



840S

Date Code
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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 occurring.

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.

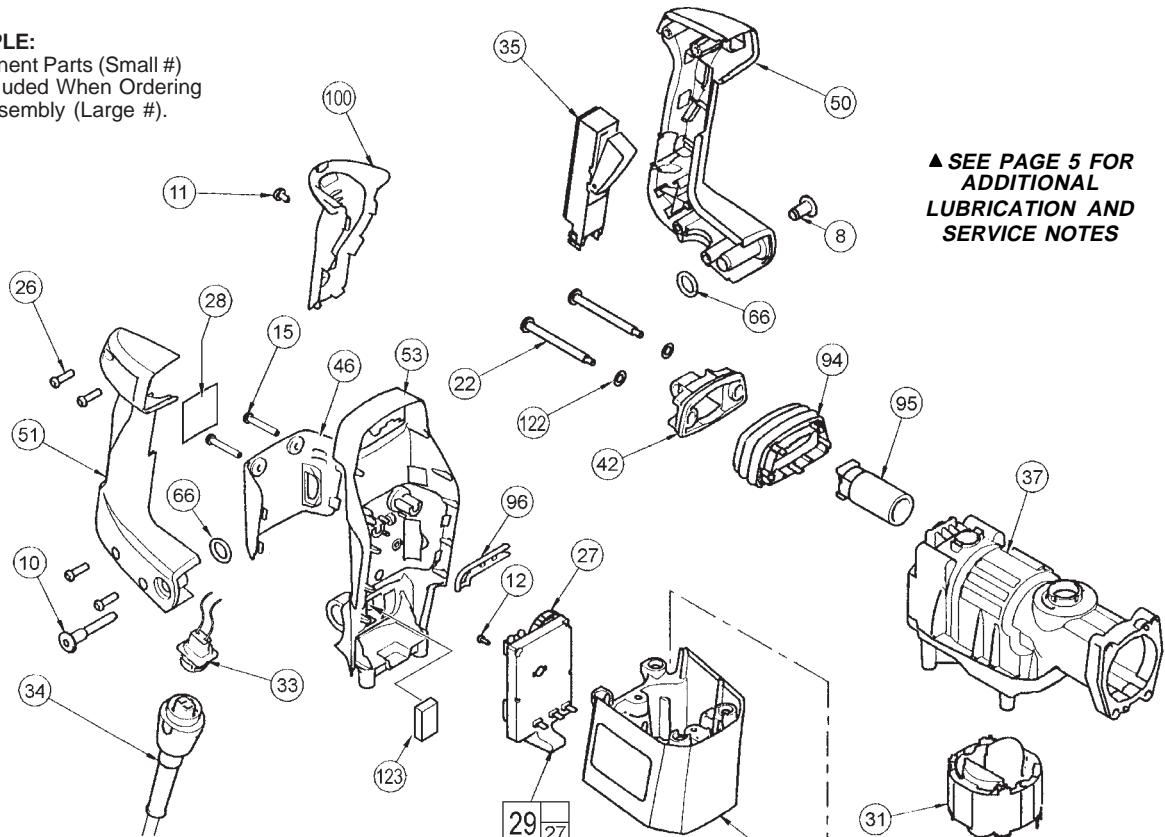
WARRANTY AND LIABILITY STATEMENT

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

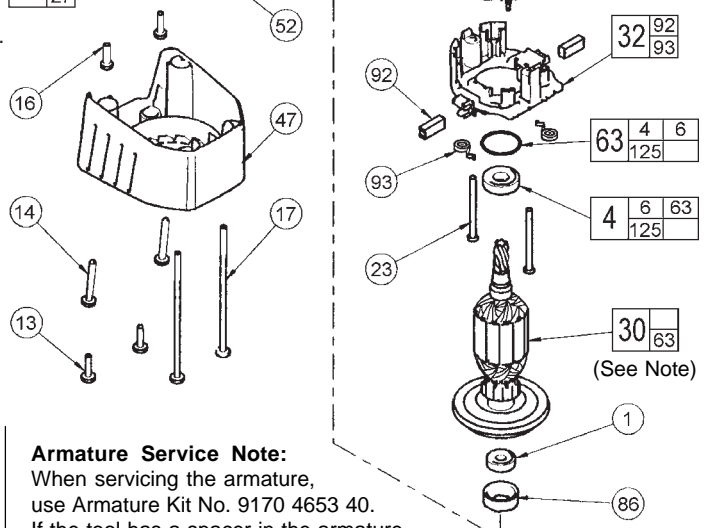
All repairs may be completed with standard workshop tools and equipment.

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



▲ SEE PAGE 5 FOR
 ADDITIONAL
 LUBRICATION AND
 SERVICE NOTES

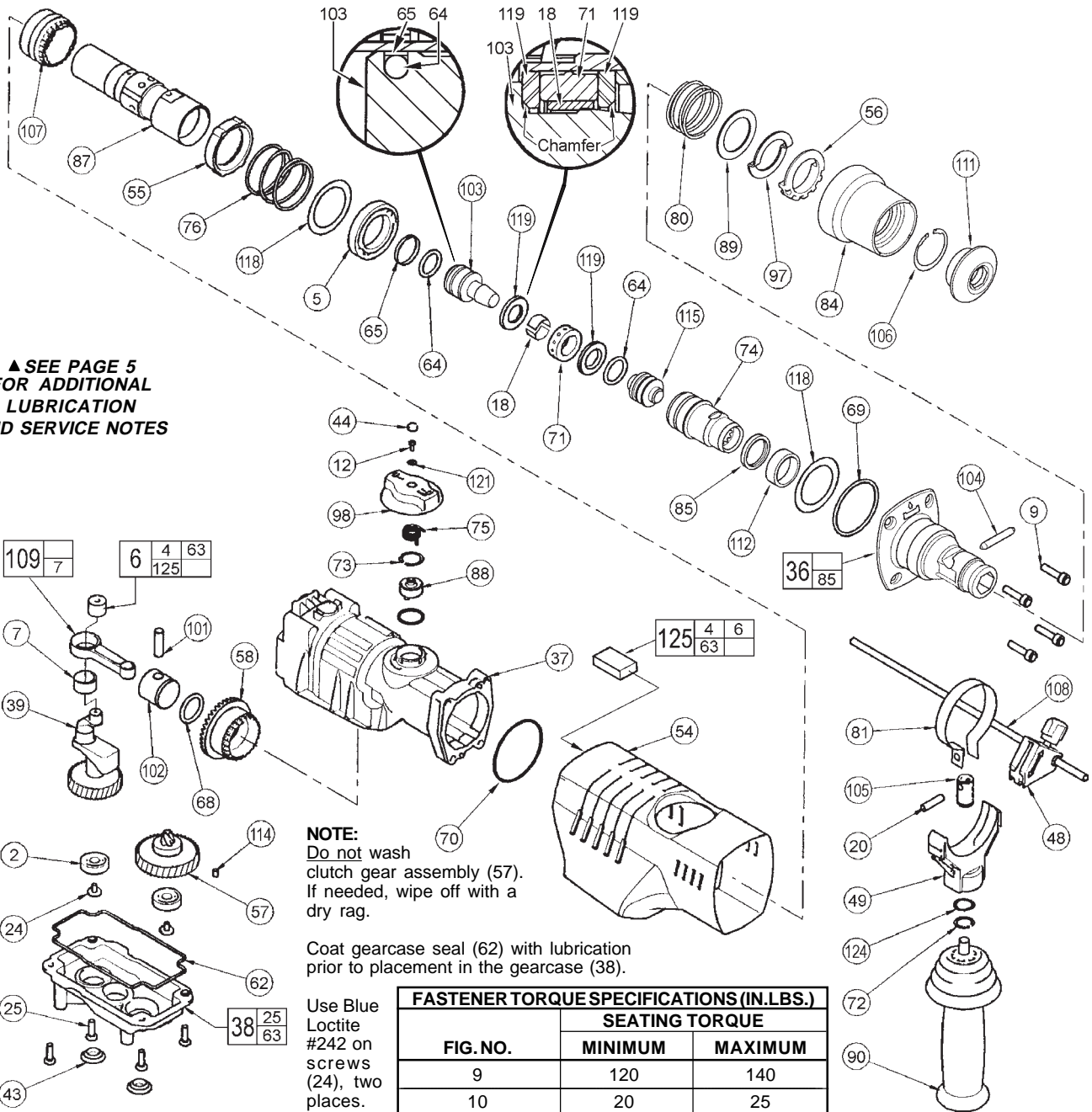
FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
1	9170 4650 00	Ball Bearing	(1)
4	9170 4672 80	Vent Kit	(1)
8	9170 3253 10	Pivot Nut	(1)
10	9170 3252 90	Pivot Bolt	(1)
11	9170 4650 90	K50 x 8mm Pan Hd. Plastite Screw	(1)
12	9170 4651 00	K35 x 8mm Pan Hd. Plastite Screw	(1)
13	9170 4651 10	K60 x 20mm Pan Hd. Plastite Screw	(2)
14	9170 4651 20	K60 x 40mm Pan Hd. Plastite Screw	(2)
15	9170 4651 30	K50 x 30mm Pan Hd. PT-DG Screw	(2)
16	9170 4651 40	K60 x 18mm Pan Hd. PT-DG Screw	(2)
17	9170 4651 50	K60 x 120mm Pan Hd. PT-DG Screw	(2)
22	9170 3253 90	Pan Hd. Cap Screw	(2)
23	9170 4652 00	Slotted Plastite Torx Screw	(2)
26	9170 3252 50	K50 x 18mm Pan Hd. Plastite Screw	(4)
27	9170 4666 00	Thumbwheel	(1)
28	9170 4665 90	Service Nameplate Kit	(1)
29	9170 4652 90	Electronics Assembly	(1)
30	9170 4653 40	Armature Kit (See Service Note)	(1)
31	9170 4653 60	Field	(1)
32	9170 4653 90	Brush Card Assembly	(1)
33	9170 4654 10	Blade Housing Assembly	(1)
34	9170 4668 30	Quik-Lok Cord Set	(1)
35	9170 4654 50	Switch	(1)
37	9170 4654 60	Crankcase Assembly	(1)
42	9170 4655 00	Upper Handle Mount	(1)
46	9170 4655 30	Module Cover	(1)
47	9170 4655 40	Motor Cover	(1)
50	9170 4655 70	Left Handle Half	(1)
51	9170 4655 90	Right Handle Half	(1)
52	9170 4656 10	Motor Housing	(1)
53	9170 4656 30	Rear Shroud	(1)
63	9170 4672 80	Vent Kit	(1)
66	9170 4657 80	O-Ring	(2)
86	9170 4673 20	Bearing Cup	(1)



Armature Service Note:

When servicing the armature, use Armature Kit No. 9170 4653 40. If the tool has a spacer in the armature bearing bore of the gearcase, remove the spacer and install O-Ring No. 9170 4673 00 into the empty groove. The O-Ring is provided in the kit.

FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
92	9170 4653 80	Carbon Brush Kit (Includes 2 Brushes)	(1)
93	9170 4666 10	Brush Spring	(2)
94	9170 4660 80	Bellows	(1)
95	9170 3254 30	Isolation Module Assembly	(1)
96	9170 4654 90	Light Pipe	(1)
100	9170 4661 40	Cushion Grip	(1)
122	9170 3254 00	Rubber Washer	(2)
123	9170 4662 80	Handle Seal	(1)



▲ SEE PAGE 5
FOR ADDITIONAL
LUBRICATION
AND SERVICE NOTES

NOTE:
Do not wash
clutch gear assembly (57).
If needed, wipe off with a
dry rag.

Coat gearcase seal (62) with lubrication
prior to placement in the gearcase (38).

Use Blue
Loctite
#242 on
screws (24), two
places.

● **9170 4672 00 HAMMER SERVICE KIT**
THIS KIT CONTAINS:

- 2 9170 4655 10 Cap Plug
- 1 9170 4657 40 Gearcase Seal
- 2 9170 3255 50 O-Ring
- 1 9170 4657 70 Cap Seal
- 1 9170 4658 00 O-Ring
- 1 9170 4658 20 O-Ring
- 1 9170 4673 00 O-Ring
- 1 9170 4658 30 Damping Washer
- 1 9170 4673 20 Bearing Cup
- 2 9170 4663 20 Split Sleeve
- 1 9170 4672 10 Carbon Brush
- 1 9170 4672 20 Carbon Brush
- 1 9170 4664 70 "S2" Grease - 7 oz. Tube

9170 4653 80 CARBON BRUSH SERVICE KIT
THIS KIT CONTAINS:

- 2 ----- Carbon Brush

FASTENER TORQUE SPECIFICATIONS (IN. LBS.)

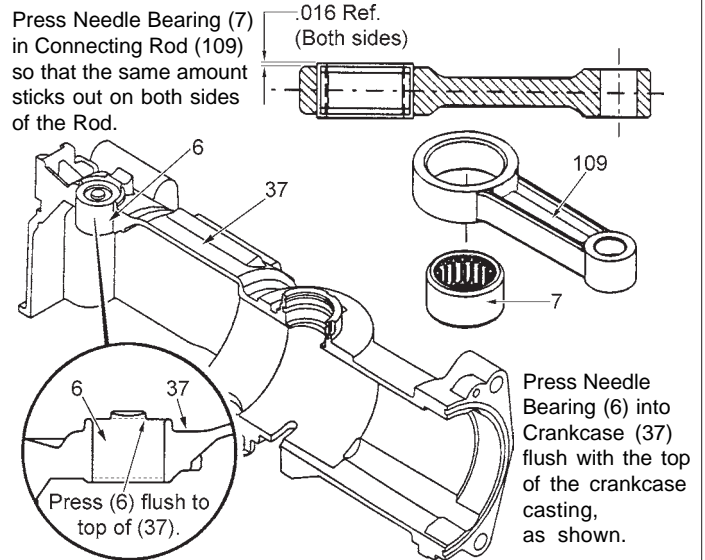
FIG. NO.	SEATING TORQUE	
	MINIMUM	MAXIMUM
9	120	140
10	20	25
11	3	6
12	4	8
13	20	25
14	20	25
15	20	25
16	50	55
17	30	35
22	30	35
23	15	20
24	20	25
25	50	55
26	15	20
74	130 FT. LBS.	200 FT. LBS.
87	130 FT. LBS.	200 FT. LBS.
Switch Screws	4	6

SERVICE GREASE-
"S2" Grease, 7 oz. tube
No. 9170 4664 70

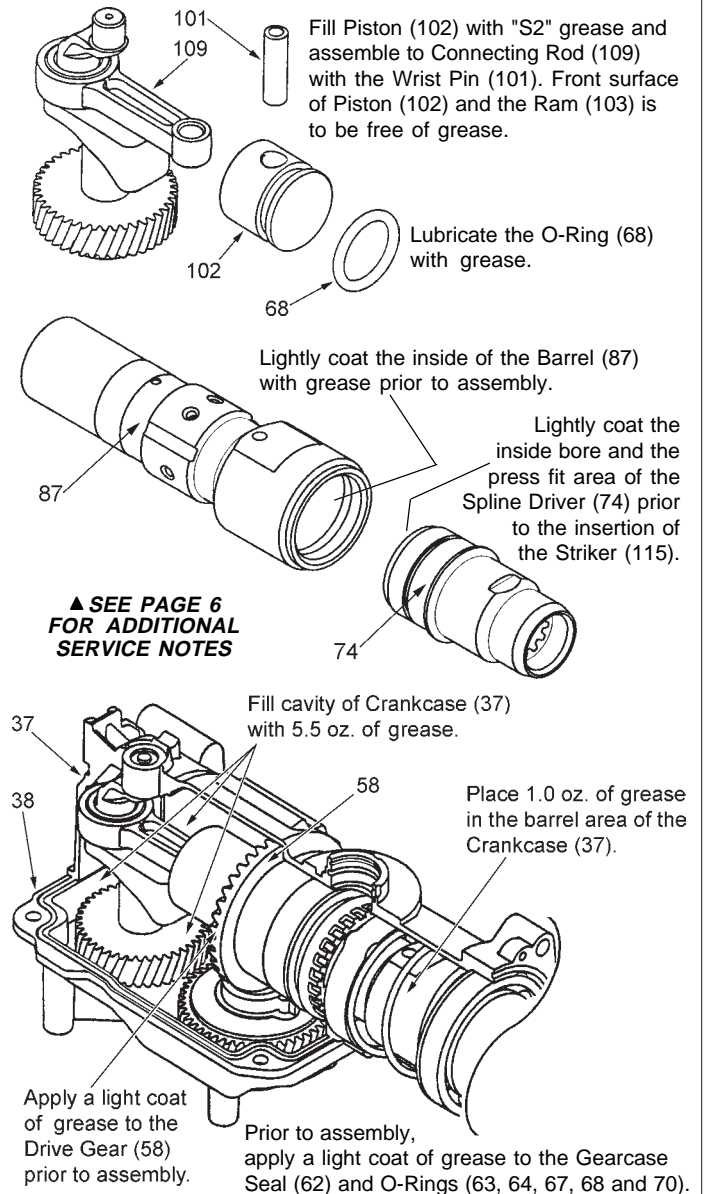
SERVICE CARRYING CASE
No. 9170 4669 30

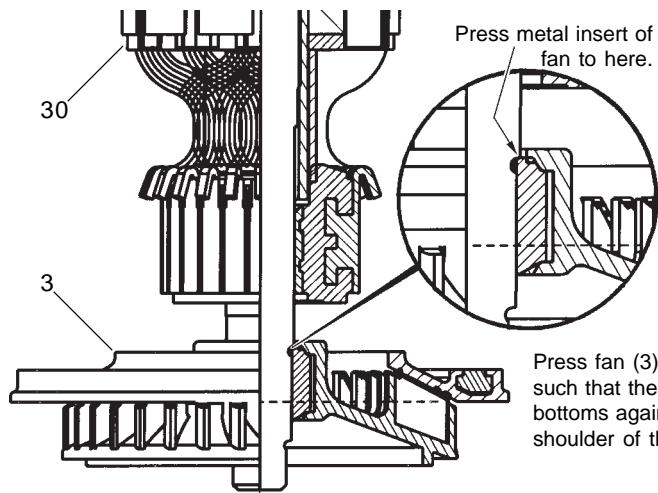
FIG.	PART NO.	DESCRIPTION OF PART	NO. REQ.
2	9170 3254 90	Ball Bearing	(2)
5	9170 4650 40	Ball Bearing	(1)
6	9170 4672 80	Vent Kit	(1)
7	9170 3255 20	Needle Bearing	(1)
9	9170 4650 70	M6 Socket Head Cap Screw	(4)
12	9170 4651 00	K35 x 8mm Pan Hd. Plastite Screw	(1)
18	9170 4663 20	Split Sleeve	(2)
20	9170 3258 10	Dowel Pin	(1)
24	9170 3254 60	Slotted Taptite Torx Screw	(2)
25	9170 4652 20	K50 x 22mm PT-DG Screw	(4)
36	9170 4673 30	Spline Nose Kit	(1)
37	9170 4654 60	Crankcase Assembly	(1)
38	9170 4671 70	Gearcase Service Kit	(1)
39	9170 4652 80	Crankshaft Assembly	(1)
43	9170 4655 10	● 5/8 Cap Plug	(2)
44	9170 4655 20	Screw Cap	(1)
48	9170 4666 30	Depth Rod Mount Assembly	(1)
49	9170 4655 60	Side Handle Housing	(1)
54	9170 4656 50	Main Shroud	(1)
55	9170 4656 70	Locking Ring	(1)
56	9170 4656 90	Spacer	(1)
57	9170 4666 40	Clutch Gear Assembly	(1)
58	9170 4657 10	Drive Gear	(1)
62	9170 4657 40	● Gearcase Seal	(1)
64	9170 3255 50	● O-Ring	(2)
65	9170 4657 70	● Capseal	(1)
67	9170 4657 90	O-Ring	(1)
68	9170 4658 00	● O-Ring	(1)
69	9170 4658 10	O-Ring	(1)
70	9170 4658 20	● O-Ring	(1)
71	9170 4658 30	● Damping Washer	(1)
72	9170 3257 80	External Retaining Ring	(1)
73	9170 4658 60	Retaining Ring	(1)
74	9170 4658 80	Spline Driver	(1)
75	9170 4659 00	Shift Spring	(1)
76	9170 4659 10	Compression Spring	(1)
80	9170 4658 90	Compression Spring	(1)
81	9170 4659 60	Side Handle Band	(1)
84	9170 4660 10	Chuck Collar	(1)
85	9170 4663 00	Oil Seal	(1)
87	9170 4660 30	Barrel	(1)
88	9170 4666 50	Shift Disk Assembly	(1)
89	9170 4663 90	Bitlock Washer	(1)
90	9170 3257 70	Side Handle Assembly	(1)
97	9170 4663 80	Stepped Washer	(1)
98	9170 4653 10	Shift Knob Assembly	(1)
101	9170 4661 60	Wrist Pin	(1)
102	9170 4661 70	Piston	(1)
103	9170 4661 80	Ram	(1)
104	9170 4661 50	Bitlock Pin	(1)
105	9170 3258 20	Band Retainer	(1)
106	9170 4658 50	Retaining Ring	(1)
107	9170 4662 20	Shift Ring	(1)
108	9170 3257 60	Depth Gauge Rod	(1)
109	9170 3255 10	Connecting Rod Assembly	(1)
111	9170 4662 70	Dust Seal	(1)
112	9170 4664 20	Felt Seal	(1)
114	9170 4663 30	Retaining Slug	(1)
115	9170 4663 50	Spline Striker	(1)
118	9170 4664 00	Washer	(2)
119	9170 4664 10	Barrel Washer	(2)
121	9170 4664 30	Washer	(1)
124	9170 3257 90	Wave Washer	(1)
125	9170 4672 80	Vent Kit	(1)

NOTE: Check the clutch torque. Clutch must slip at 40 to 50 ft.lbs. at the spindle, checked clockwise as viewed from the front of the tool.

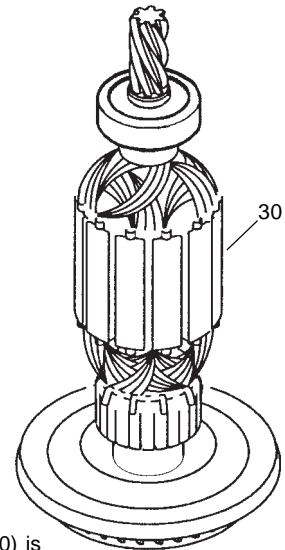


LUBRICATION NOTES: (TYPE "S2" GREASE, NO. 9170 4664 70)





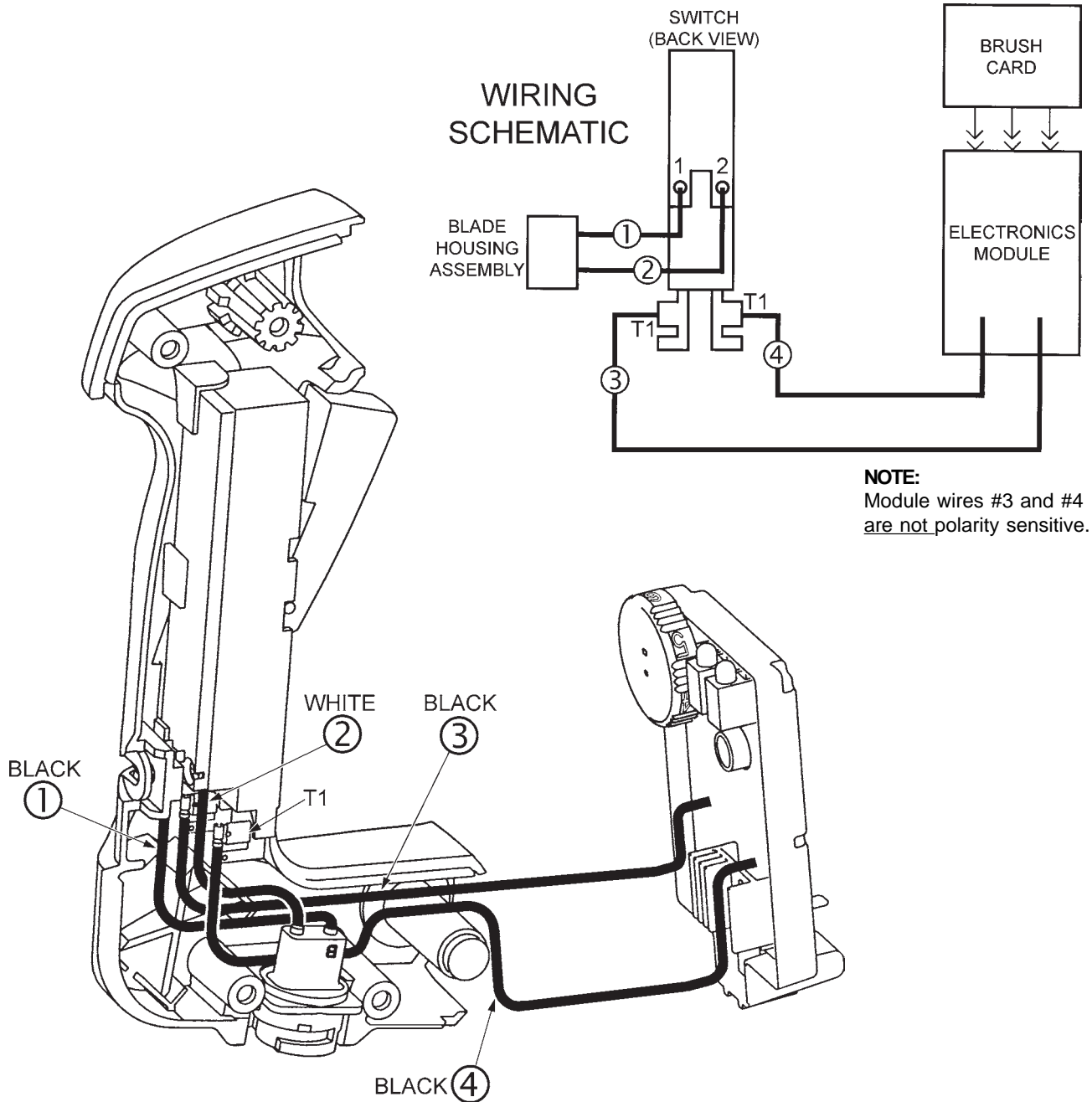
Press fan (3) onto armature (30) such that the metal insert of the fan bottoms against the fan journal shoulder of the armature shaft.



After the armature assembly (30) is installed into the tool, the bearing cup (86) is to be placed on the rear armature bearing (1), (already pressed onto the armature shaft), prior to assembling the motor cover (47) to the tool.



NOTE: Do not dislodge the bearing cup from the bearing during assembly.



WIRING SPECIFICATIONS				
Wire No.	Wire Color	Origin or Gauge	Length	Terminals, Connectors and 1 or 2 End Wire Preparation
1	Black	Blade Hsg.	-----	Component of blade housing assembly.
2	White	Blade Hsg.	-----	Component of blade housing assembly.
3	Black	Elect. Mod.	-----	Component of electronics module. Strip 1/4" for T1.
4	Black	Elect. Mod.	-----	Component of electronics module. Strip 1/4" for T1.

TERMINAL DESCRIPTION		
Code	Part No.	Qty.
T1	9170 4666 90	2

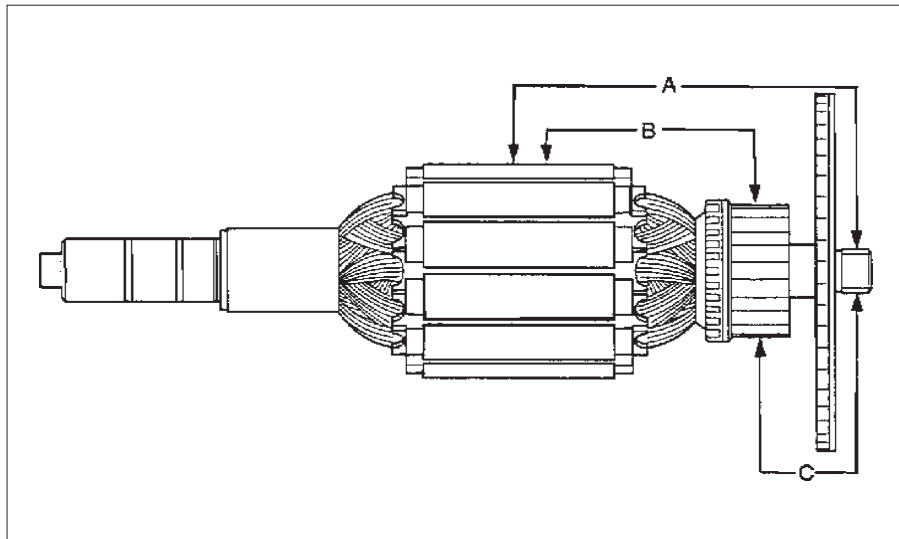
ELECTRICAL TESTING

Electrical test

Before assembly 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	Armature shaft to commutator	3000 Volts (min)



ELECTRICAL PERFORMANCE TEST READINGS

ARMATURES			
MODEL	110V	120V	220V-240V
840S	.440/.506 Ohms	.440/.506 Ohms	1.283/1.477 Ohms
FIELD COILS			
840S	110V	120V	220V-240V
	.349/.401 Ohms	.349/.401 Ohms	1.339/1.54 Ohms
PERFORMANCE			
Running No Load			
840S	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 40/50ft 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

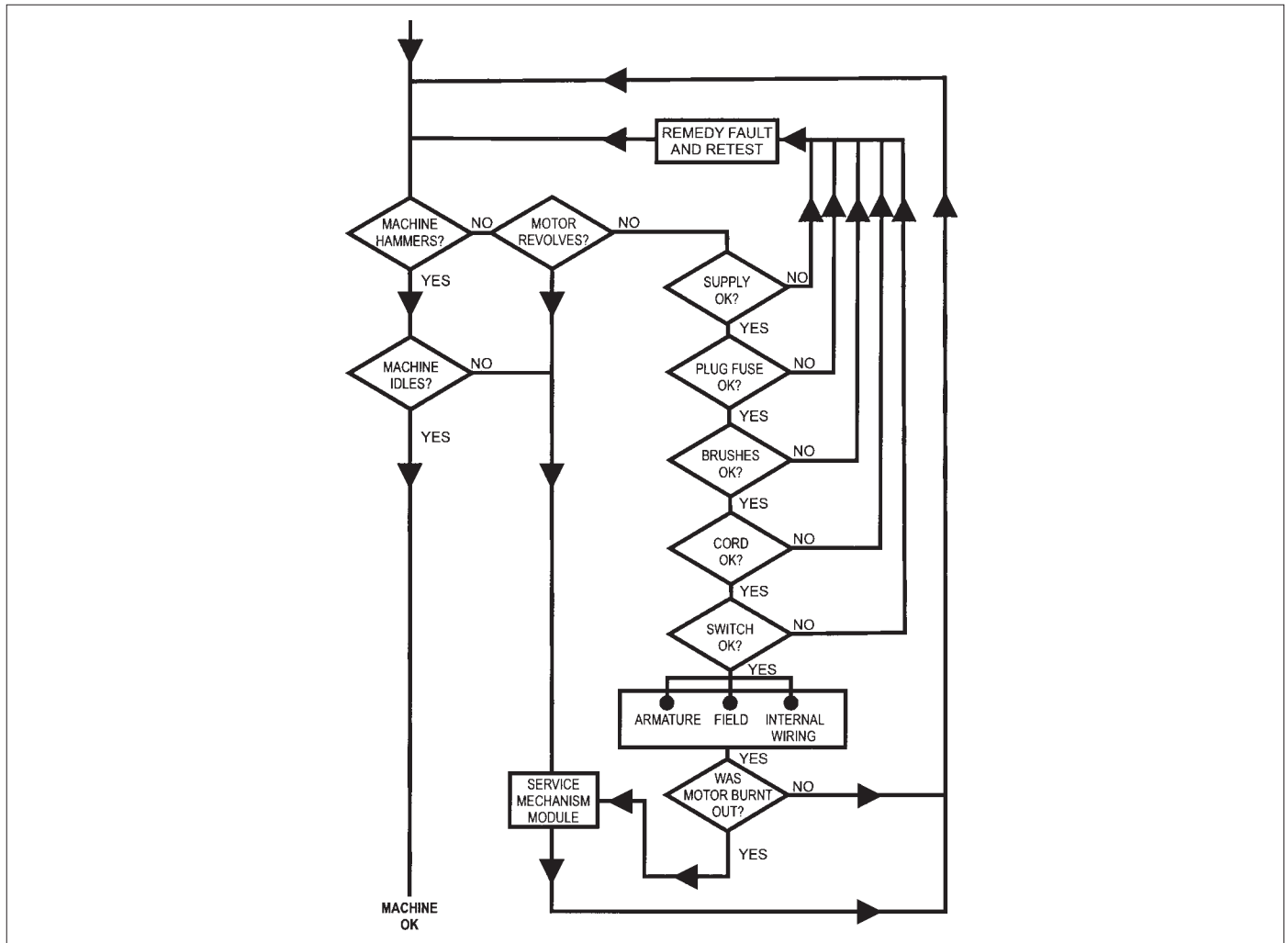
1. With the breaker completely assembled and with the switch "ON", apply 2000 volts initially and increase rapidly to 4000 volts between the main casting and one of the pins of the plug on the power supply cord. Apply test to both live and neutral pins.
2. The full voltage of 4000 volts should be maintained 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.





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