KANGO®

845S

Date Code
0001L2001

GB

9800 0332 01 a

General

For best performance hammers should be serviced at regular intervals, any indication that the hammer is not performing as specified should be investigated to prevent any adverse damage occuring.

ALL SEALS, GASKETS, GREASE OR OTHER PARTS DEEMED NECESSARY FOR SERVICING ARE IN THE SERVICE KIT.

ALL NEEDLE ROLLER BEARINGS SHOULD BE PRESSED WITH THE ROUNDED EDGE ENTERING THE BORE FIRST, AND THE PRESS TOOL PRESSING AGAINST THE FLAT SURFACE OF THE BEARING.

Cleaning

All mechanical parts with the exception of any sealed bearings should be cleaned in a suitable cleaning fluid. Electrical parts should be cleaned by the use of compressed air. PRECAUTIONS MUST BE TAKEN FOR PERSONAL SAFETY THE USE OF EYE PROTECTION AND GLOVES IS RECOMMENDED.

Inspection

All mechanical and electric parts should be inspected for wear and replaced as required.

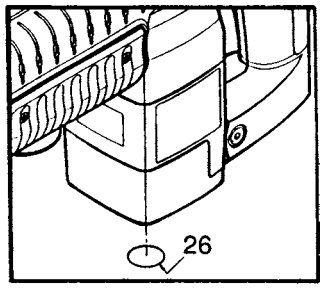
WARRANTY AND LIABILITY STATEMENT

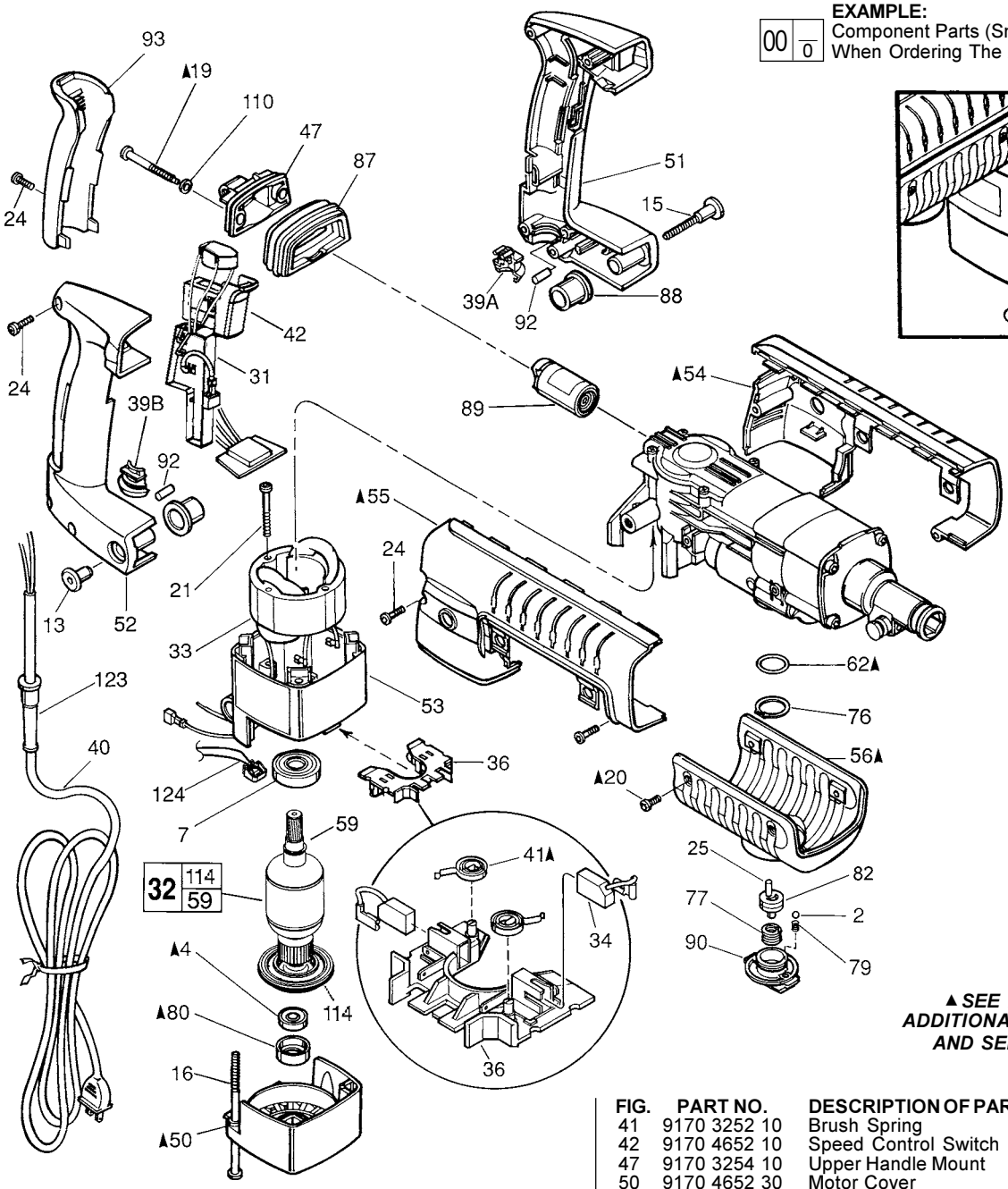
Use only Authorized parts. Any damage or malfunction caused by the use of unauthorized parts is not covered by Warranty or Product Liability.

SERVICE TOOLS

All repairs may be completed with standard workshop tools and equipment.

EXAMPLE:
00 | 0 — Component Parts (Small #) Are Included When Ordering The Assembly (Large #).

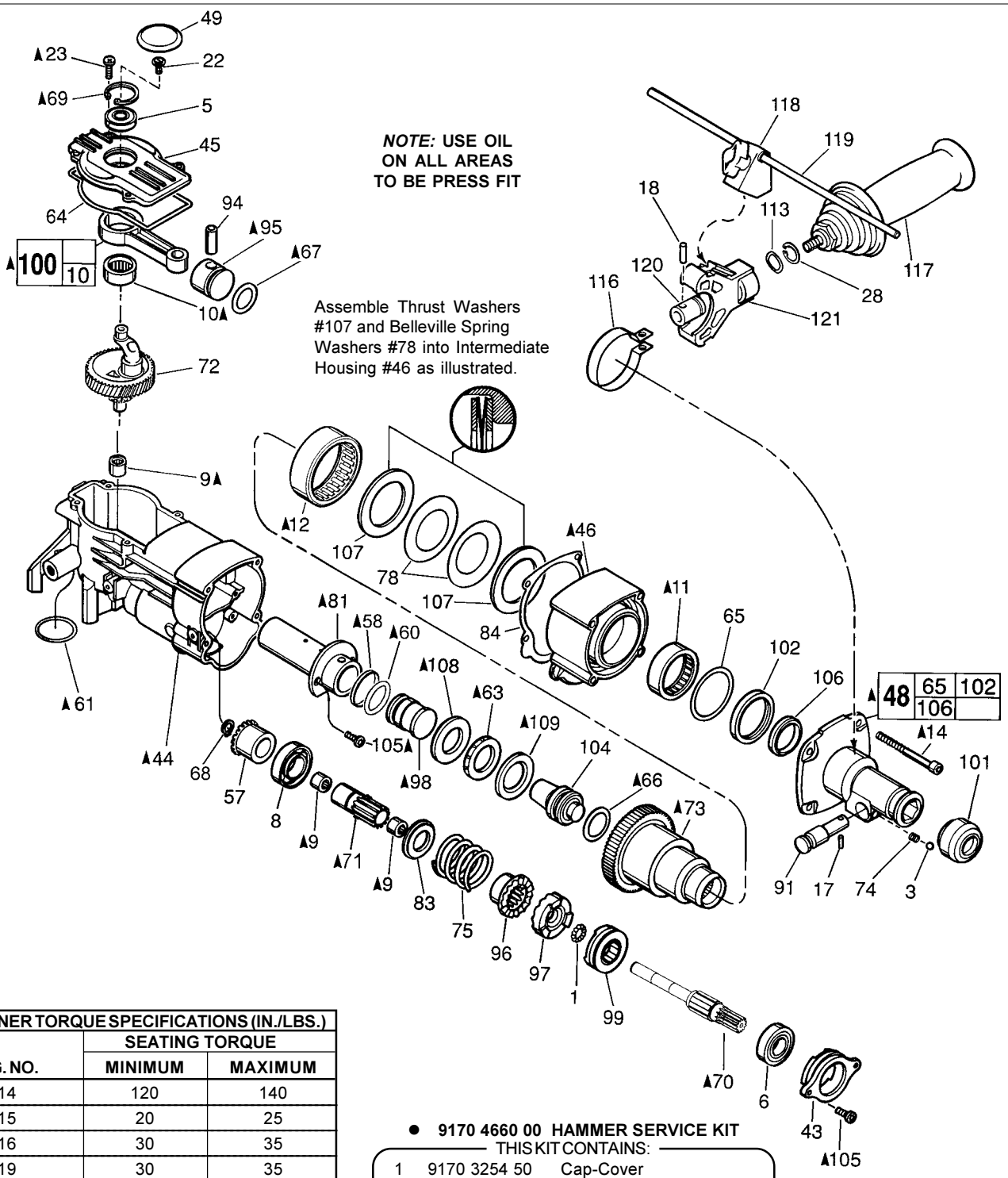




▲ *SEE PAGE 5 FOR ADDITIONAL LUBRICATION AND SERVICE NOTES*

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
2	9170 4667 30	5 mm Steel Ball	(2)
4	9170 3251 20	Ball Bearing	(1)
7	9170 3251 60	Ball Bearing	(1)
13	9170 3253 10	Pivot Nut	(1)
15	9170 3252 90	Pivot Bolt	(1)
16	9170 3251 00	M6 x 1.0 x 120 Pan Hd. Slt. Tapt. T-27	(4)
19	9170 3253 90	Special Screw	(2)
20	9170 3250 10	8-32 x 3/8" Pan Hd. Slt. Tapt. T-20	(4)
21	9170 3251 90	8-16 x 2" Pan Hd. Slt. Plast. T-20	(2)
24	9170 3252 50	M5 x 2.24 x 18 Pan Hd. Slt. PT T-20	(7)
25	9170 4650 10	Dowel Pin-Knurled	(1)
26	9170 4652 70	Round Label	(1)
31	9170 4650 60	Electronics Assembly	(1)
32	9170 4650 80	120 Volt Armature	(1)
33	9170 4651 70	120 Volt Field	(1)
34	9170 3237 20	120 V Carbon Brush (2) Kit	(1)
36	9170 3252 00	Brush Carrier Assembly	(1)
39A	9170 3253 50	Lower Cord Clamp	(1)
39B	9170 4665 60	Upper Cord Clamp	(1)
40	9170 4651 90	Cord Set	(1)

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
41	9170 3252 10	Brush Spring	(2)
42	9170 4652 10	Speed Control Switch	(1)
47	9170 3254 10	Upper Handle Mount	(1)
50	9170 4652 30	Motor Cover	(1)
51	9170 4656 80	Left Handle Half	(1)
52	9170 4657 60	Right Handle Half	(1)
53	9170 4658 40	Motor Housing	(1)
54	9170 4659 40	Left Shroud	(1)
55	9170 4659 50	Right Shroud	(1)
56	9170 4659 90	Belly Shroud	(1)
59	9170 3251 50	Retaining Ring	(1)
62	9170 3250 80	O-Ring	(1)
76	9170 3250 70	Retaining Ring	(1)
77	9170 3250 50	Torsion Spring	(1)
79	9170 3250 30	Compression Spring	(2)
80	9170 3251 10 ●	Bearing Cup	(1)
82	9170 4660 20	Shift Disk	(1)
87	9170 3254 20	Isolation Bellows	(1)
88	9170 3253 00	Pivot Isolator	(2)
89	9170 3254 30	Isolation Module Assembly	(1)
90	9170 3250 20	Rotostop Knob	(1)
92	9170 3253 30	Foam Slug Kit (Bag of 10)	(1)
93	9170 3252 60	Handle Cushion	(1)
110	9170 3254 00	Rubber Washer	(2)
114	9170 4660 90	Fan	(1)
123	9170 3253 80	Cord Protector	(1)



FASTENER TORQUE SPECIFICATIONS (IN./LBS.)			
		SEATING TORQUE	
FIG. NO.		MINIMUM	MAXIMUM
14		120	140
15		20	25
16		30	35
19		30	35
20		25	30
21		20	25
22		25	30
23	CRANKCASE COVER	25	30
24	HANDLE HALVES AND SHROUDS	20	25
	CUSHION GRIP	6	10
	105	60	70

9170 3237 20 CARBON BRUSH SERVICE KIT

THIS KIT CONTAINS:

2	----------	Carbon Brush

● **9170 4660 00 HAMMER SERVICE KIT**

THIS KIT CONTAINS:

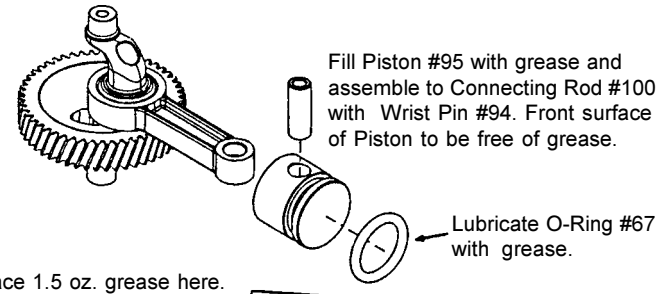
1	9170 3254 50	Cap-Cover
1	9170 3261 00	Rubber Damping Washer
1	9170 3255 00	Seal-Cover
1	9170 4664 60	O-Ring
1	9170 3255 50	O-Ring
1	9170 4662 90	Cap Seal
1	9170 4664 40	O-Ring
1	9170 4665 50	O-Ring
1	9170 3251 10	Bearing Cup
1	9170 3261 40	Gasket
1	9170 4672 30	Dust Seal - Hex
1	9170 4672 40	Dust Seal - Round
1	9170 4672 50	7 Oz. Tube "S2" Grease
1	9170 3237 20	Carbon Brush Service Kit

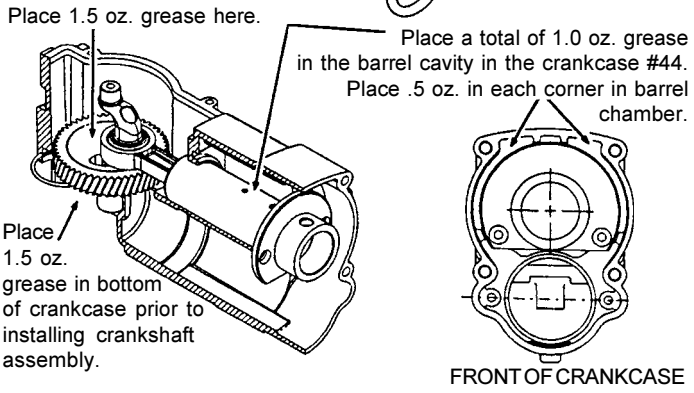
▲*SEE PAGE 5 FOR ADDITIONAL LUBRICATION AND SERVICE NOTES*

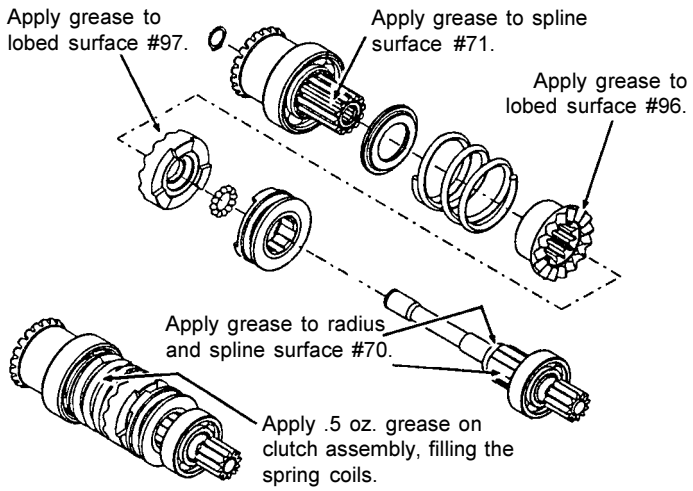
FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	9170 3256 50	1/8" Steel Ball	(12)
3	9170 4661 10	1/4" Steel Ball	(1)
5	9170 3254 90	Ball Bearing	(1)
6	9170 3256 20	Ball Bearing	(1)
8	9170 3257 20	Ball Bearing	(1)
9	9170 3255 70	Needle Bearing	(3)
10	9170 3255 20	Needle Bearing	(1)
11	9170 3260 00	Needle Bearing	(1)
12	9170 3260 30	Needle Bearing	(1)
14	9170 4661 90	M6 x 1.0 x 70 Skt. Hd. Cap Scr. T-27	(4)
17	9170 4662 00	Cross Pin	(1)
18	9170 3258 10	Dowel Pin	(1)
22	9170 3254 60	8-32 x 3/8" Pan Hd. Slt. Taptite T-20	(1)
23	9170 3254 70	M4 x 0.7 x 14 Pan Hd. Slt. Taptite T-20	(4)
28	9170 3257 80	External Retaining Ring	(1)
43	9170 3255 90	Bearing Retainer	(1)
44	9170 4662 10	Crankcase	(1)
45	9170 3254 40	Crankcase Cover	(1)
46	9170 4662 30	Intermediate Housing	(1)
48	9170 4662 50	Nose Assembly	(1)
49	9170 3254 50 ●	Cap-Cover	(1)
57	9170 3257 30	Bevel Gear	(1)
58	9170 4662 90 ●	Cap Seal	(1)
60	9170 4664 40 ●	O-Ring	(1)
61	9170 3255 80	O-Ring	(1)
63	9170 3261 00 ●	Rubber Damping Washer	(1)
64	9170 3255 00 ●	Seal-Cover	(1)
65	9170 4664 60 ●	O-Ring	(1)
66	9170 3255 50 ●	O-Ring	(1)
67	9170 4665 50 ●	O-Ring	(1)
68	9170 3257 40	Retaining Ring	(1)
69	9170 3254 80	Retaining Ring-Beveled	(1)
70	9170 4665 70	Clutch Shaft	(1)
71	9170 3257 10	Hollow Clutch Shaft	(1)
72	9170 3255 60	Crankshaft Assembly	(1)
73	9170 4666 20	Spindle	(1)
74	9170 4666 80	Bit Lock Spring	(1)
75	9170 3256 80	Compression Spring	(1)
78	9170 3260 20	Belleville Spring	(2)
81	9170 4667 40	Barrel	(1)
83	9170 3256 90	Spring Flange	(1)
84	9170 3261 40 ●	Gasket	(1)
91	9170 4667 50	Bit Lock	(1)
94	9170 4661 60	Wrist Pin	(1)
95	9170 4667 60	Piston	(1)
96	9170 3256 70	Splined Clutch Plate	(1)
97	9170 3256 60	Fixed Clutch Plate	(1)
98	9170 4667 70	Ram	(1)
99	9170 3256 40	Shift Ring	(1)
100	9170 3255 10	Connecting Rod Assembly	(1)
101	9170 4667 80 ●	Dust Seal-Hex (5/pkg.)	(1)
	9170 4667 90 ●	Dust Seal-Round (5/pkg.)	(1)
102	9170 4663 00	Oil Seal	(1)
104	9170 4668 00	Striker	(1)
105	9170 4668 10	DG50 x 16mm Torx Pan Head Screw	(4)
106	9170 4664 20	Felt Seal	(1)
107	9170 3260 10	Thrust Washer	(2)
108	9170 3261 10	Barrel Thrust Washer	(1)
109	9170 3260 90	Striker Cushion Washer	(1)
113	9170 3257 90	Wave Washer	(1)
115	9170 4651 60	Hex Head Bolt-Special	(1)
116	9170 4668 20	Side Handle Band	(1)
117	9170 3257 70	Side Handle Assembly	(1)
118	9170 4666 30	Depth Rod Mount Assembly	(1)
119	9170 3257 60	Depth Gauge Rod	(1)
120	9170 3258 20	Band Retainer	(1)
121	9170 4668 40	Side Handle Housing	(1)
	9170 4668 50	Nose Service Tool	

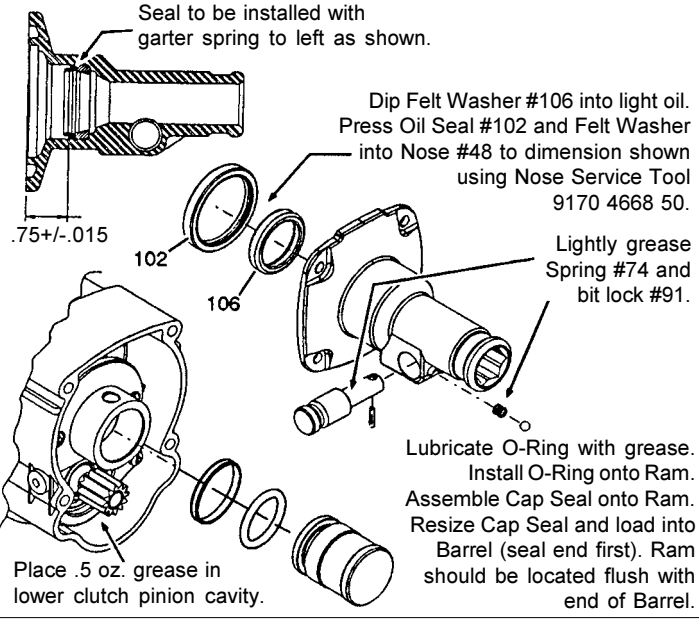
SERVICE CARRYING CASE
No. 9170 4667 20

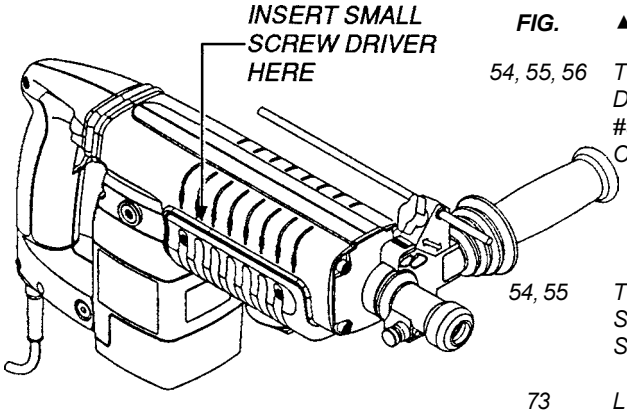
LUBRICATION NOTES: ***(TYPE "S2" GREASE, NO. 9170 4664 70)***

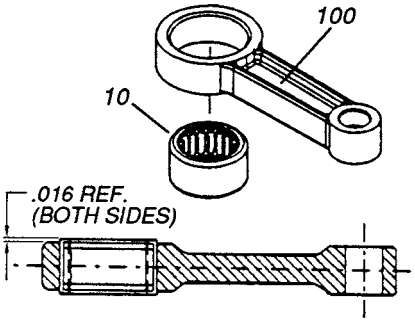












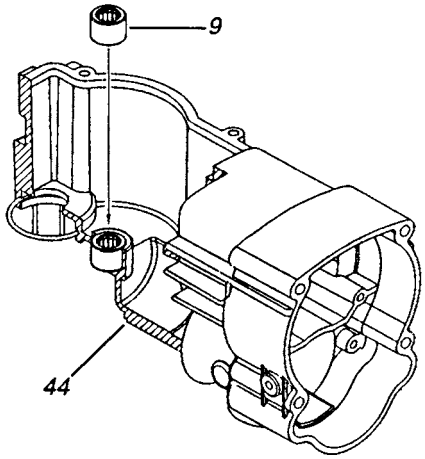
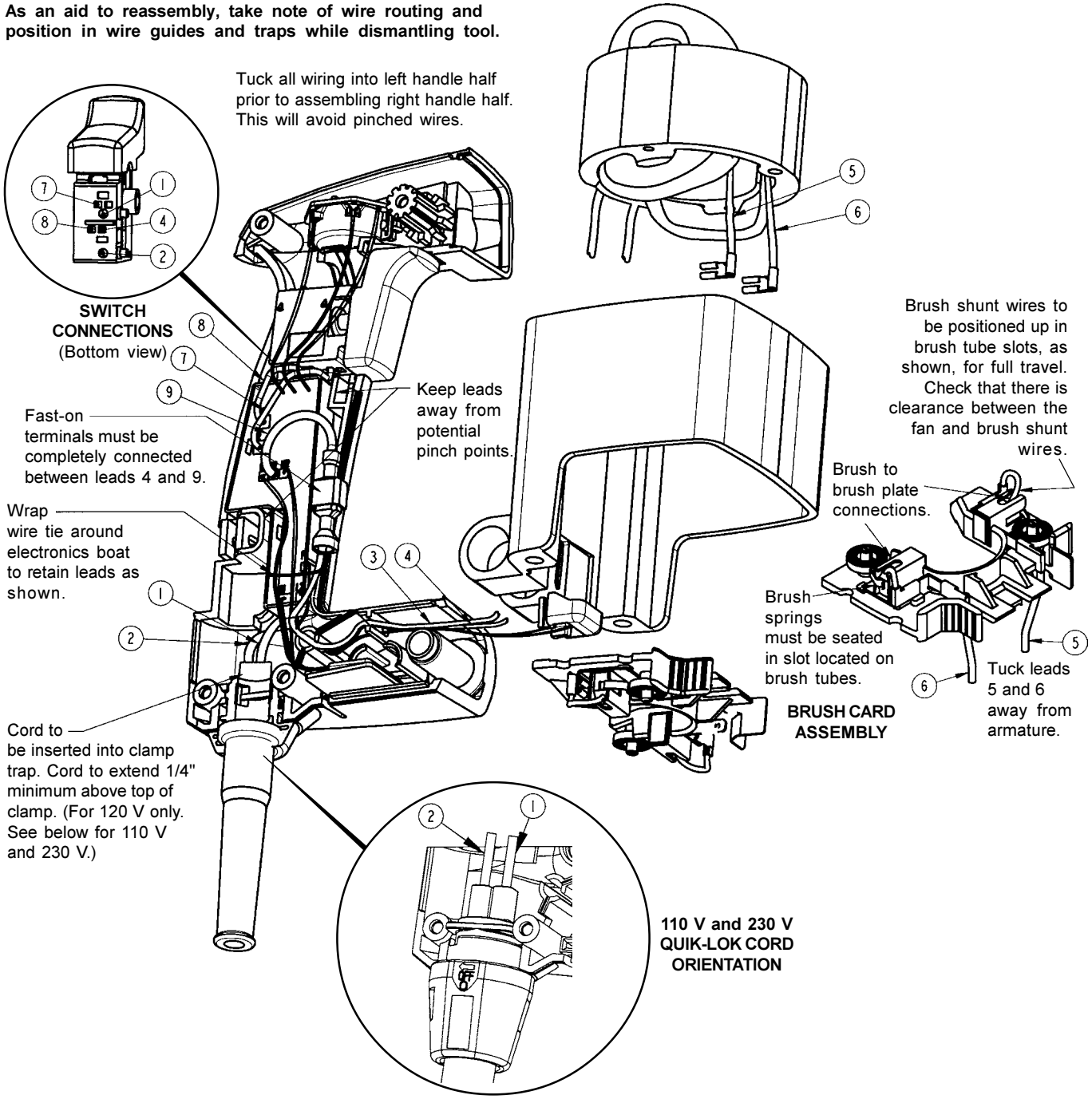
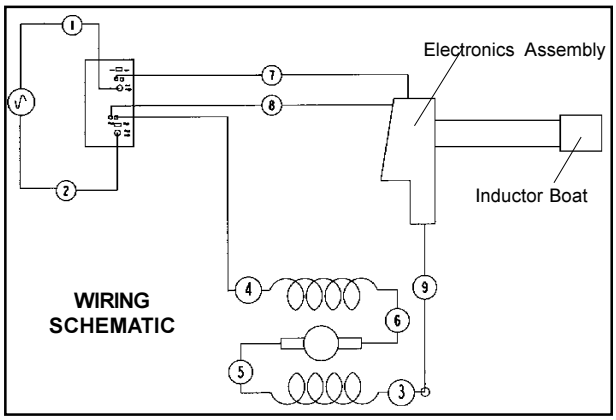


FIG.	▲NOTES
54, 55, 56	TO REMOVE BELLY SHROUD #56 FROM TOOL, INSERT SMALL SCREW DRIVER INTO GROOVE BETWEEN BELLY AND SIDE SHROUDS #54 AND #55, ABOUT 1/3 OF THE WAY FROM THE MOTOR END, AS SHOWN. PRY OUT AND DOWN ON BOTH SIDES OF THE TOOL.
54, 55	TO INSTALL THE SIDE SHROUDS #54 AND #55, THE TOP HINGE OF THE SHROUDS MUST BE COMPLETELY INTERLOCKED, THEN THE BACK SIDE ROTATED CLOSED AROUND THE TOOL.
73	LUBRICATE ALL BORES IN SPINDLE #73 WITH A MEDIUM COATING OF GREASE.
63, 108, 109	LUBRICATE RUBBER DAMPING WASHER #63, BARREL THRUST WASHER #108 AND STRIKER CUSHION WASHER #109 WITH A MEDIUM COATING OF GREASE BEFORE ASSEMBLY.
10, 100	PRESS NEEDLE BEARING #10 IN ROD #100 SO THAT THE SAME AMOUNT STICKS OUT ON BOTH SIDES OF THE ROD, AS SHOWN.
9, 71	PRESS (2) NEEDLE BEARINGS #9 INTO HOLLOW CLUTCH SHAFT #71, FLUSH WITH THE ENDS OF THE SHAFT.
11, 12, 46	PRESS NEEDLE BEARINGS #11 AND #12 FLUSH TO THE MACHINED FACES ON BOTH ENDS OF THE INTERMEDIATE HOUSING #46.
9, 44	PRESS NEEDLE BEARING #9 INTO CRANKCASE #44, FLUSH WITH TOP OF BORE, AS SHOWN.
81	LIGHTLY GREASE INSIDE OF BARREL #81 BEFORE ASSEMBLY.
48, 73	SMALL OUTSIDE DIAMETER OF SPINDLE #73 IS TO BE LUBRICATED WITH A LIGHT COAT OF GREASE BEFORE ASSEMBLING THE NOSE ASSEMBLY #48 TO THE TOOL.
48, 73, 102	NOSE ASSEMBLY #48 MUST BE PLACED SQUARELY OVER SPINDLE #73, WHEN ASSEMBLING, TO PREVENT DAMAGE TO OIL SEAL #102.
14, 19, 20, 23	FASTENERS #14, #19, #20 AND #23 ARE TO BE RE-ASSEMBLED USING BLUE LOCTITE.
48, 102	LUBRICATE BORE IN NOSE ASSEMBLY #48 BEFORE PRESSING OIL SEAL #102 INTO PLACE.
60, 61, 62, 66, 67	LUBRICATE O-RINGS #60, #61, #62, #66 AND #67 WITH GREASE.
69	INSTALL BEVEL SNAP RING #69 WITH BEVEL SIDE UP.
4, 50, 80	PLACE BEARING CUP #80 ON SMALL ARMATURE BEARING #4 BEFORE INSTALLING MOTOR COVER #50.
41	BRUSH SPRINGS #41 ARE TO BE WOUND 1/2 TURN TO ENGAGE BRUSHES.
4	RUBBER SEAL SIDE OF BALL BEARING #4 TO FACE FAN.
95, 98	FACES OF PISTON #95 AND RAM #98 ARE TO BE FREE OF GREASE.
105	WHEN REASSEMBLING BARREL AND CLUTCH SCREWS INTO EXISTING CRANKCASE, MAKE SURE SCREW IS STARTED IN EXISTING THREAD. DO NOT CREATE TWO SETS OF THREADS IN ONE HOLE.

As an aid to reassembly, take note of wire routing and position in wire guides and traps while dismantling tool.



WIRING SPECIFICATIONS					
Wire No.	Wire Color 110 V	120 V	230 V	Origin or Part No.	Connection
1	Blue	White	Blue	Cord	Switch
2	Brown	Black	Brown	Cord	Switch
3	Red	Red	Red	Field	Lead 9
4	Red	Red	Red	Field	Switch
5	Yellow	Yellow	Yellow	Field	Brush Holder
6	Black	Black	Black	Field	Brush Holder
7	White	White	White	Motor Control Assy.	Switch
8	Black	Black	Black	Motor Control Assy.	Switch
9	Black	Blue	Red	Motor Control Assy.	Lead 3



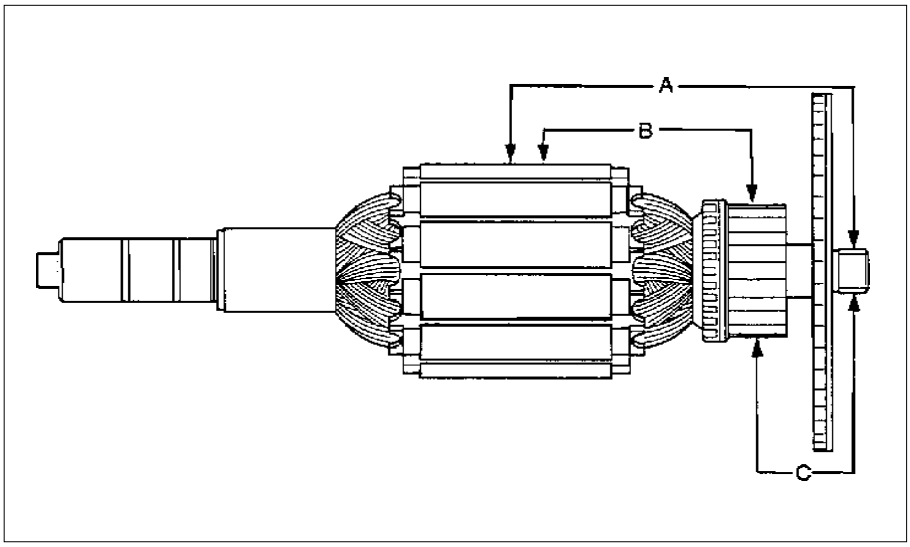
ELECTRICAL TESTING

Electrical test

Before assemby all electrical parts MUST be checked for safety, and that they conform to specification.

Testing the Armature (Flash Testing)

A	Armature shaft to lamination pack	1500 Volts (min)
B	Lamination pack to commutator	1200 Volts (min)
C	Armatuure shaft to commutator	3000 Volts (min)



ELECTRICAL PERFORMANCE TEST READINGS

ARMATURES			
MODEL	**110V**	**120V**	**220V-240V**
845S	.440/.506 Ohms	.440/.506 Ohms	1.283/1.477 Ohms
FIELD COILS			
845S	**110V**	**120V**	**220V-240V**
	.349/.401 Ohms	.349/.401 Ohms	1.339/1.54 Ohms
PERFORMANCE			
Running No Load			
845S	**110V**	**120V**	**220V-240V**
	4.5/6.5 Amps	4.5/6.5 Amps	2.9/4.4 Amps

CLUTCH SLIP

Measured on disassembly/assembly 35/45ft lbs 47/61Nm. (Non Electrical Test)

Note: On all test readings + or -5% of figures shown is acceptable.

WARNING

LETHAL VOLTAGES PRESENT!!

IMPORTANT

On completion of the assembly, the unit must be flash tested at 4000 volts.

Flash Test

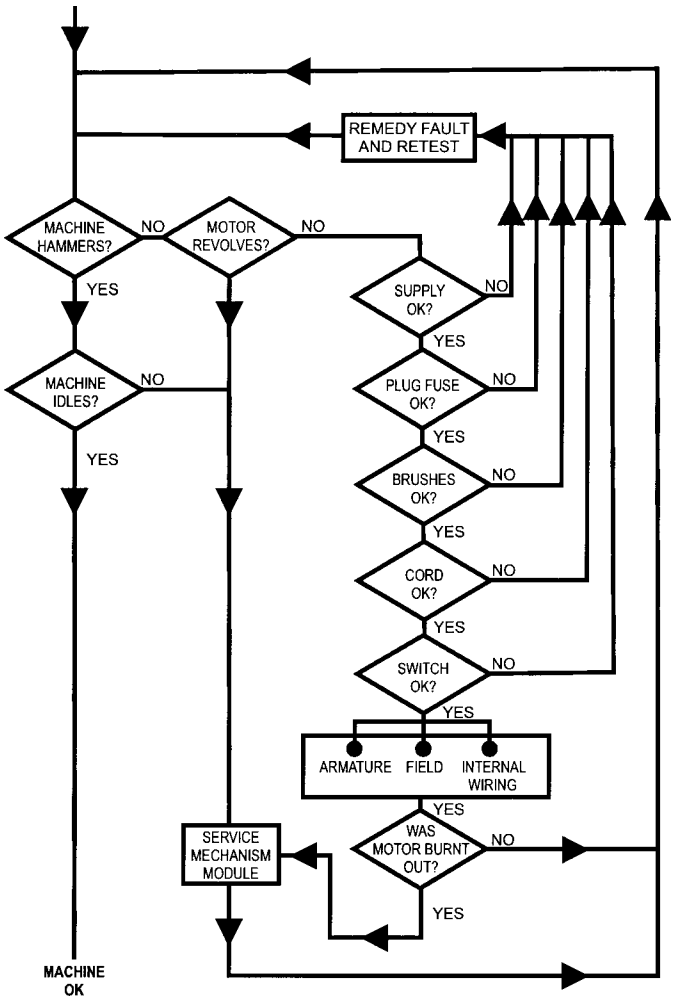
1. With the breaker completely assembled and with the switch "ON", apply 2000 volts initially and increase rapidly to 4000 volts between the main casting and one of the pins of the plug on the power supply cord. Apply test to both live and neutral pins.
2. The full voltage of 4000 volts should be maintained without breakdown or flashover for a few seconds.
3. If the armature has been tested, remove the carbon brushes before carrying out the test, (thus avoiding overstressing the armature insulation system).
4. The test voltage must be applied between the main casting and each live pin of the plug in succession.

Running Test

1. Ensure the unit is switched "ON" before testing. Operate the unit for approx. 10 minutes at half voltage for initial 'bedding in' of the carbon brushes followed by full operational voltage. Compare readings with Performance Data.

FAULT FINDING

With the aid of the Fault Finding chart (below) the source of any malfunction may be quickly identified and repaired.



KANGO®

Atlas Copco Berema AB, Sickla Industriväg 1A, S-105 23
Nacka Sweden
Telephone: +46 (0) 8 743 9600 Fax: +46 (0) 8 743 9650

9800 0332 01 a
54-24-0975 Drwg. 3
04/02