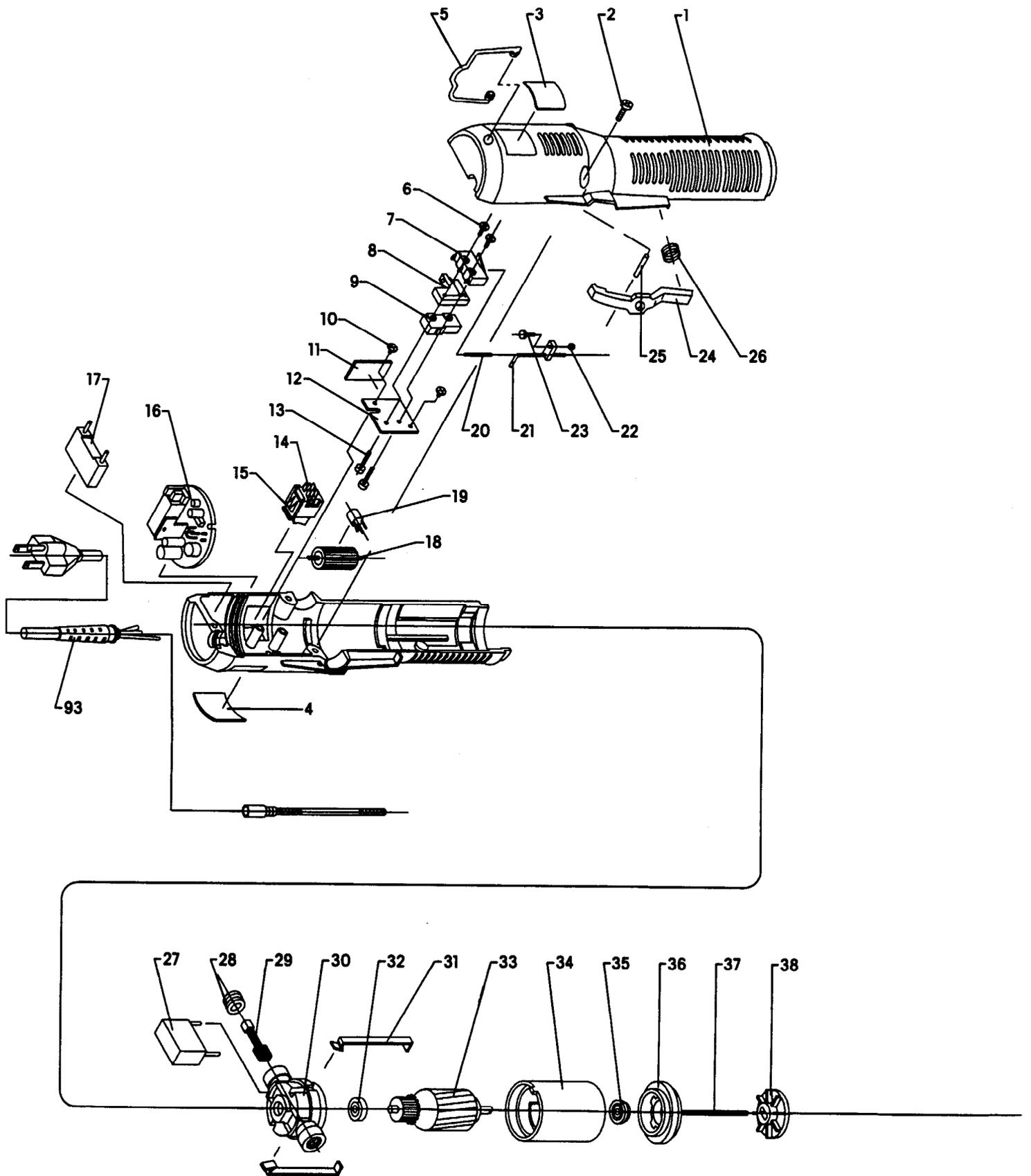
TOOL DISASSEMBLY

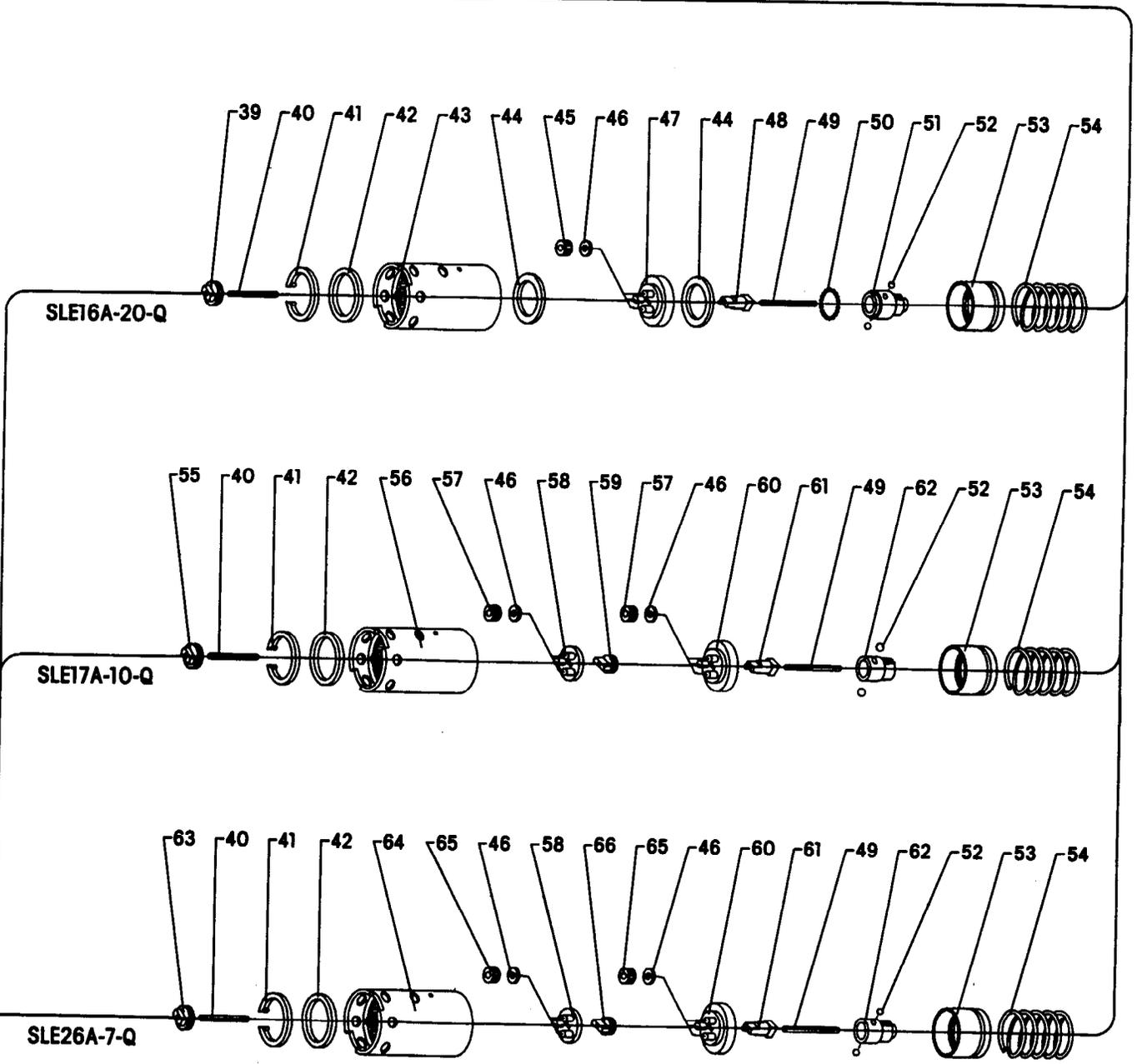
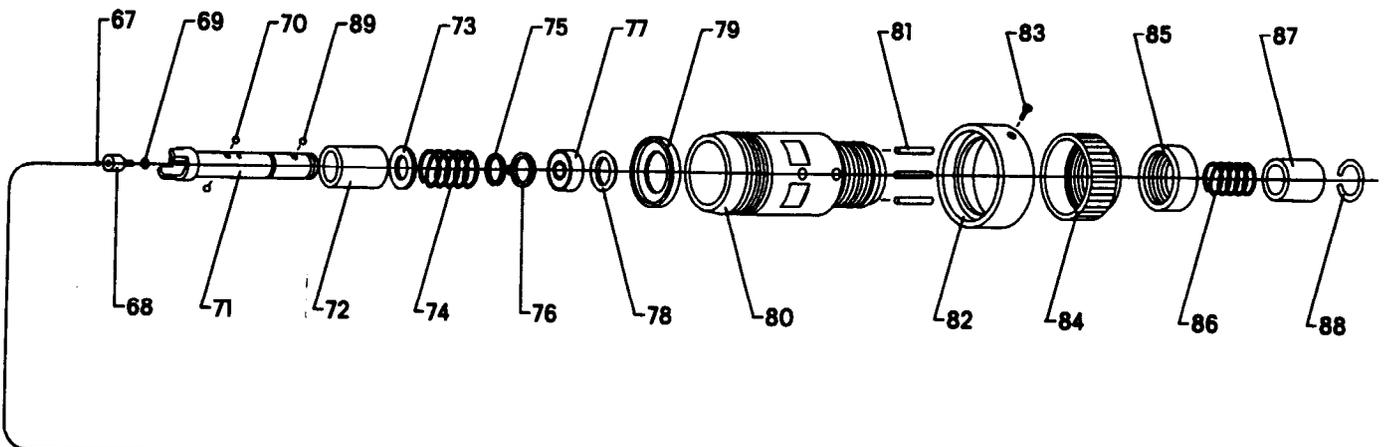
- Using a no. 1 Phillips screwdriver, remove two screws (83) and pull coupling (82) off the front end of the tool. NOTE: Screws (83) are assembled with thread adhesive (Threadlocker 222).
- Using a no. 2 Phillips screwdriver, remove three screws (2). NOTE: Screws are assembled with thread adhesive (Threadlocker 222).
- Separate the two housing halves (1) by prying apart with a thin blade screwdriver.
- While lifting the motor assembly slightly, remove ring gear (43, 56 or 64) and components from the motor.
- Remove the pilot rod (49) from the ring gear.
- Remove the retaining ring (88) from the clutch housing (80), releasing sleeve (87), spring (86) and balls (89).
- Loosen ring (84) until it is just finger tight.
- Fit the two notches at the rear of the ring gear (43, 56 or 64) into an assembly fixture. Using a wrench on flats of clutch housing (80), unthread and remove clutch housing and components. NOTE: Clutch housing has left hand threads.
- Remove the taper ring (53), cam guide (51 or 62) and two balls (52) from the ring gear.
 - Models SLE16A-20-Q: Remove cam (48). Remove spindle (47) and two spindle washers (44).
 - Models SLE17A-10-Q and SLE26A-7-Q: Remove cam (61). Remove spindle (60), sun gear (59 or 66) and carrier (58).
- Slide the bit holder (71) and components, clutch spring (54), spring plate (79), bearing (77) and washer (78) out of the clutch housing.
- Unscrew and remove cover (85).
- Remove ring (84), releasing three pins (81).
- Remove retaining ring (76) from bit holder (71), releasing washer (75), spring (74), washer (73) and slide ring (72). NOTE: Removal of slide ring (72) releases two balls (70).
- After removal of balls (70), pilot ball (67), pilot (68) and retaining ring (69) can be removed from bit holder (71).
- Remove sun gear (39, 55 or 63) and armature fan (38) from the motor.
- Carefully remove pilot rod (40) from the sun gear. NOTE: Do not lose or damage pilot rod (40).
- To remove capacitors (17 and 27), unsolder and remove.
- Unscrew and remove two brush caps (28) and pull two brush assemblies (29) from rear end plate (30). NOTE: Mark the brushes so they can be reinstalled exactly as removed (unless they are being replaced).
- Remove motor springs (31).
- Remove end plates (30 and 36) from the yoke assembly (34).
- Do not remove armature assembly (33) from the yoke assembly (34). The magnet in the yoke will become slightly demagnetized and adversely affect the motor performance.

TOOL ASSEMBLY

- To reassemble tool, reverse the disassembly procedure.
- Assemble bearings (32 and 35) to end plates (30 and 36) and assemble end plates to yoke assembly (34), securing with motor springs (31).
- Assemble brush assemblies (29) into end plate (30). NOTE: Install in the same position as before disassembly. Secure with brush caps (28).
- Assemble capacitors (17 and 27) to tool and re-solder.
- Carefully assemble pilot rod (40) to sun gear (39, 55 or 63) and

- assemble sun gear and armature fan to motor. WARNING: Pilot rod (40) is to be completely free of grease. Grease on this rod could cause electric shock.
- Inject a small amount of grease into pilot (68) and assemble retaining ring (69), pilot (68) and pilot ball (67) to bit holder, securing with two balls (70).
- Apply a film of grease to the inner surface of slide ring (72) and assemble slide ring (72) to bit holder, securing balls (70).
- Assemble washer (73), spring (74) and washer (75) to bit holder, securing with retaining ring (76).
- Assemble three pins (81) to clutch housing (80), securing with ring (84).
- Assemble cover (85) to tool.
- Assemble spring plate (79), washer (78), bearing (77), bit holder (71) and clutch spring (54) into clutch housing.
- Apply a moderate amount of grease to the outer surfaces of cam (48 or 61), cam guide (51 or 62) and balls (52).
- Apply a thin coat of grease to each of the gears. CAUTION: Do not pack gearing with grease, as excess grease may be pulled into the motor by the armature fan.
- Apply a very thin coating of grease to pilot rod (49) and to the i.d. of taper ring (53).
- Assemble washers (46) and gears to spindle(s).
 - Models SLE17A-10-Q and SLE26A-7-Q: Assemble carrier (58), sun gear (59 or 66), spindle (60) and cam (61) into ring gear.
 - Models SLE16A-20-Q: Assemble washers (44), spindle (47) and cam (48) into ring gear (43). Assemble balls (50) to cam guide.
- Insert balls (52) into holes in cam guide (51 or 62).
- Assemble cam guide (51 or 62) and taper ring (53) to tool.
- Carefully thread the ring gear and components onto the clutch housing (80) approximately two threads. NOTE: Clutch housing has left hand threads.
- At the middle of the clutch housing thread, apply thread adhesive, such as Loctite 242, to approximately three threads.
- Thread the clutch housing into the ring gear until contact is made with the cam, then unscrew the clutch housing two complete revolutions.
- Insert a 1/4" hex wrench into the end of the bit holder. While pushing in with the wrench, rotate the ring gear until the jaws of the cam guide (51 or 62) engage the cam. While maintaining engagement, hand tighten the ring gear as much as possible.
- With the assembly fixture (refer to page 15) held securely in a vise, position the notches of the ring gear onto the fixture. Using a torque wrench, tighten the clutch housing to 21 ft lbs.
- Tighten ring (84).
- Assemble two balls (89), spring (86) and sleeve (87) to bit holder, securing with retaining ring (88).
- Slide pilot rod (49) into ring gear.
- Assemble the ring gear and components to the motor.
- The brake switch must be timed to actuate when the clutch cams over. To adjust the timing, loosen the adjusting nut (22) and turn the adjusting screw (23) in or out until the microswitch (7) is actuated at the same time the clutch cams over or slightly before. If the motor drags before the brake switch actuates, shorten the adjusting screw (23).
- Assemble the two housing halves (1), securing with three screws (2).
- Assemble coupling (82) to the tool, securing with two screws (83).





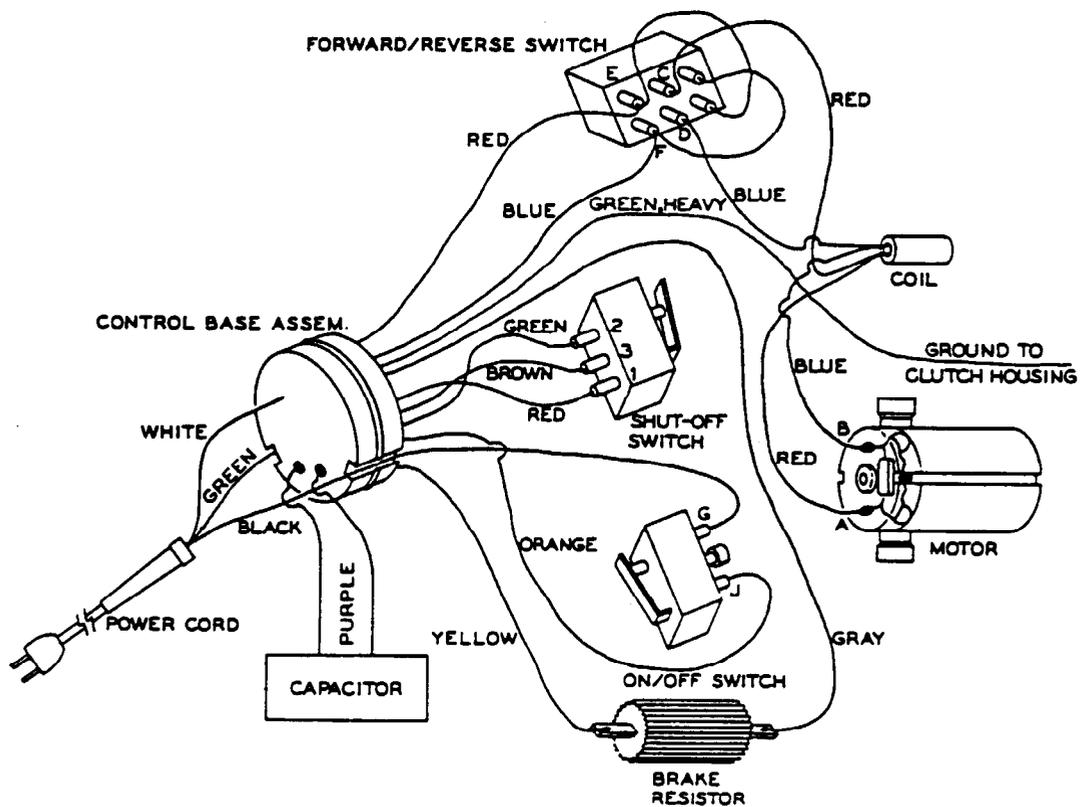
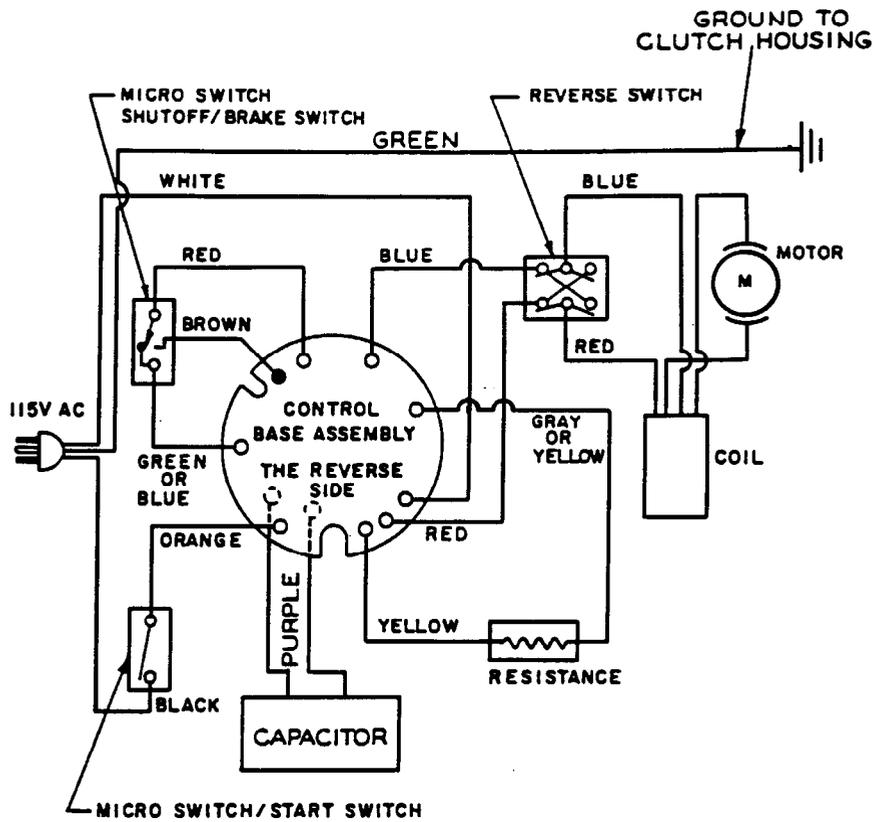
MODELS SLE()A-()-Q

PART NUMBER FOR ORDERING

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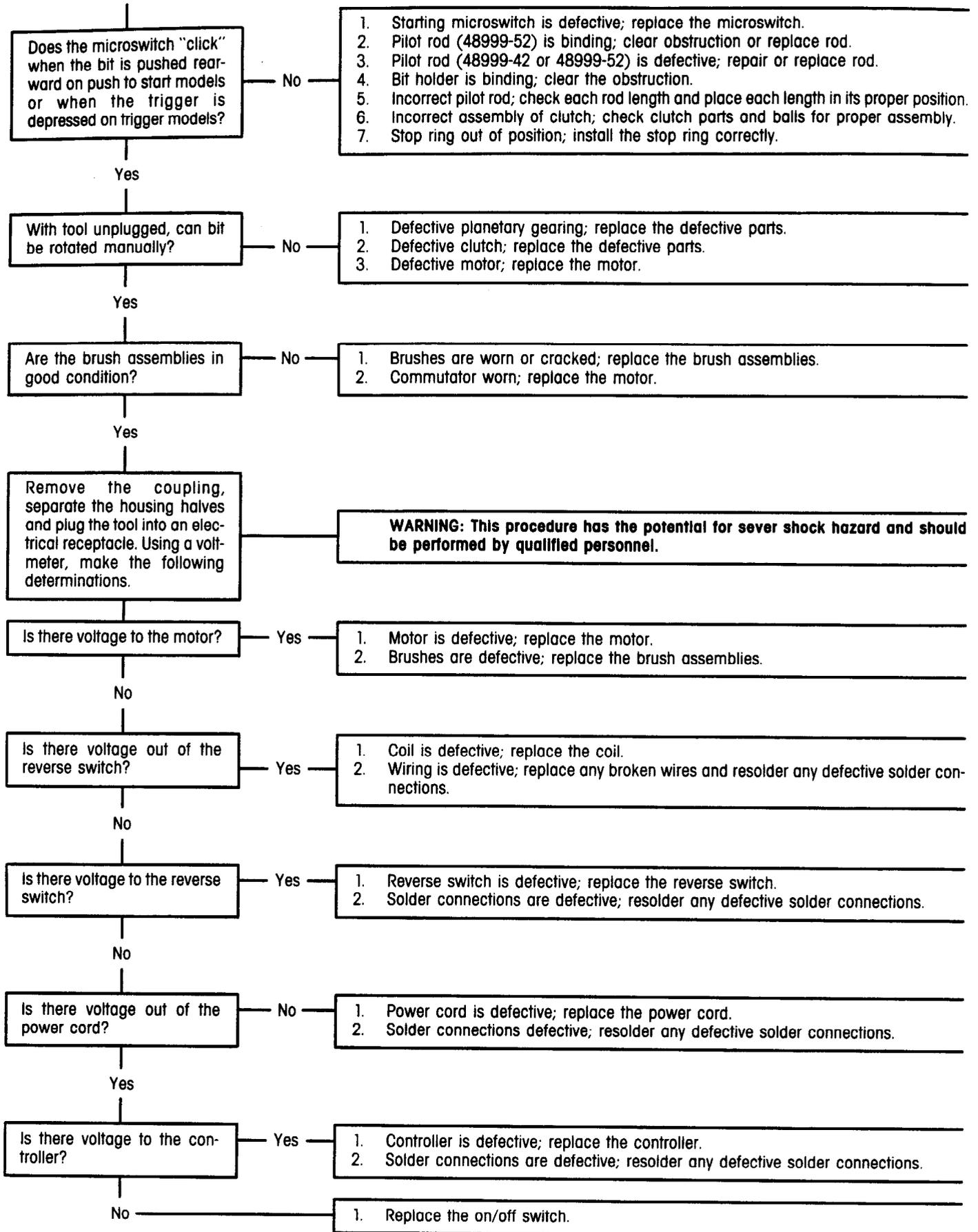
1	Housing (2 pieces)(includes item 2)	48999-118	44	Washer (2 req'd)	48999-109
2	Screw (3 req'd)(included with item 1)	48999-2	45	Gear (3 req'd)	48999-107
3	Nameplate	48958-1	46	Washer (3 or 6 req'd)	48999-47
4	Warning Label for models SLE16A-20-Q	48959	47	Spindle	48999-108
	for models SLE17A-10-Q and SLE26A-7-Q	48960	48	Cam	48999-110
5	Bail	48999-5	49	Pilot Rod (2.360" long)	48999-52
6	Screw (2 req'd)		50	Ball (23 req'd)	48999-111
7	Microswitch		51	Cam Guide (includes items 50 and 52)	48999-136
8	Switch Plate		52	Ball (2 req'd)	48999-53
9	Microswitch		53	Taper Ring	48999-127
10	Screw (2 req'd)		54	Clutch Spring for models SLE16A-20-Q and SLE17A-10-Q	48999-56
11	Insulating Plate			for models SLE26A-7-Q	48999-83
12	Switch Plate		55	Sun Gear	48999-41
13	Screw (2 req'd)	48999-202	56	Ring Gear (includes items 41 and 42)	48999-45
	Switch Assembly (includes items 6 thru 13)	48999-13	57	Gear (6 req'd)	48999-46
14	Switch (includes item 15)		58	Carrier	48999-48
15	Reverse Switch Rocker (included with item 14)		59	Sun Gear	48999-49
16	Control	48999-10	60	Spindle	48999-50
17	Capacitor	48999-126	61	Cam	48999-51
18	Resistor	48999-11	62	Cam Guide (includes item 52)	48999-137
19	Coil	48999-12	63	Sun Gear	48999-79
20	Spring		64	Ring Gear (includes items 41 and 42)	48999-80
21	Pilot Rod		65	Gear (6 req'd)	48999-81
22	Nut		66	Sun Gear	48999-82
23	Adjusting Screw Adjusting Rod Ass'y (includes items 20 thru 23)	48999-203	67	Pilot Ball	
24	Trigger		68	Pilot	
25	Pin		69	Retaining Ring	
26	Spring Trigger Assembly (includes items 24 thru 26)	48999-201	70	Ball (2 req'd)	
27	Capacitor	48999-32	71	Bit Holder	
28	Brush Cap (2 req'd)	48999-30	72	Slide Ring	
29	Brush Assembly (2 req'd)	48999-29	73	Washer	
30	Rear End Plate	48999-28	74	Spring	
31	Motor Spring (2 req'd)	48999-33	75	Washer	
32	Bearing	48999-34	76	Retaining Ring Bit Holder Assembly (includes items 67 thru 76)	48999-205
33	Armature Assembly for models SLE16A-20-Q	48999-104	77	Bearing	
	for models SLE17A-10-Q and SLE26A-7-Q	48999-35	78	Washer Bearing Assembly (includes items 77 and 78)	48999-206
34	Yoke Assembly for models SLE16A-20-Q	48999-87	79	Spring Plate	48999-67
	for models SLE17A-10-Q and SLE26A-7-Q	48999-36	80	Clutch Housing	48999-68
35	Bearing	48999-37	81	Pin (3 req'd)	48999-69
36	Front End Plate Motor Assembly (includes items 27 thru 36)	48999-38	82	Coupling (includes item 83)	48999-70
	for models SLE16A-20-Q	48999-209	83	Screw (2 req'd)(included with item 82)	48999-71
	for models SLE17A-10-Q and SLE26A-7-Q	48999-204	84	Ring	48999-72
37	Pilot Rod (2.465" long)	48999-39	85	Cover	48999-73
38	Armature Fan	48999-40	86	Spring	
39	Sun Gear	48999-105	87	Sleeve	
40	Pilot Rod (.385" long)	48999-42	88	Retaining Ring	
41	Retaining Ring		89	Ball (2 req'd) Sleeve Assembly (includes items 86 thru 89)	48999-207
42	Carrier Seat		90	Washer	48999-9
43	Ring Gear (includes items 41 and 42)	48999-106	91	Screw	48999-8
			92	Wire Assembly (includes items 90 and 91)	48999-7
			93	Cord	48999-6

WIRING DIAGRAMS



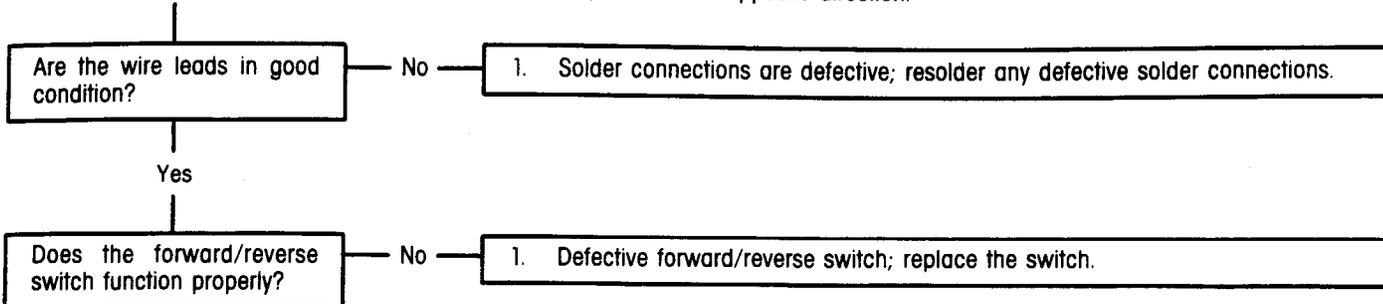
TROUBLE SHOOTING GUIDE

1. Screwdriver fails to rotate (forward or reverse).

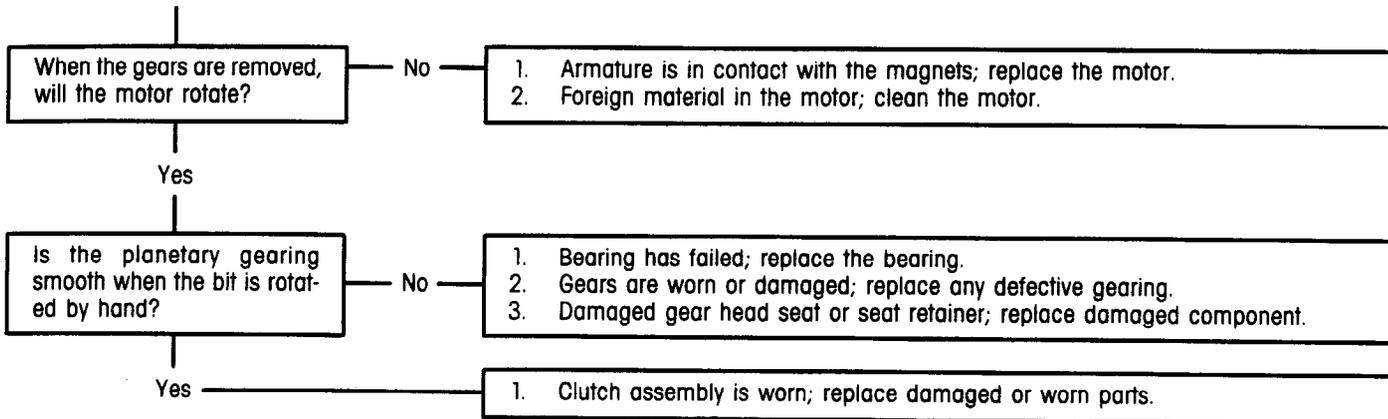


TROUBLE SHOOTING GUIDE

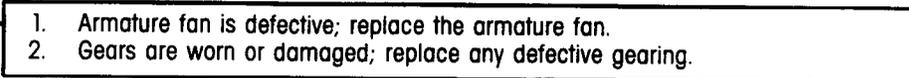
2. Screwdriver operates in one direction but will not operate in the opposite direction.



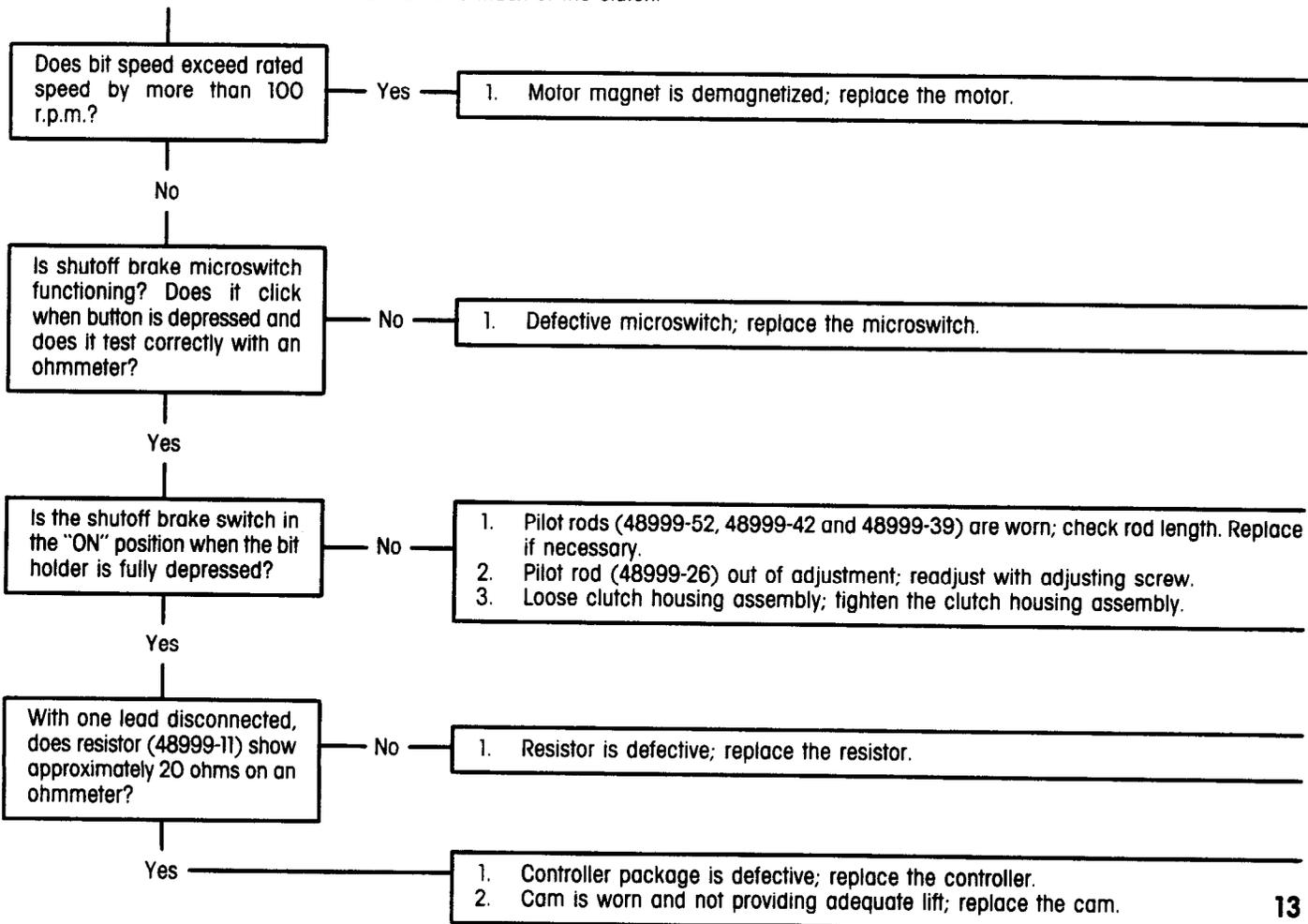
3. Bit does not rotate but motor hums.



4. Motor runs but the bit fails to rotate.



5. Shutoff brake malfunctions more than one index of the clutch.

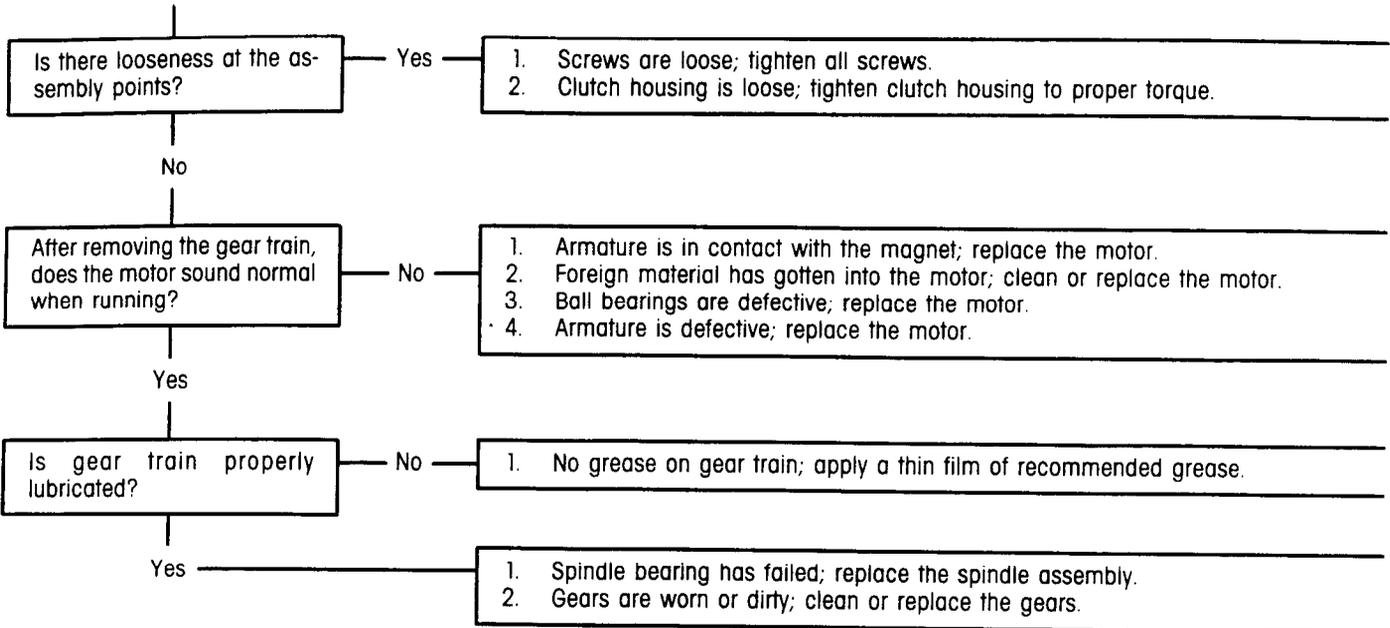


TROUBLE SHOOTING GUIDE

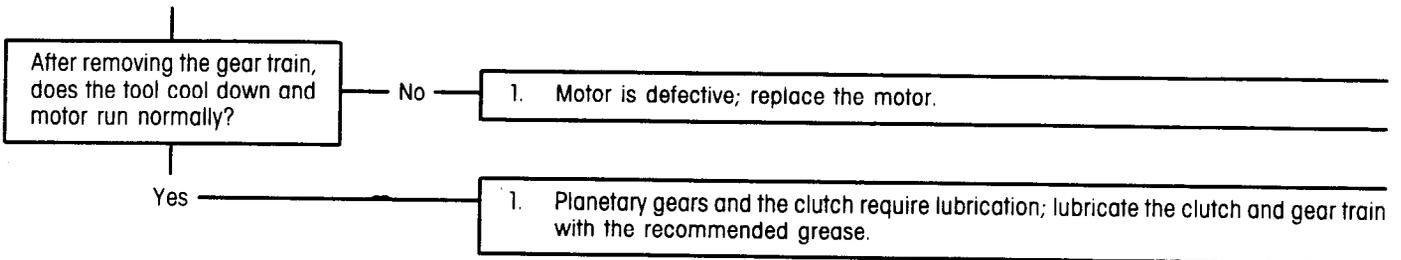
6. Bit holder cannot be depressed.

1. Bit holder is defective; repair or replace the bit holder.
2. Retaining ring on bit holder has been lost or is out of position.

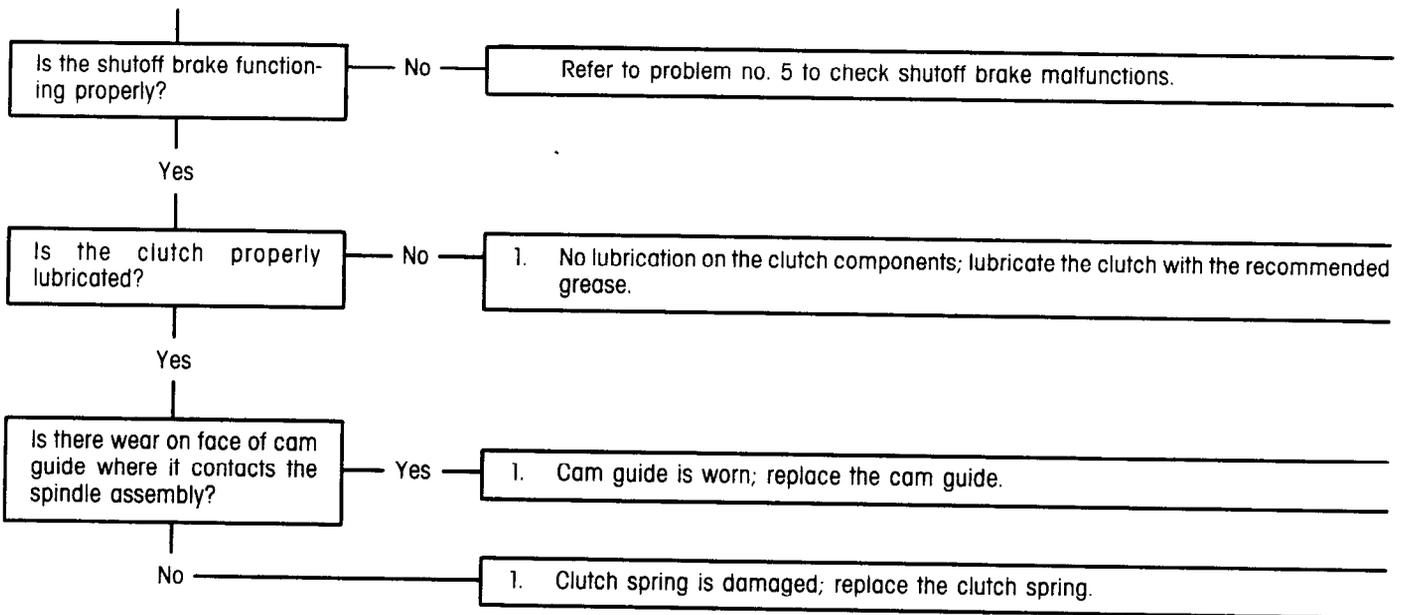
7. Tool makes abnormal sounds when the motor is running.



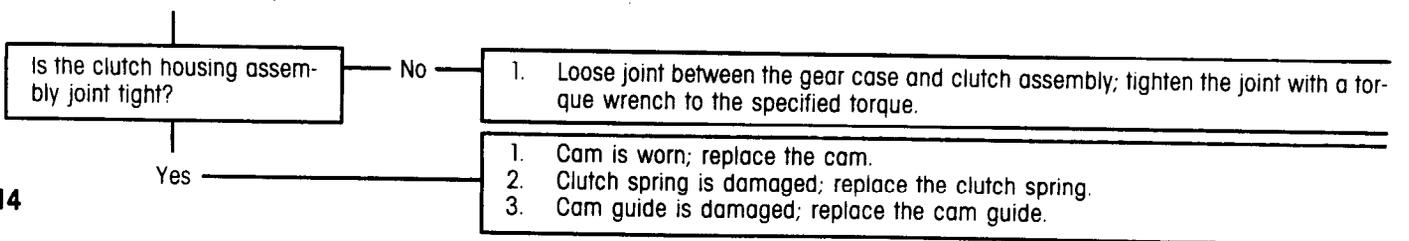
8. Tool generates abnormal heat when operating.

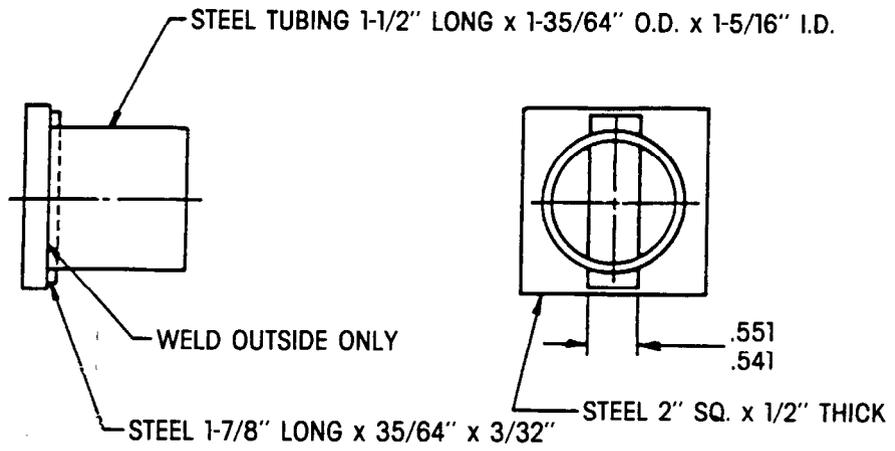


9. Tool outputs high torque.



10. Tool outputs low torque.







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