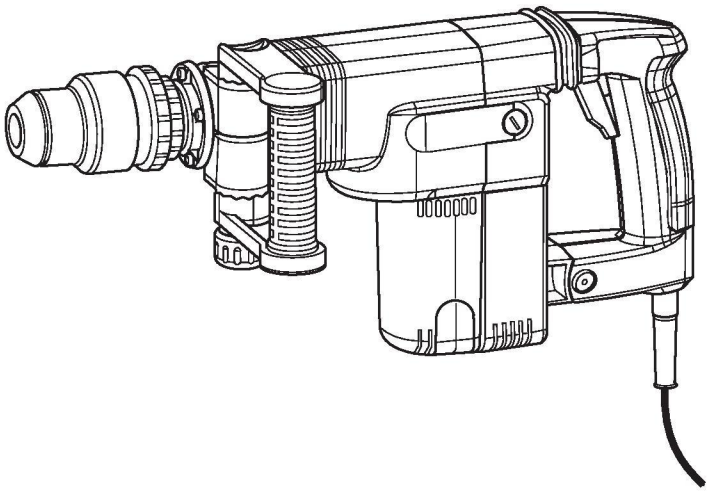
KANGO®

GB

Service and Repair Manual



710
760

1998-02

4939 5939 01

SERVICE TOOLS

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

TORQUE SETTINGS

MODEL 710/760

ITEM NO.	PART NO.	DESCRIPTION	NM	IN/LBS.
2	9170 3282 20	SCREW	1.8	19
4	9170 3284 70	PIVOT BOLT	2.8	25
17	9170 3284 10	SCREW	4	35
22	9170 7040 03	SCREW	1.8	16
31	9170 7040 02	SCREW	1.8	16
36	9170 0198 60	SCREW	4	35
50	9170 7040 04	SCREW	2	18
54	9170 7040 07	SCREW	3	27
		710BV/KV		
86	9170 3290 60	SCREW	15	133
101	9170 3278 60	SCREW	10	89
		710MV		
87	9170 3290 60	SCREW	10	89
100	9170 3278 60	SCREW	10	89
		760KV/SV		
103	9170 3290 60	SCREW	15	133
109	9170 3278 60	SCREW	10	89
		760MV		
115	9170 3290 60	SCREW	15	133
147	9170 7030 02	SCREW	0.7	6

Important! Before carrying out any repairs, the hammer should be checked for electrical safety and for mechanical performance. For electrical safety the hammer should be placed on a non-conductive surface which is either of a wooden construction (with the mains supply disconnected) which contains no metal parts or a bench which is insulated by a rubber mat. The hammer should then be checked by high voltage flash testing. On completion of dismantling procedure all electrical components should then be checked for electrical safety. The hammer should **ONLY** be checked for hammer performance if the unit passes the electrical safety test.

710BV/KV/MV DISMANTLING

Removing the handle assembly

1. Remove two screws (14), two screws (17), two washers (18) and remove handle assembly.

Note: It will be necessary to pull hard on the top of the handle assembly after removal of screws (17), to remove module (21) with the handle assembly.

2. Disconnect RTR loom (26) from field loom (25).

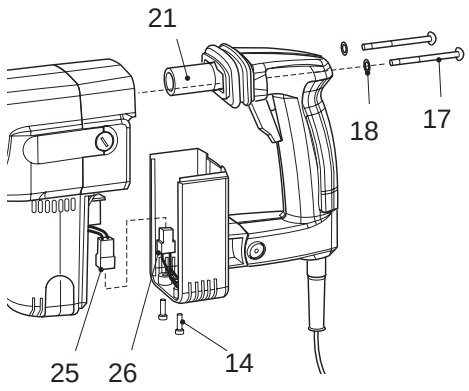


Fig. 1

Removing the handle halves and speed control switch

1. Remove screw (2) and handle cushion.

2. Remove pivot bolt (4) and pivot nut (3).

3. Remove handle halves (5 and 6) and lower handle cover (13).

4. Remove switch wires from handle half (6).

5. Remove lower cord clamp (7), upper cord clamp (8) and foam slug (9).

6. Remove cord (12) and cord protector (11) from handle (5).

7. Remove speed control (10), switch (24) and terminal block ((115) 710KV/BV) ((126) 710MV) from handle (5).

8. Remove screw (27), retaining plate (28) and RTR loom (26).

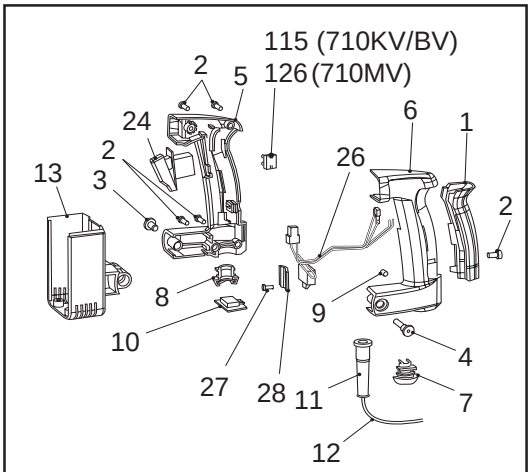


Fig. 2

Removing the isolation module assembly

1. Remove upper handle mount (19), isolation bellows (20) and isolation module (21).

WARNING: Do not dismantle isolation module (21).

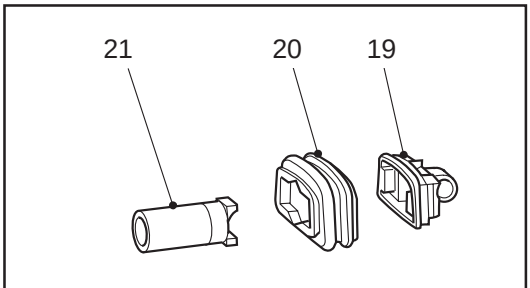


Fig. 3

Dismantling the lower handle cover

1. Remove two pivot isolators (15), screw (27), retainer (28) and field lead grommet complete with loom (26) from lower handle support (13).

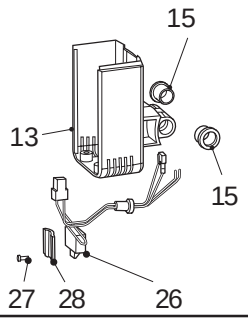


Fig. 4

Removing the upper handle cover

1. Remove two screws (22) and upper handle cover (23).

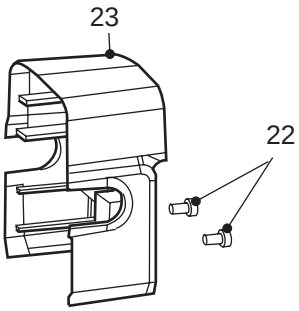


Fig. 5

Dismantling the latch bar

1. Remove latch retainer (100), latch spring (99), spring cover (98) and latch bar (97) from nose piece (96).

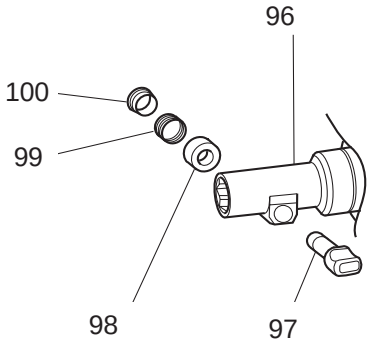


Fig. 6

Dismantling the top cover (BV, KV only)

1. Remove retaining ring (111) and pull off cover (110).

2. Remove handle locking knob (108), washer (107), bolt (105). Remove handle (104). Remove adaptors (106).

3. Remove strap casting (109) and remove retaining ring (103) from top cover (102). Remove top cover (102).

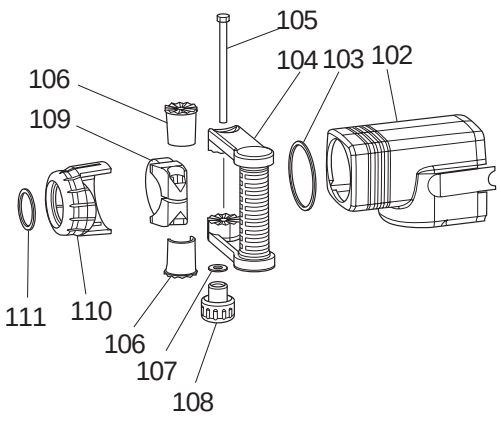


Fig. 7

Dismantling the top cover (MV only)

1. Remove handle locking knob (106), washer (105), bolt (104). Remove handle (103).
2. Remove strap casting (107) and remove retaining ring (102) from top cover (101).

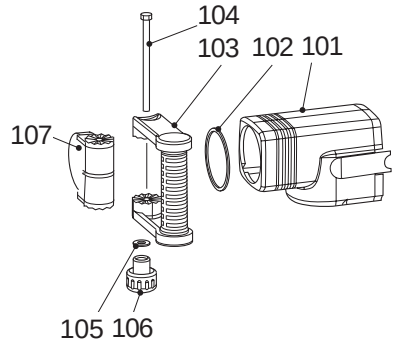


Fig. 8

Removing the motor

1. Remove brush cover screw (29), brush cover (31). Pull back and release brushes (32) from brush holder (33).
2. Remove two screws (36), two screws (50) and withdraw the motor from gear box (112).

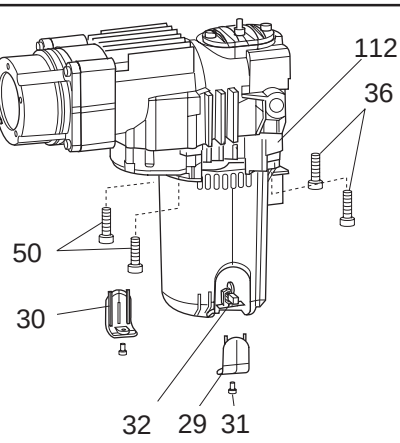


Fig. 9

Dismantling the motor (armature)

1. Withdraw the armature (43) from the gear box (112) and remove bearing mount (39), bearing (40) and washer (41).
2. Remove bearing (46) and sealing ring (45).

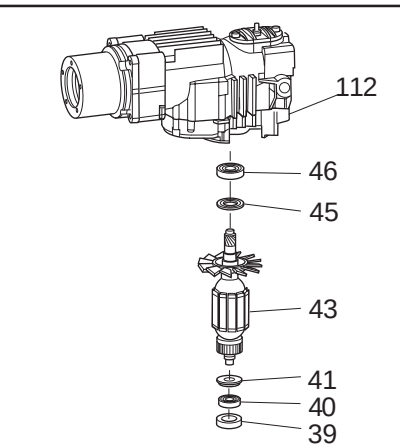


Fig. 10

Dismantling the motor housing

1. Remove two brushes (32).
2. Withdraw baffle (42), field coil assembly (38) and two field location rubbers (37) from motor housing (35).
3. Remove four screws (34) and two brush holders (33).

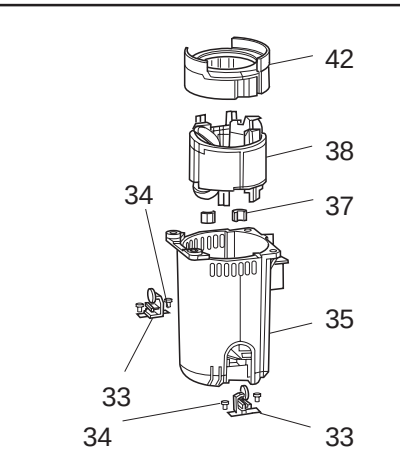


Fig. 11

Removing/ dismantling the gear box assembly

1. Remove blanking knob (72).

2. Remove six screws (54) and separate the gearbox ((112) BV, KV), ((120) MV) from the top housing.

3. Remove gearbox foam insert (68), bearing (67), lower clutch bearing (58), remove O-ring (55), and press out seal (47).

4. Remove gasket (57) and two dowel pins (66).

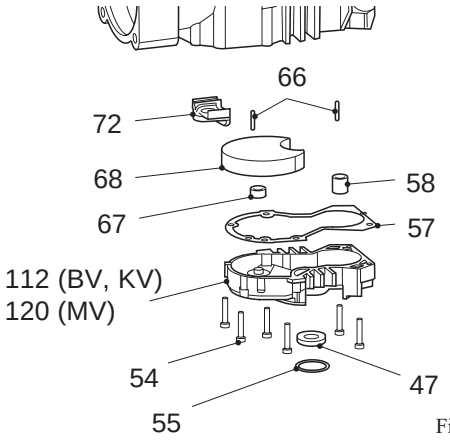


Fig. 12

Dismantling the crank assembly

1. Remove circlip (59), crank gear (60), crank circlip (61), bearing (62) and O-ring (63) from crankshaft (65).

2. Withdraw crank assembly and O-ring (63) from top housing.

3. Remove crank key (64) and bearing from crank (65).

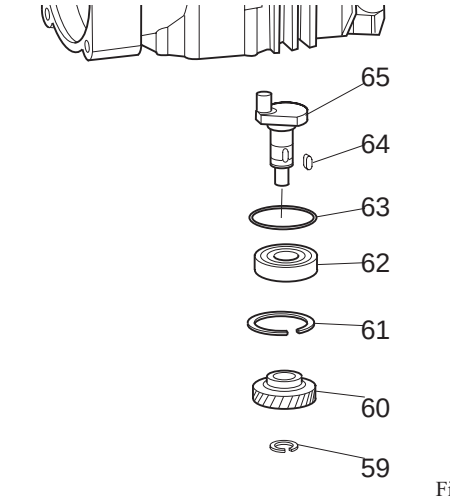


Fig. 13

Dismantling the top housing

1. Remove two rear handle plugs (53). Remove two screws (50), two washers ((116) BV KV) ((119) MV), access cover (51), O-ring (52), and breather assembly ((113) BV, KV), ((124) MV).

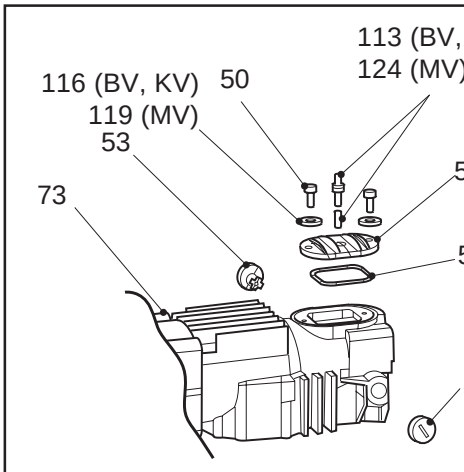


Fig. 14

710KV/710BV DISMANTLING

Removing the nosepiece

1. Remove five screws (101), nosepiece (96) and the following items:
   - O-ring (95)
   - O-ring (94)
   - anvil sleeve (93)
   - anvil seals (92)
   - anvil (91)
   - transfer ring (90)
   - buffer ring (89)
   - catcher housing (88)
   - O-ring (87)

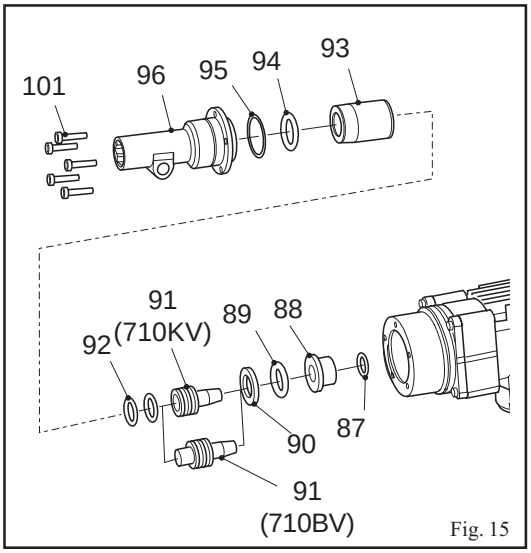


Fig. 15

Dismantling the barrel assembly

1. Remove four screws (86), transmitter housing (85), O-ring (84) and the following items:
   - barrel (83)
   - washer (82)
   - shim (81)
   - striker (79)
   - piston (77)

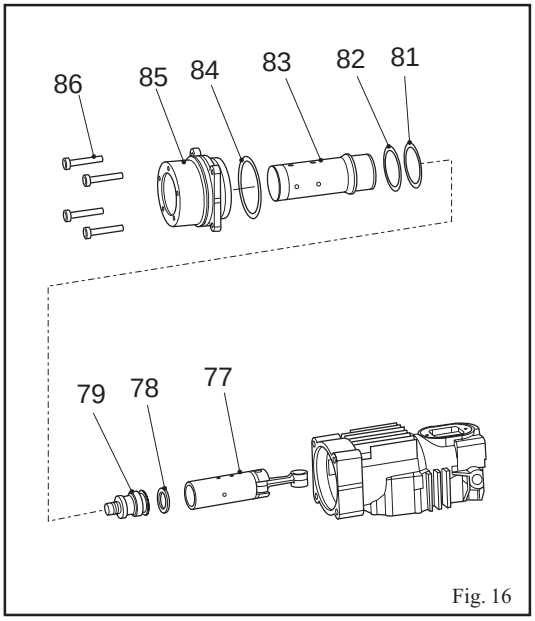


Fig. 16

Dismantling the piston assembly

1. Remove gudgeon pin (76) from piston (77).
2. Remove bearing (74) from connecting rod (114).

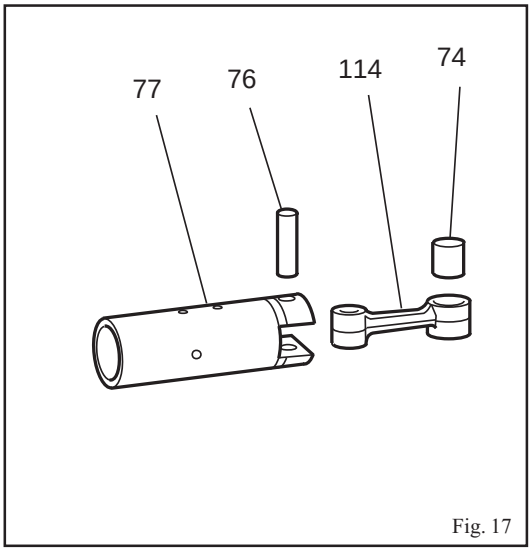


Fig. 17

710MV DISMANTLING

Dismantling the chuck

1. Dismantle chuck by removing end cap (118) remove chuck cover (117) and the following items:
- circlip (116)
- buffer stop (115)
- buffer (114)
- chuck (113)
- latches (112)
- latch plate (111)
- latch spring (110)
- lock plate (109)
- lock chuck (108)

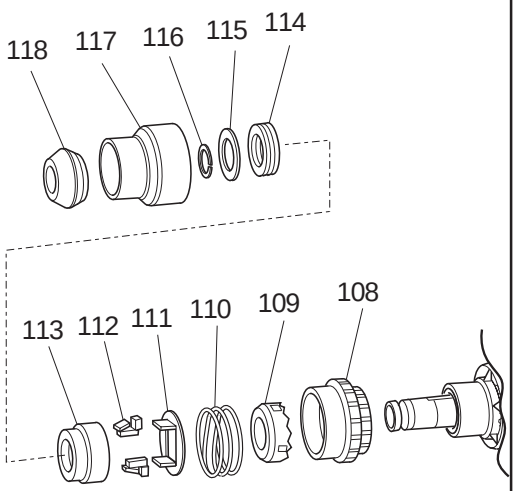


Fig. 18

Removing the chuck

1. Remove four balls (99).

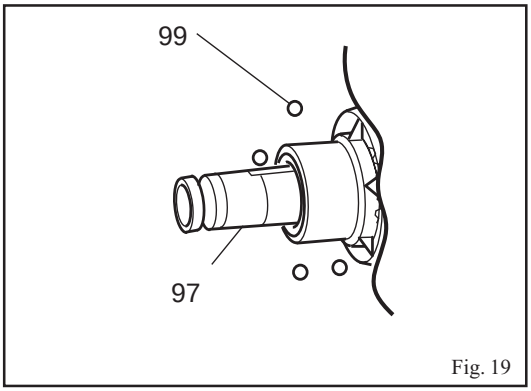


Fig. 19

Dismantling the driver assembly

1. Remove five screws (100), nosepiece (98) and the following items from driver (97):
- O-ring (88)
- catcher (89)
- buffer ring (90)
- transfer ring (91)
- junk ring (92)
- seal (93)
- anvil (94)
- junk ring (95)
- O-ring (96)

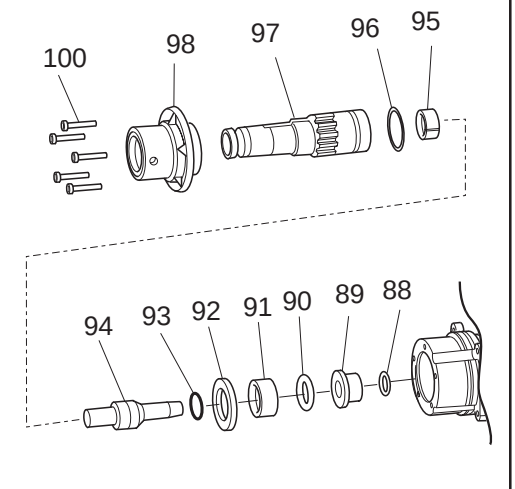


Fig. 20

Dismantling the barrel assembly

1. Remove four screws (87) and transmitter housing (85) from top housing (73).
2. Remove O-ring (84) and striker (82), seal (81) and piston (80) from barrel (83).
3. Remove shim (76), washer (75) and O-ring (86).

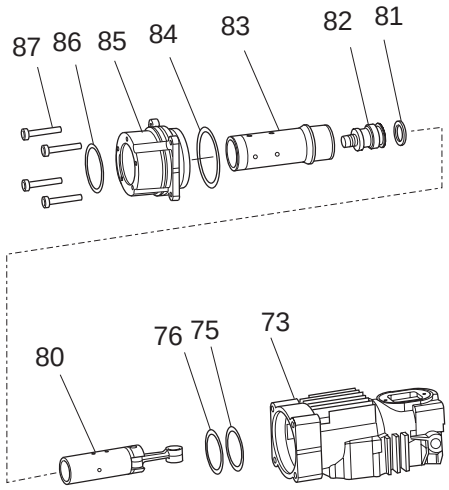


Fig. 21

Dismantling the piston assembly

1. Remove gudgeon pin (79) from piston (80).
2. Remove bearing (77) from connecting rod (125).

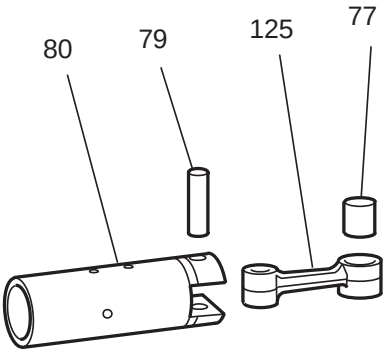


Fig. 22

760KV/SV/MV DISMANTLING

Removing the handle assembly

1. Remove two screws (14), two screws (17), two washers (18) and remove handle assembly.

Note: It will be necessary to pull hard on the top of the handle assembly after removal of screws (17), to remove module (21) with the handle assembly.

2. Disconnect RTR loom (26) from field loom (25).

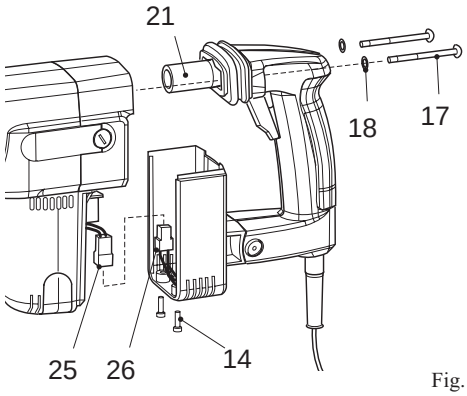


Fig. 23

Removing the handle halves and speed control switch

1. Remove screw (2) and handle cushion.

2. Remove pivot bolt (4) and pivot nut (3).

3. Remove handle halves (5 and 6) and lower handle cover (13).

4. Remove switch wires from handle half (6).

5. Remove lower cord clamp (7), upper cord clamp (8) and foam slug (9).

6. Remove cord (12) and cord protector (11) from handle (5).

7. Remove speed control (10), switch (24) and terminal block ((115) 710KV/BV) ((126) 710MV) from handle (5).

8. Remove screw (27), retaining plate (28) and RTR loom (26).

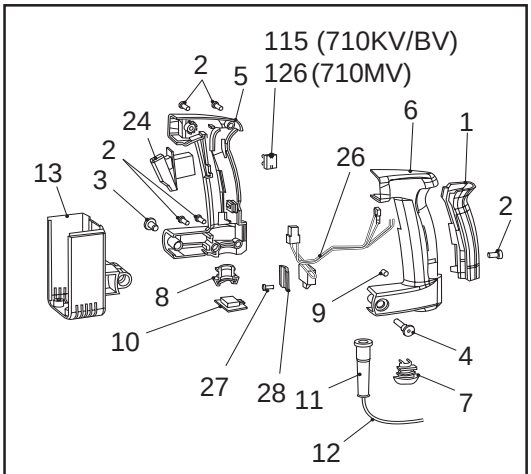


Fig. 24

Removing the isolation module assembly

1. Remove upper handle mount (19), isolation bellows (20) and isolation module (21).

WARNING: Do not dismantle isolation module (21).

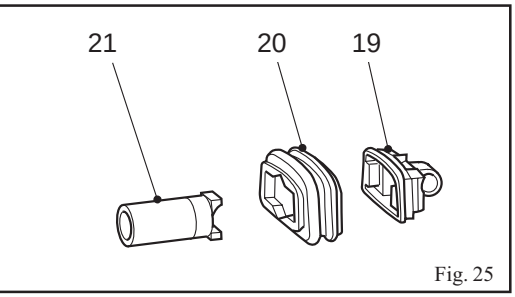


Fig. 25

Dismantling the lower handle cover

1. Remove two pivot isolators (15), screw (27), retainer (28) and field lead grommet complete with loom (26) from lower handle support (13).

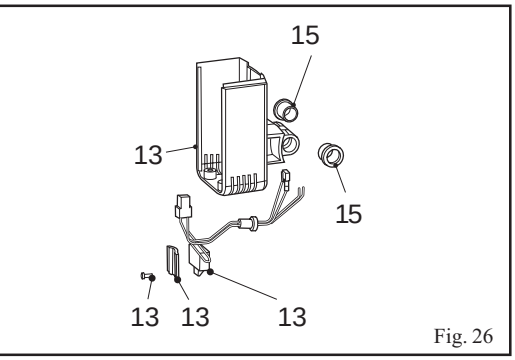


Fig. 26

Dismantling the latch bar (KV, SV only)

1. Remove latch retainer (108), latch spring (107), spring cover (106) and latch bar (105) from nose piece (104).

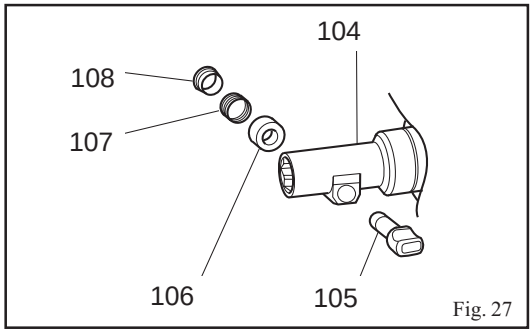


Fig. 27

Dismantling the top cover (KV, SV only)

1. Remove retaining ring (120) and pull off cover (119).
2. Unscrew handle (116) and remove screw (117).
3. Remove clamping wheel (115), and withdraw depth gauge rod (110), gauge clamp (111) and screw (113).
4. Pull off strap casting assembly (114), remove top cover retaining ring (118) and top cover (112).

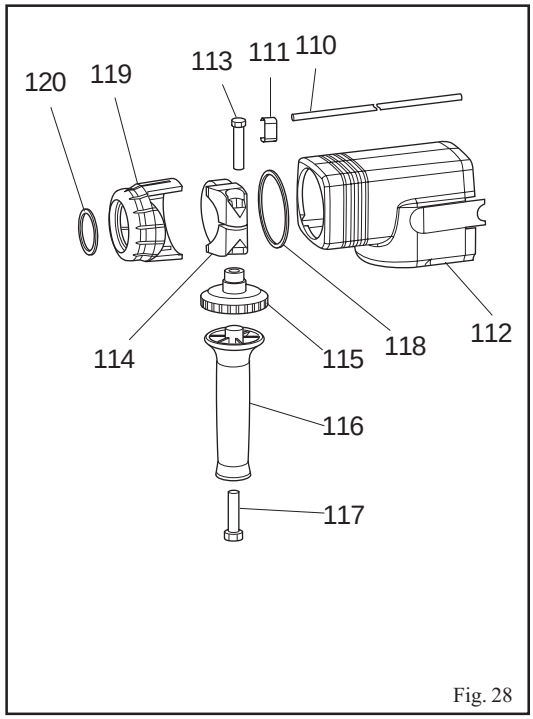


Fig. 28

Dismantling the switch assembly (MV only)

1. Remove two screws (147) and clamp plate (146).
2. Remove knob (145).
3. Remove nose cone end cap (139) and chuck cover (138).
4. Remove the following items from driver (110):
   - wire clip (137)
   - buffer stop (136)
   - buffer (135)
   - chuck (134)
   - latches (133)
   - latch plate (132)
   - latch spring (131)
   - washer (130)

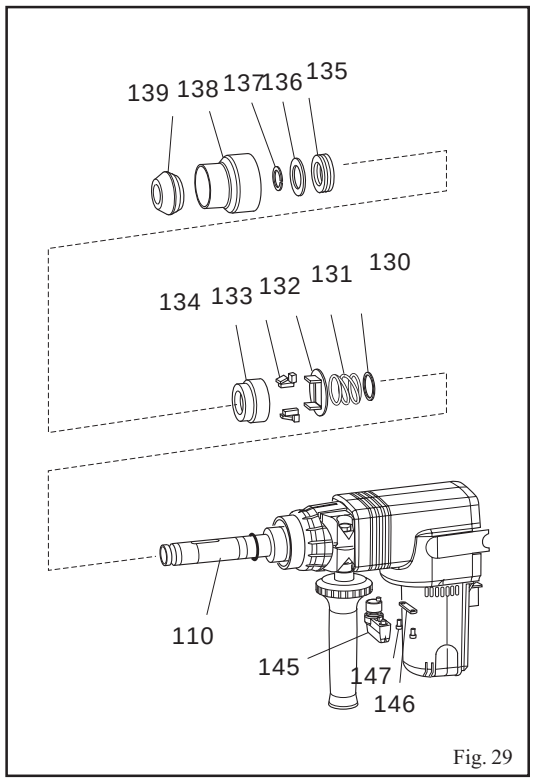


Fig. 29

Dismantling the top cover (MV only)

1. Remove retaining ring (129) and pull off cover (128).
2. Unscrew handle (125) and remove screw (124).
3. Remove clamping wheel (126), and withdraw depth gauge rod (121), gauge clamp (122) and screw (123).
4. Pull off strap casting assembly (127), remove top cover retaining ring (120) and top cover (116).

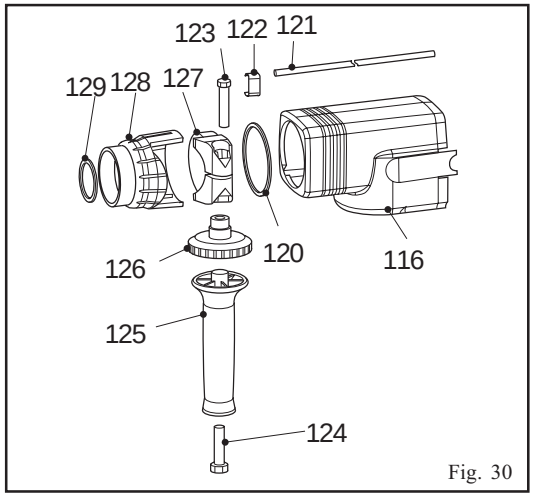


Fig. 30

Removing the motor

1. Remove brush cover screw (29), brush cover (31). Pull back and release brushes (32) from brush holder (33).
2. Remove two screws (36), two screws (50) and withdraw the motor from gear box (112).

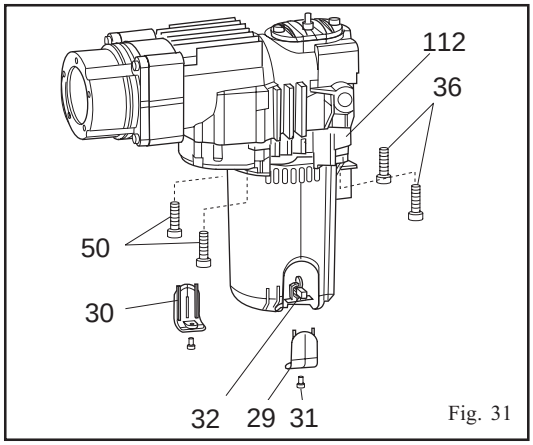


Fig. 31

Dismantling the motor (armature)

1. Withdraw the armature (43) from the gear box (112) and remove bearing mount (39), bearing (40) and washer (41).
2. Remove bearing (46) and sealing ring (45).

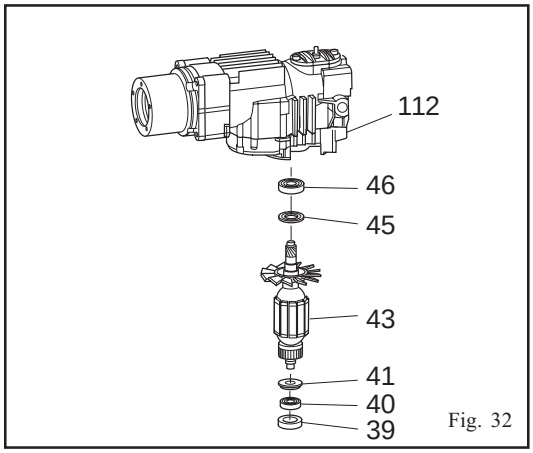


Fig. 32

Dismantling the motor housing

1. Remove two brushes (32).
2. Withdraw baffle (42), field coil assembly (38) and two field location rubbers (37) from motor housing (35).
3. Remove four screws (34) and two brush holders (33).

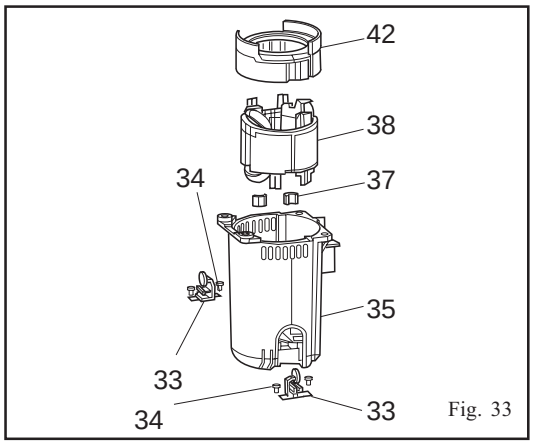


Fig. 33

Removing/ dismantling the gear box assembly

1. Remove blanking knob (78) (KV, SV only).
2. Remove six screws (54) and seperate the gear box (124) from the top housing (79).
3. Remove bearing (67), lower clutch bearing (58), seal (47) and O-ring (55).
4. Remove gasket (57) and two dowel pins (66).

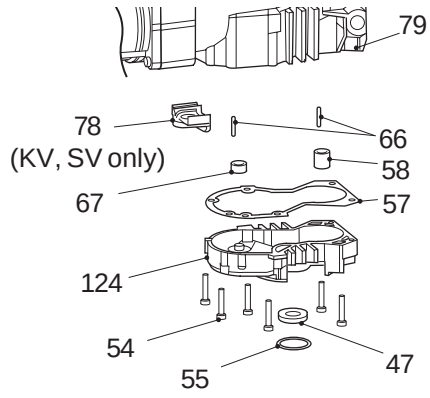


Fig. 34

Dismantling the top housing

1. Remove two rear handle plugs (53). Remove two screws (50), two washers ((112) KV/SV), ((144) MV), access cover (51), O-ring (52) and breather assembly ((116) KV/SV), ((141) MV).

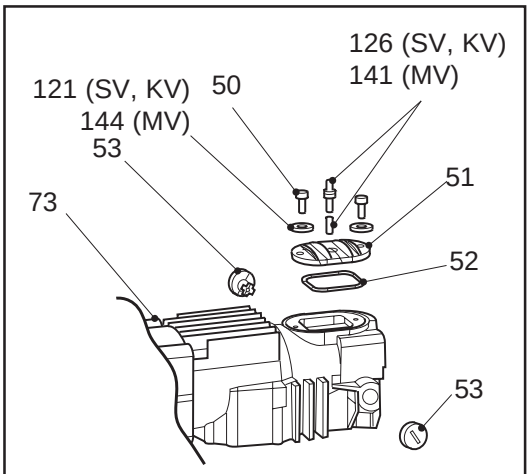


Fig. 35

Dismantling the crank assembly

1. Remove circlip (59), crank gear (60), crank circlip (61), bearing (62) and O-ring (63) from crankshaft (65).
2. Withdraw crank assembly and O-ring (63) from top housing.
3. Remove crank key (64) and bearing from crank (65).

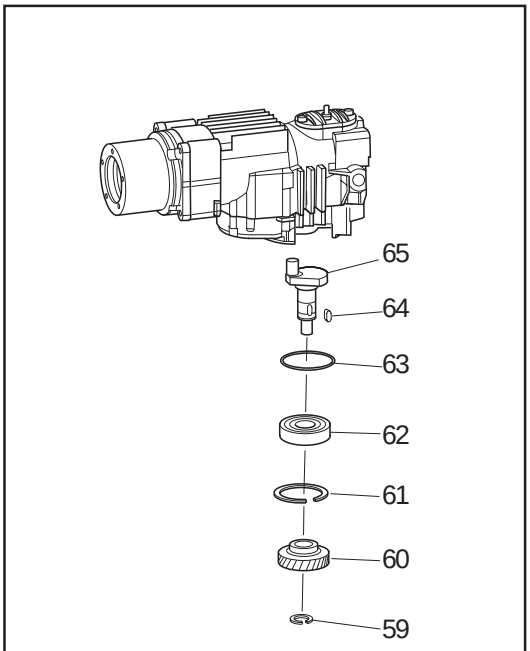


Fig. 36

Dismantling the bevel pinion

1. Bend back tab washer (70), remove clutch nut (68) and the following items from bevel pinion (77):
   - disc spring (69)
   - tab washer (70)
   - friction disc (71)
   - drive gear (72)
   - bush (73)
   - circlip (74)
   - pinion (75)
   - O-ring (76)

2. Remove pinion and bearing assembly from top housing (112).

3. Remove bearing (75) from pinion (77) and O-ring (76) from top housing (112).

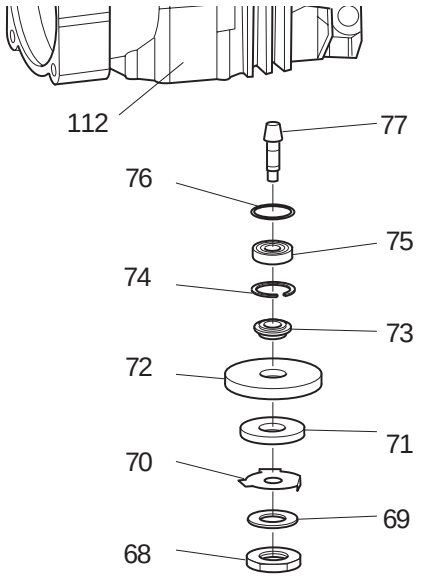


Fig. 37

760KV/760SV DISMANTLING

Dismantling the nosepiece

1. Remove five screws (109) and separate nosepiece (104) from bearing housing (102).

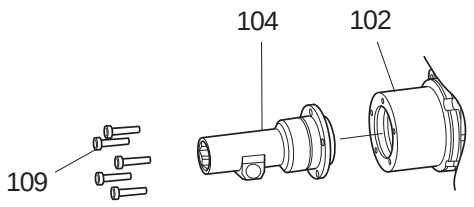


Fig. 38

Dismantling the bearing housing

1. Remove four screws (103) and separate bearing housing (102) from top housing.
2. Remove O-ring (101) from bearing housing (102).
3. Remove circlip (97), and withdraw driver and barrel assembly (96). Remove circlip (99) and press off bearing (98).
4. Remove seal (100) from bearing housing (102).

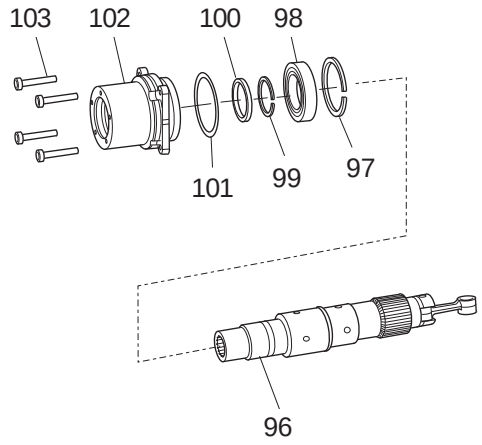


Fig. 39

Dismantling the driver assembly

1. Unscrew driver (96) from barrel (88).
2. Remove the following items from the driver (96):
   - catcher housing (90)
   - O-ring (89)
   - buffer ring (91)
   - recoil transfer ring (92)
   - anvil (93)
   - anvil seals (94)
   - junk ring (95)

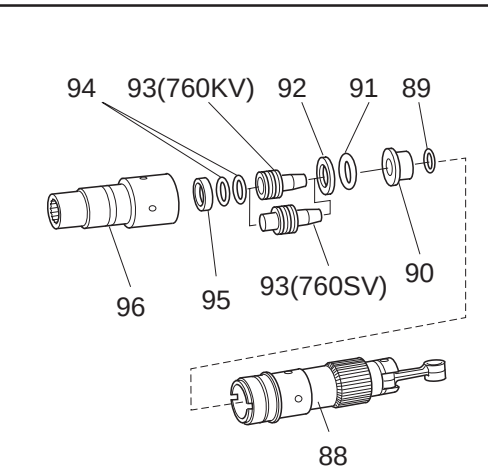


Fig. 40

Dismantling the barrel assembly

1. Remove the piston assembly (85), striker seal (86) and striker (87).
2. Remove crown wheel (81) and crown wheel bearing (80) from the the top housing (73).

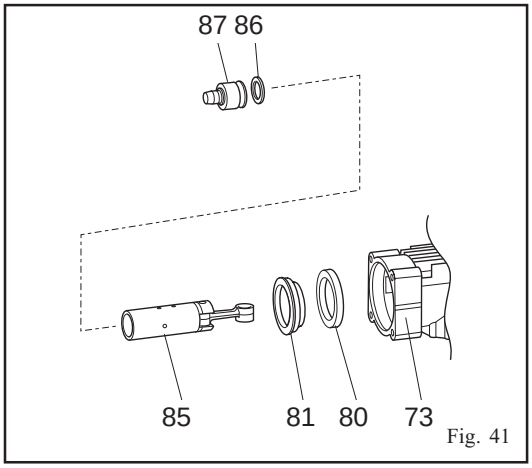


Fig. 41

Dismantling the piston assembly

1. Remove gudgeon pin (84) from piston (85).
2. Remove bearing (82) from connecting rod (125).

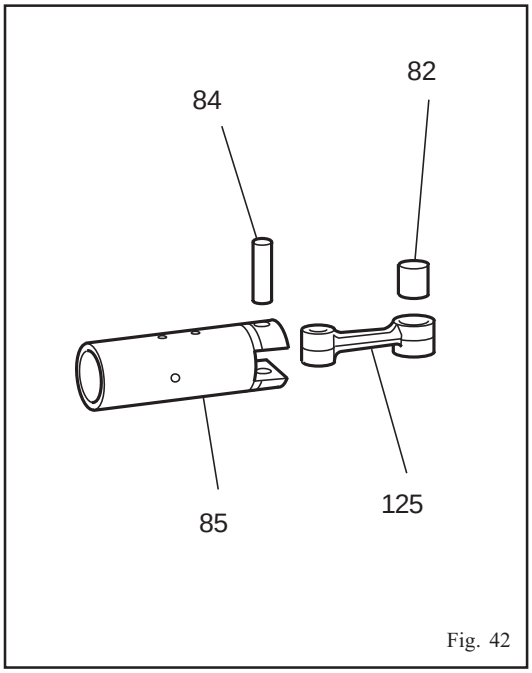


Fig. 42

760MV DISMANTLING

Dismantling the driver assembly

1. Unscrew nosepiece (114), remove O-ring (101), lip seal (113).
2. Remove driver assembly from bearing housing. Remove circlip (112) and bearing (111) from driver (110).
3. Remove the following items from the opposite end of driver (110):
   - wire ring (102)
   - catcher housing (104)
   - O-ring (103)
   - buffer ring (105)
   - recoil transfer ring (106)
   - anvil (107)
   - striker seals (108)
   - junk ring (109)

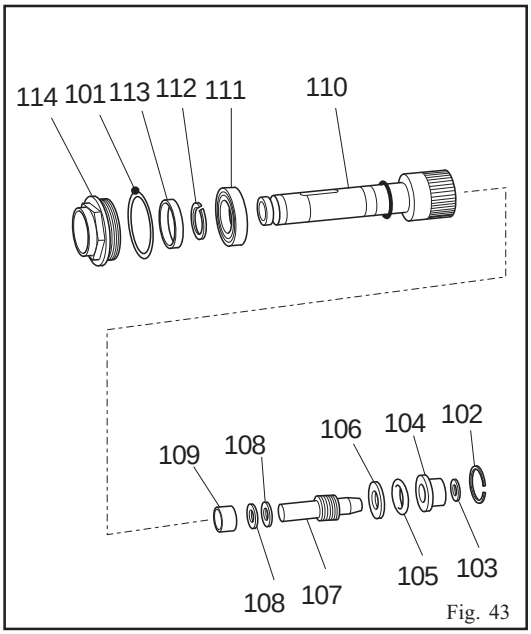


Fig. 43

Dismantling the bearing housing assembly

1. Remove four screws (115) and separate bearing housing (100) from the top housing.
2. Remove the following items:
   - spring (96)
   - washer (97)
   - dry sliding bearing (98)
   - O-ring (99)
3. Remove locking ring (95) from top housing.
4. Remove drive sleeve assembly from barrel. Remove circlip (91) from drive sleeve (94), washers (93) and spacer (92).

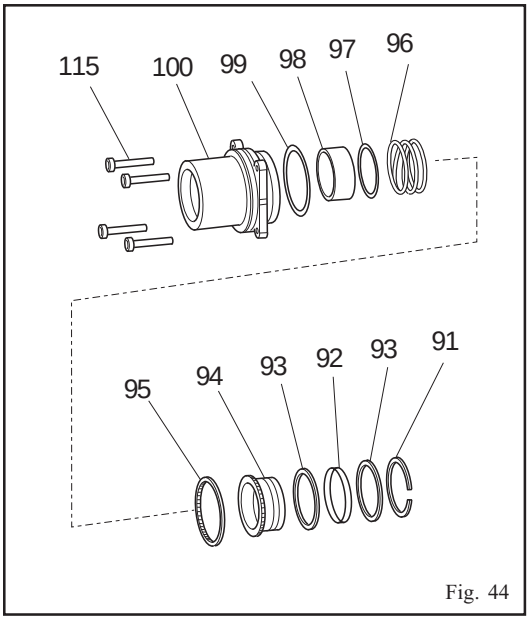


Fig. 44

Dismantling the barrel assembly

1. Remove barrel (90) and crown wheel assembly with piston (83) and striker assembly (85).
2. Remove piston asembly (83), striker seal (84) and striker (85) from barrel (90).
3. Remove circlip (86), waved washer (87) crown wheel bearing (88), and crown wheel (89).

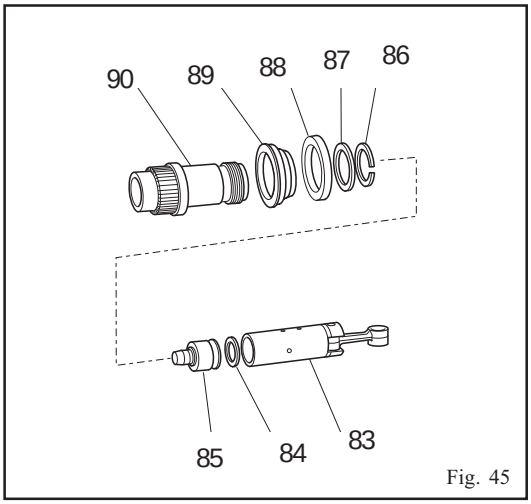


Fig. 45

Dismantling the piston assembly

1. Remove gudgeon pin (82) from piston (83).
2. Remove bearing (80) from connecting rod (140).

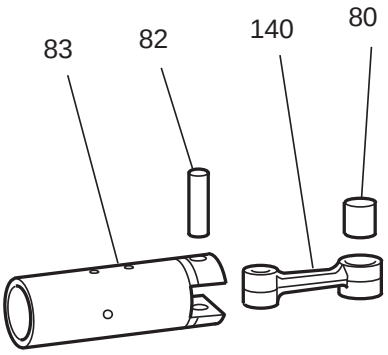
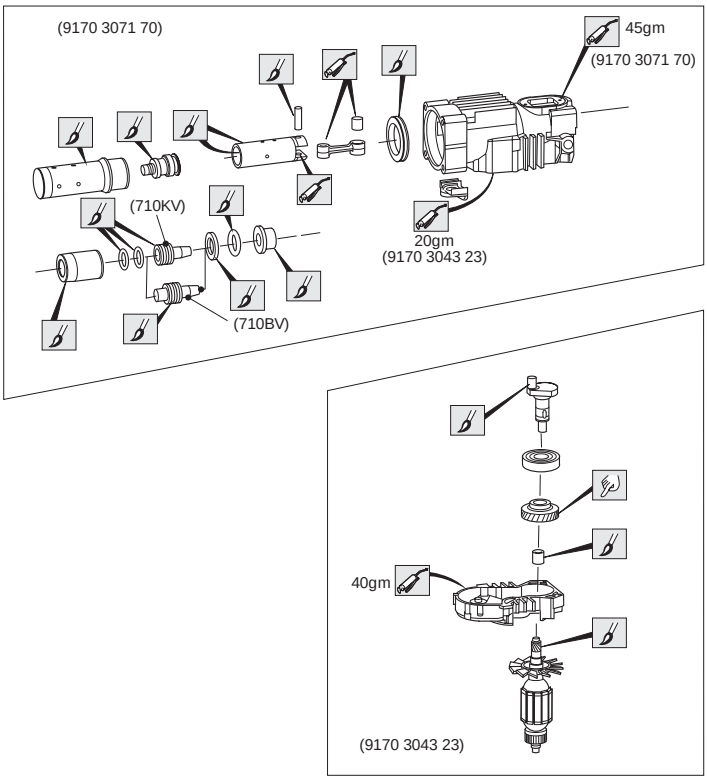
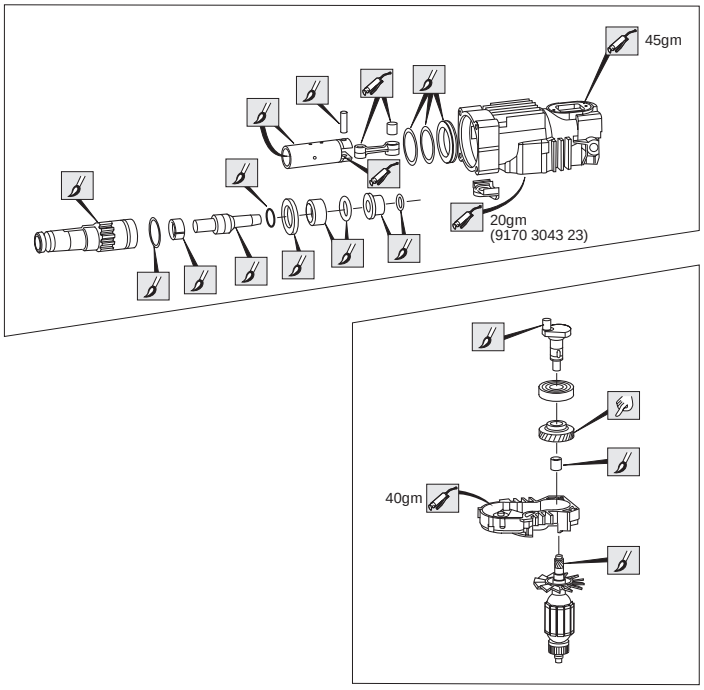


Fig. 46

Lubrication At service and repair intervals the lubrication should be carried out as shown in the diagram below. All parts in the service kit should be fitted. The total amount of grease is 120gm (9170 3071 70 (60g) and 9170 3043 20 (60g)). Lubrication of the hammer is as shown on the grease chart.



710KV/710SV



710MV

Smear

Generously coat

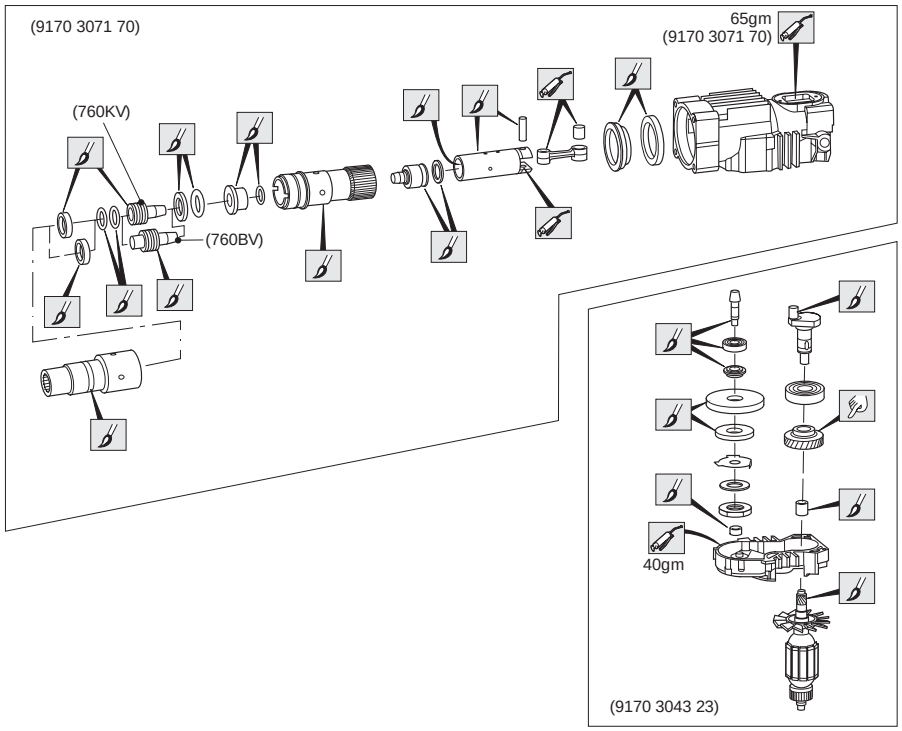
Liberally coat

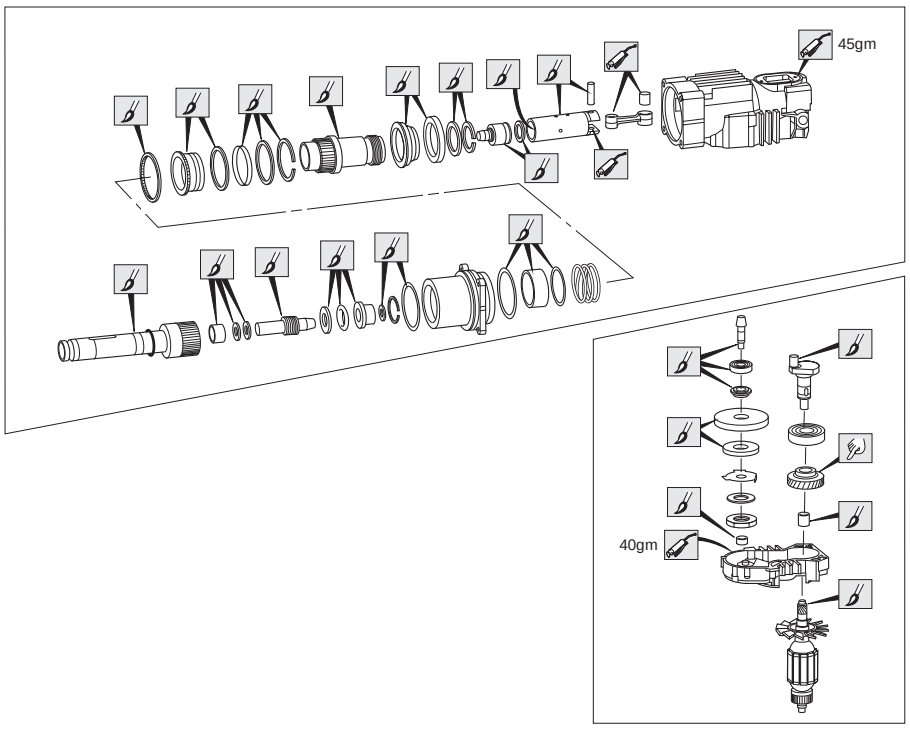
Pack

ALL SCREWS SHOULD BE REFITTED WITH LOCKTITE® 222 OR SIMILAR

Lubrication At service and repair intervals the lubrication should be carried out as shown in the diagram below. All parts in the service kit should be fitted. The total amount of grease is 120gm (9160 3071 70 (80g) and 9170 3043 20 (40g)). Lubrication of the hammer is as shown on the grease chart.

760KV/760BV





760MV

Smear

Generously coat

Liberally coat

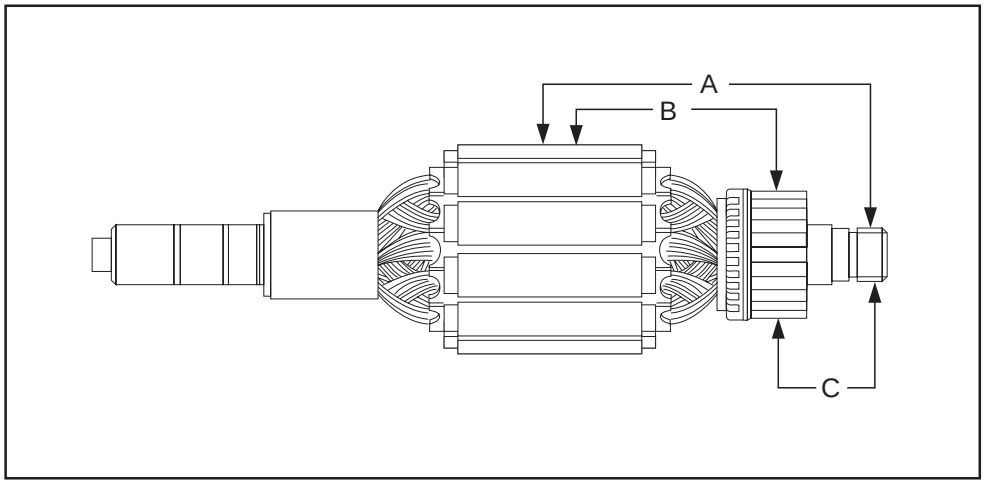
Pack

ALL SCREWS SHOULD BE REFITTED WITH LOCKTITE® 222 OR SIMILAR

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**
710	0.88Ω	0.88Ω	4.05Ω	4.05Ω
760	0.88Ω	0.88Ω	4.05Ω	4.05Ω
FIELD COILS				
	110V	**120V**	**220V**	**240V**
710	0.46Ω	0.70Ω	2.36Ω	3.50Ω
760	0.46Ω	0.70Ω	2.36Ω	3.50Ω
PERFORMANCE				
Full Load Hammer Test				
	110V	**120V**	**220V**	**240V**
710	750-840W			
760	750-840W			
Full Load Hammer Test				
	110V	**120V**	**220V**	**240V**
760	1200-1400W			

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

710KV/710BV ASSEMBLY

Assembling the piston

1. Fit bearing (74) into connecting rod (114).
2. Position connecting rod (114) to piston (77) and fit gudgeon pin (76) to secure.

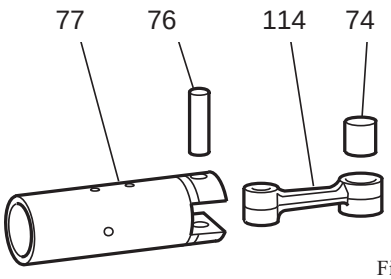


Fig. 47

Assembling the barrel

1. Assemble the following items to the transmitter housing (85):
   - O-ring (84)
   - barrel (83)
   - washer (82)
   - shim (81)
   - striker (79)
   - striker seal (78)
   - piston assembly (77)
2. Fit the barrel assembly and transmitter housing assembly (85) to top housing (73), and secure with four screws (86) **torque load to 15Nm**.

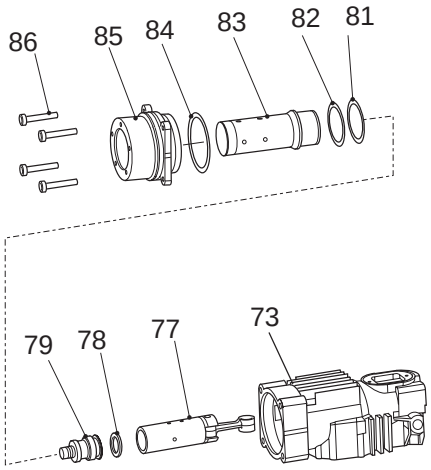


Fig. 48

Assembling the nosepiece

1. Fit seals (92) to anvil (91).
2. Insert anvil assembly to anvil sleeve (93).
3. Fit O-ring (87) to catcher (88).
4. Assemble to transmitter housing.
   - catcher assembly (87 and 88)
   - buffer ring (89)
   - recoil transfer ring (90)
   - anvil sleeve assy (91-93)
   - O-ring (95)
5. Fit O-ring (94) into nosepiece (96).
6. Secure nosepiece to transmitter housing (85) with screws (101) **torque load to 10Nm.**

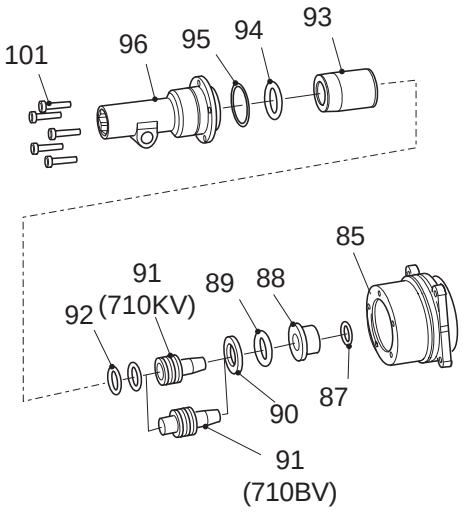


Fig. 49

710MV ASSEMBLY

Assembling the piston

1. Fit bearing (77) into connecting rod (125).
2. Position connecting rod (125) to piston (80) and fit gudgeon pin (79) to secure.

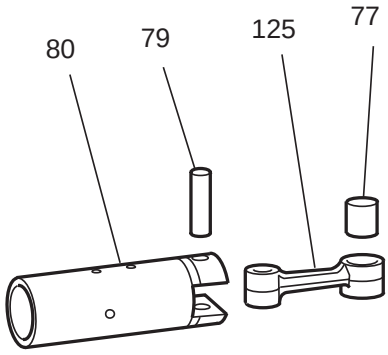


Fig. 50

Assembling the barrel

1. Fit washer (75) and shim (76) to barrel (83).
2. Fit striker (82), seal (81) and piston (80) to barrel (85).
3. Fit O-ring (86) and O-ring (84) to transmitter housing (85).
4. Fit barrel (83) and transmitter housing assembly (85) to top housing (73) and secure with four screws (87) **torque load to 15Nm**.

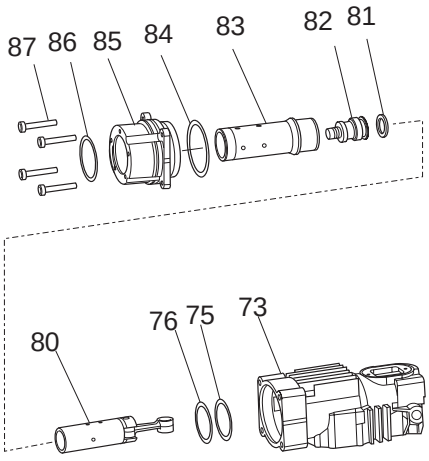


Fig. 51

Assembling the top cover (MV only)

1. Fit top cover (101) to machine and secure with retaining ring (102). Slide the strap casting (107) onto the transmitter housing.
2. Position handle (103) and secure using bolt (104), washer (105) and locking knob (106).

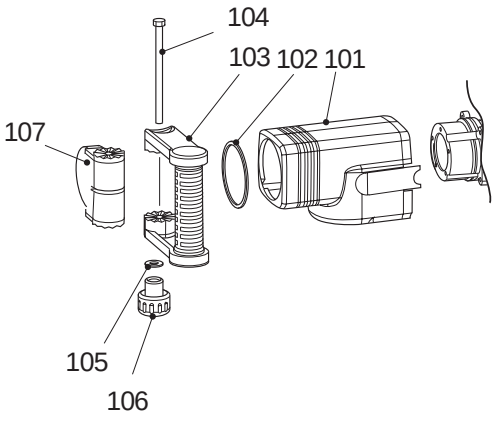


Fig. 52

Assembling the driver

1. Assemble the following items into the driver (97):
   - O-ring (96)
   - junk ring (95)
   - anvil (94)
   - seal (93)

2. Fit O-ring (88) to catcher (89).

3. Assemble the following items into the transmitter housing (85):
   - junk ring (92)
   - transfer ring (91)
   - buffer ring (90)
   - catcher and O-ring assembly.

4. Fit driver assembly into nosepiece (98).

5. Fit nosepiece assembly to transmitter housing and secure with five screws (100) **torque load to 10Nm.**

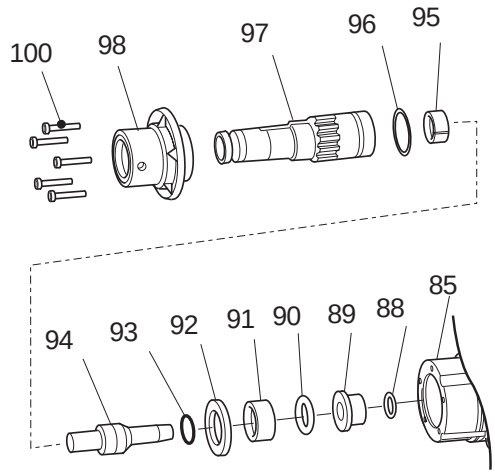


Fig. 53

Assembling the chuck

1. Fit the following items to driver (97):
   - lock chuck (108)
   - balls (99)
   - lock plate (109)
   - latch spring (110)
   - latch plate (111)
   - latches (112)
   - chuck (113)
   - buffer (114)
   - buffer stop (115)
   - circlip (116)

2. Fit chuck cover (117) and end cap (118).

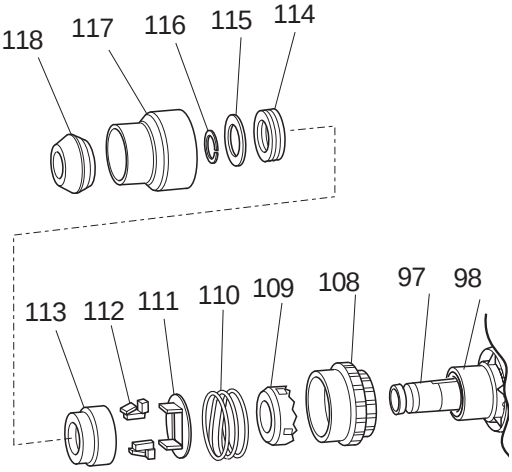


Fig. 54

710BV/KV/MV ASSEMBLY

Assembling the top housing

1. Fit two rear handle plugs (53).
2. Fit O-ring (63) into housing (73).
3. Fit dowel pins (66).

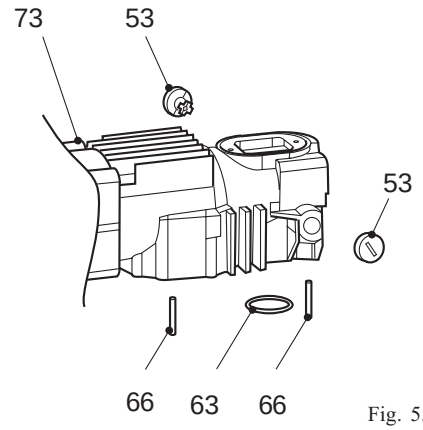


Fig. 55

Assembling the crank

1. Press bearing (62) onto crank (65).
2. Fit crank key (64) in crank (65).
3. Fit crank assembly to top housing ensuring crank pin is fitted into the connecting rod bearing.
4. Secure with circlip (61).
5. Support crank (65) through access cover hole in top housing, fit crank gear (60) and secure using (59).

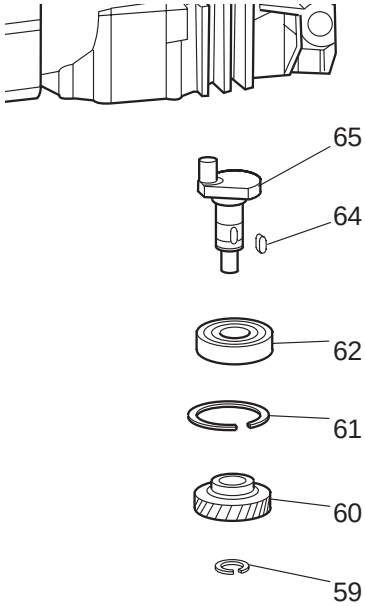


Fig. 56

Fitting top housing cover

1. Fit O-ring (52) to access cover (51).
2. Fit breather assembly ((113) BV, KV) ((124)MV) to cover (51).
3. Fit cover (51) to top housing (73) and secure with two screws (50) and two washers ((116) BV, KV) ((119)MV) **torque load to 2Nm**.

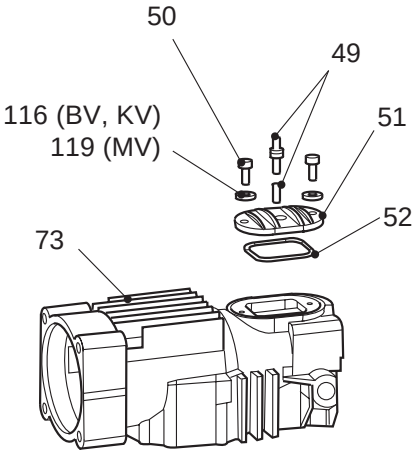


Fig. 57

Assembling the gear box

1. Fit lower clutch bearing (67), bearing (58) and foam insert (68) to gear box ((112)KV,BV) ((120)MV). Press in seal (47) and fit O-ring (55).
2. Fit gasket to top housing (73).
3. Fit the assembled gear box to the top housing and secure with six screws (54) **torque load to 3Nm**.
4. Fit blanking knob (72).

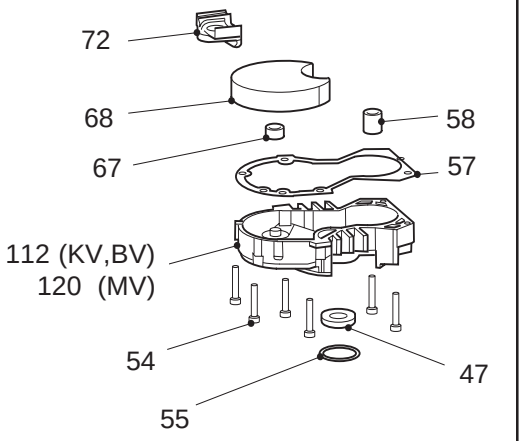


Fig. 58

Assembling the motor (armature)

1. Fit sealing ring (45) and bearing (46) to the armature (43).
2. Fit washer (41), bearing (40) and bearing mounting (39) on the armature.
3. Fit the assembled armature into the gearbox (112).

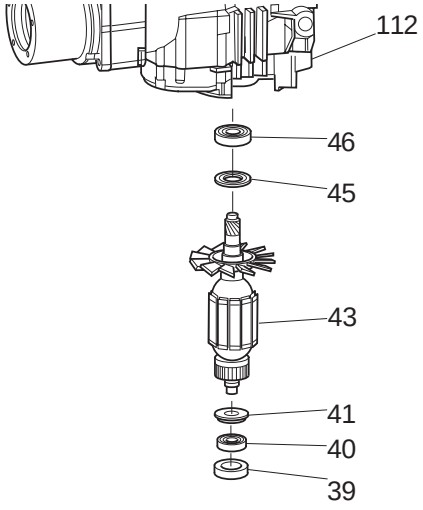


Fig. 59

Assembling the motor housing

1. Position two brush holders and secure with four screws (34).
2. Fit field location rubbers (37) to motor housing (35) and fit field coil assembly (38) and baffle (42).

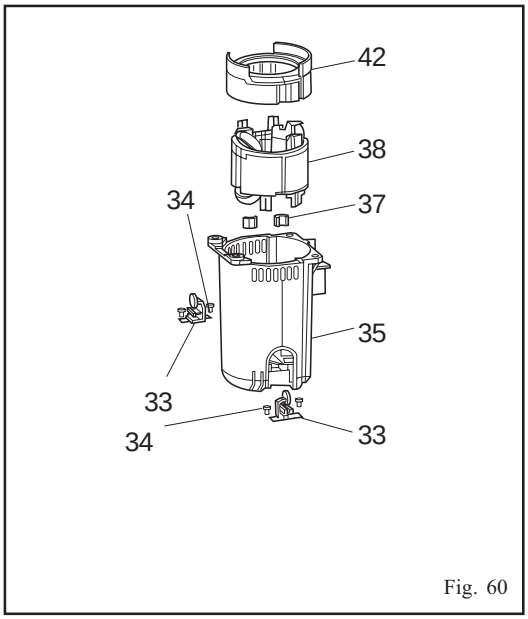


Fig. 60

Fitting the motor

1. Position motor housing (35) to gear box (56) ensuring the gears engage, secure the motor using two screws (36) and two screws (50) **torque load to 4Nm**.

2. Fit two brushes (32) and two brush covers (29 and 30) and secure with two screws (31) **torque load to 1.8Nm**.

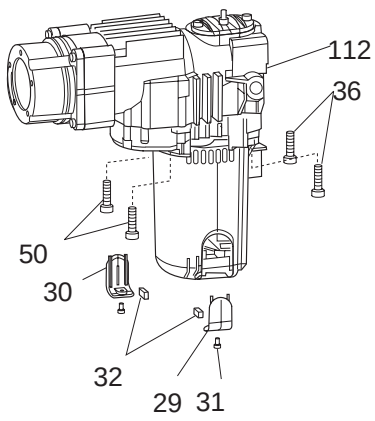


Fig. 61

Assembling the top cover (BK, KV only)

1. Fit top cover (102) to machine and secure with retaining ring (103). Slide strap casting (109) onto the transmitter housing.

2. Position adapters (106) onto strap casting (109). Fit handle (104) onto the adapters, secure together using bolt (105), washer (107) and locking knob (108).

3. Fit cover (110) and retaining ring (111).

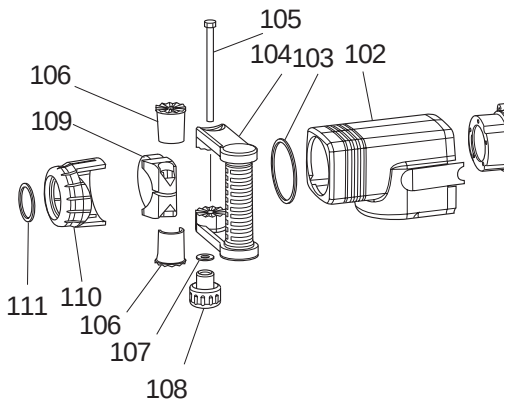


Fig. 62

Assembling the isolation module assembly

1. Fit bellows (20) to mount (19) insert module (21).

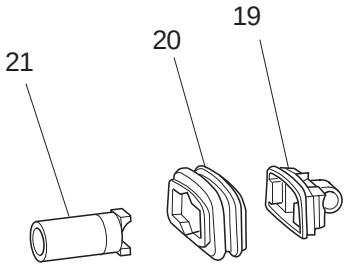


Fig. 63

Assembling the lower handle

1. Route RTR loom (26) through lower handle cover (13) and position grommet (16).
2. Secure with retaining plate (28) and screw (27) **torque load to 0.7Nm.**
3. Fit pivot isolators (15).

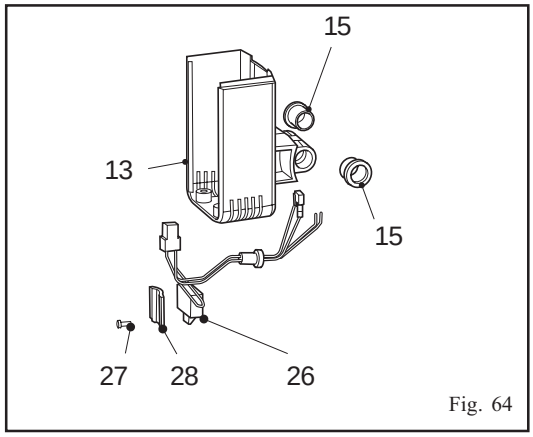


Fig. 64

Assembling the speed control switch and handle

1. Fit handle half (5) to lower handle assembly.
2. Fit lower cord clamp (8), and terminal block (126) to handle (5).
3. Fit cable and cord protector (11 & 12).
4. Fit switch (24) and speed control (10) to handle (5) and connect wires. Connect wires from RTR loom to switch (24) and terminal block (126).
5. Fit foam slug (9), upper cord clamp (7) and bellows assembly to handle (5). Position handle (6) and secure with four screws (2) **torque load to 1.8Nm.**
6. Fit cushion grip (1) and secure with one screw (2) **torque load to 1.25Nm.**

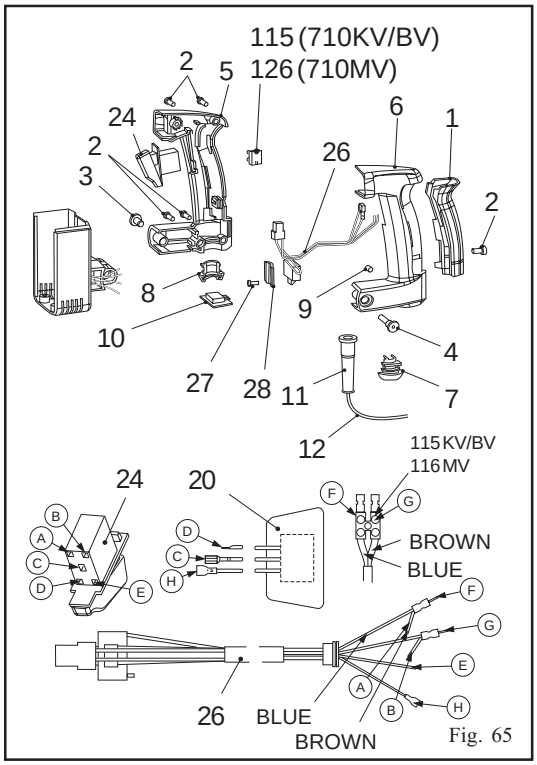


Fig. 65

Assembling the handle covers

1. Fit upper handle cover (23) and secure with two screws (22) **torque load to 1.8Nm**.
2. Slide up rear handle assembly, taking care to locate module (21) within upper handle cover.
3. Secure with lower handle screw (14) **torque load to 1.8Nm.**
4. Fit washers (18) to screws (17) and use to secure bellows **torque load to 4Nm.**

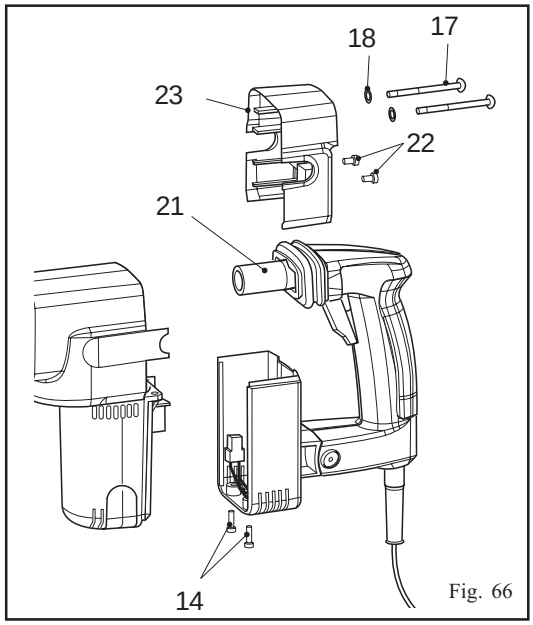


Fig. 66

760MV ASSEMBLY

Assembling the piston assembly

1. Fit bearing (80) into connecting rod (140).
2. Position connecting rod (140) to piston (83) and fit gudgeon pin (82) to secure.

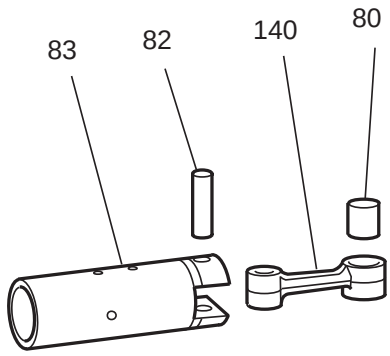


Fig. 67

Assembling the barrel

1. Fit crown wheel (89), crown wheel bearing (88), waved washer (87) and circlip (86) to barrel (90).
2. Fit striker (85), striker seal (84) and piston assembly (83) inside barrel (90).
3. Position barrel assembly into top housing (79).

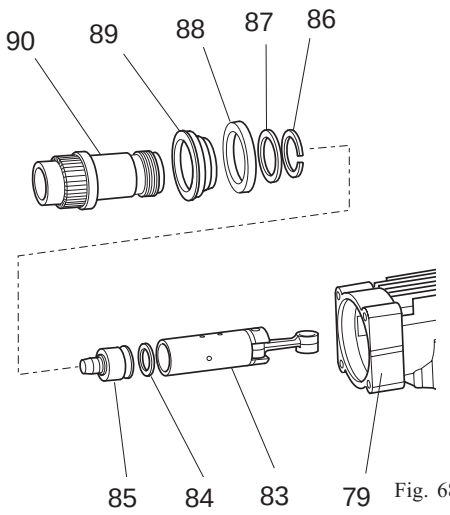


Fig. 68

Assembling the bearing housing

1. Fit the following items to the bearing housing (100):
   - O-ring (99)
   - dry sliding bearing (98)
2. Assemble the following to the drive sleeve (94):
   - washer (93)
   - spacer (92)
   - washer (93)
   - circlip (91)
3. Fit drive sleeve assembly to top housing (79). Fit locking ring (95).

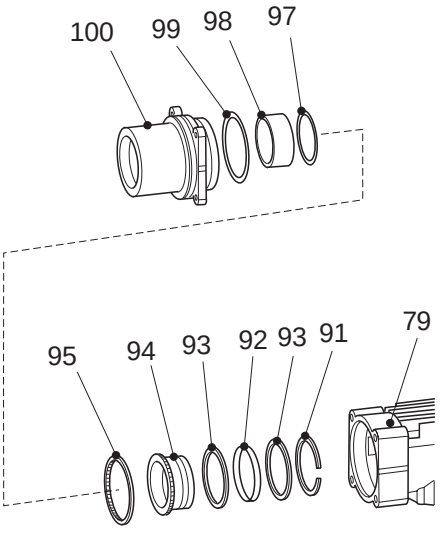


Fig. 69

Assembling the driver

1. Fit the following items to driver (110):
   - junk ring (109)
   - anvil (107) complete with seals (108)
   - recoil transfer ring (106)
   - buffer ring (105)
   - catcher housing (104) complete with O-ring (103)
   - wire ring (102)

2. Fit bearing (111), circlip (112) to driver assembly.

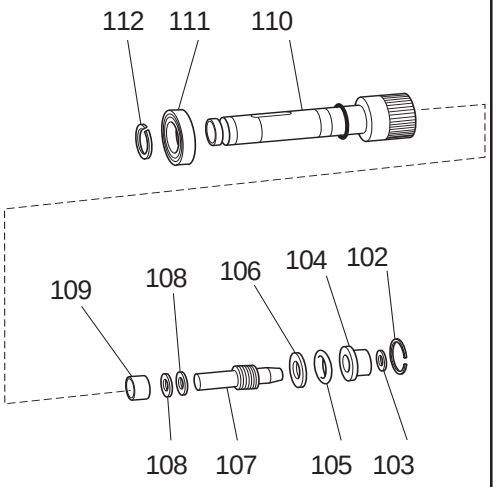


Fig. 70

Assembling seal to nosepiece

1. Press seal (113) into nosepiece (114).

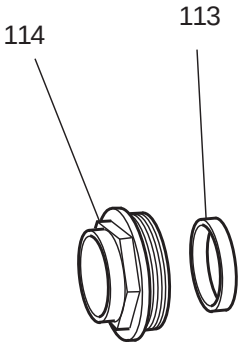


Fig. 71

Assembling the driver

1. Fit driver assembly (110) to bearing housing. Assemble washer (97) and spring (96) to spline end of driver (110).

2. Locate bearing housing assembly (100/110) into top housing (79), ensuring that splines locate into top housing.

3. Secure with 4 screws (115). **Torque to 15 Nm.**

4. Screw on nosepiece (114) to bearing housing (100), **torque to 50 Nm**.

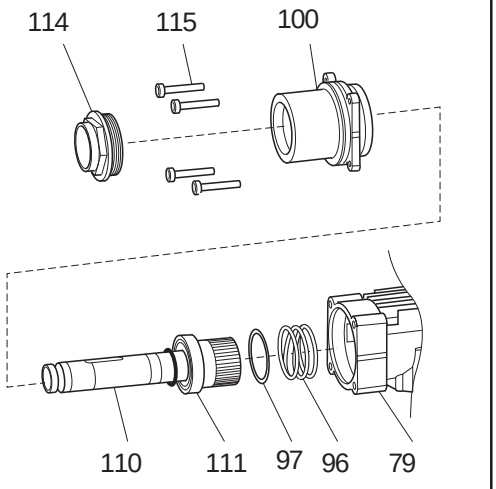


Fig. 72

760KV/760SV ASSEMBLY

Assembling the piston

1. Fit bearing (82) into connecting rod (125).
2. Position connecting rod (125) to piston (85) and fit gudgeon pin (84) to secure.

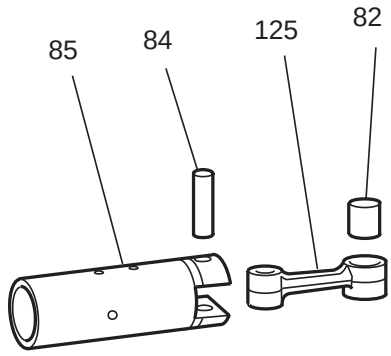


Fig. 73

Assembling the driver

1. Press bearing (98) onto driver (96) secure with circlip (99).
2. Fit the following items into driver (96):
   - junk ring (95)
   - anvil seals (94)
   - anvil (93)
   - recoil transfer ring (92)
   - buffer ring (91)
   - catcher housing (90)
   - O-ring (89)
3. Screw driver assembly into barrel (88) **torque load to 60Nm.**

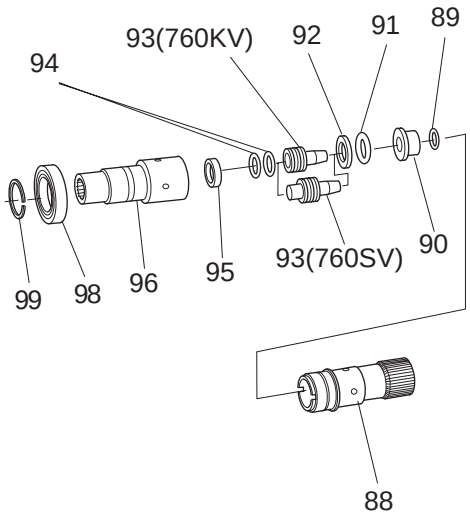


Fig. 74

Assembling the barrel

1. Press seal (100) into bearing housing (102).
2. Fit striker (87), striker seal (86) and piston assembly (85) into barrel assembly (88).
3. Fit barrel assembly (88) into bearing housing and secure with circlip (97).

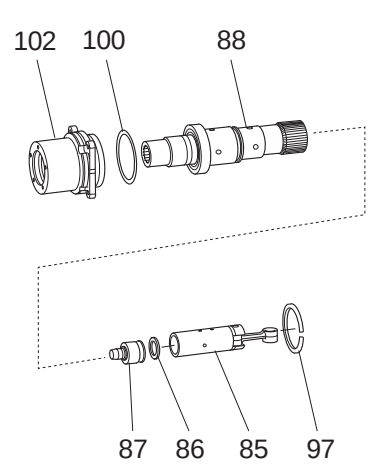


Fig. 75

Assembling the bearing housing

1. Fit O-ring (101) to bearing housing (102).
2. Press bearing (80) onto crown wheel (81). Assemble them into top housing (79).
3. Assemble bearing housing assembly to top housing (79). Secure with four screws (103), **torque load to 15Nm.**

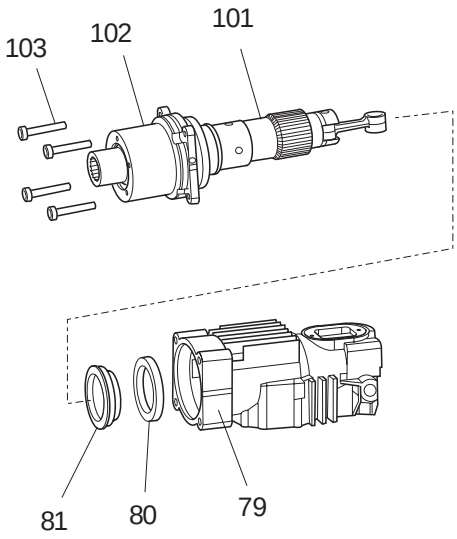


Fig. 76

Assembling the nosepiece

1. Fit nosepiece (104) to bearing housing (102) and secure with five screws (109) **torque load to 10Nm**.

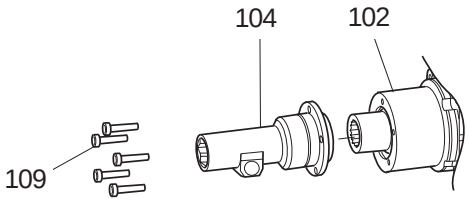


Fig. 77

Assembling the crank

1. Press bearing (62) onto crank (65).
2. Fit crank key (64) in crank (65).
3. Fit crank assembly to top housing ensuring crank pin is fitted into the connecting bearing.
4. Secure with circlip (61).
5. Support crank (65) through access hole in top housing, fit crank gear (60) and secure using (59).

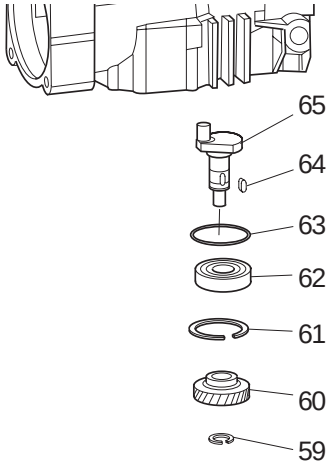


Fig. 78

760KV/SV/MV ASSEMBLY

Assembling the bevel pinion

1. Press bearing (75) onto bevel pinion (77).
2. Fit O-ring (76) to top housing (112).
3. Fit pinion (77) and bearing (75), securing with circlip (74).
4. Assemble the following items:
   - bush (73)
   - drive gear (72)
   - friction disc (71)
   - tab washer (70)
   - disc spring (69)
   - clutch nut (68)
5. Torque clutch nut (68) to 3Nm and lock by bending lock tab (70).

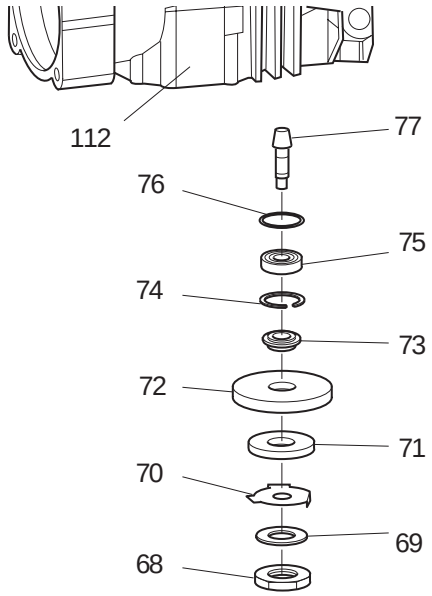


Fig. 79

Assembling the top housing cover

1. Fit O-ring (52) to access cover (51).
2. Fit breather assembly ((126) KV, SV) ((141) MV) to cover (51).
3. Fit cover (51) to top housing (79) and secure using two screws (50) and two washers ((121) KV, SV) ((144) MV) **torque load to 2Nm**.
4. Fit two rear handle plugs (53).

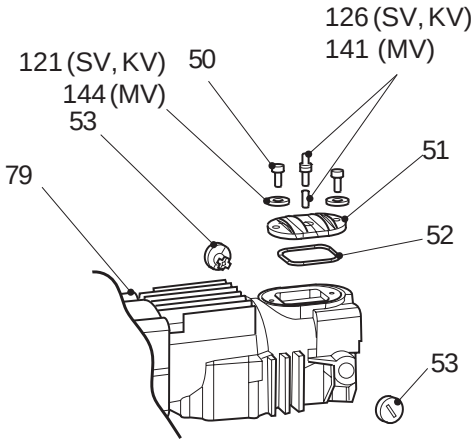


Fig. 80

Assembling the gear box

1. Fit two dowel pins (66) and gasket (57).
2. Fit lower clutch bearing (67), bearing (58), seal (47) and O-ring (55) to gear box (56).
3. Secure box to top housing (79) using six screws (54) **torque load to 3Nm**.
4. Fit blanking knob (78) (KV, SV only).

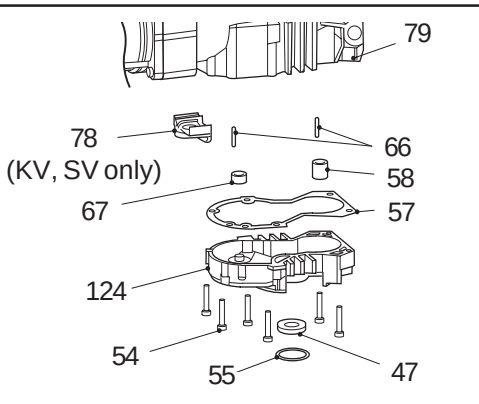


Fig. 81

Assembling the motor housing

1. Position two brush holders and secure with four screws (34).
2. Fit field location rubbers (37) to the motor housing (35) and fit field coil assembly (38) and baffle (42).

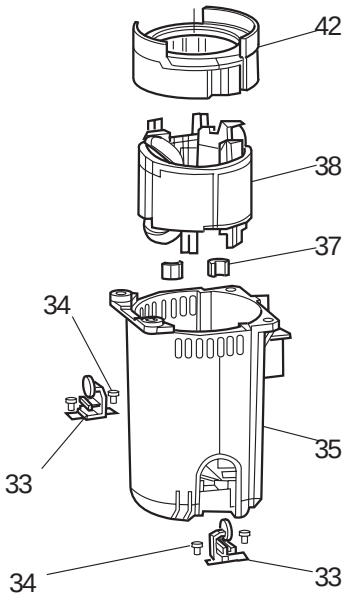


Fig. 82

Assembling the motor (armature)

1. Fit sealing ring (45) and bearing (46) to the armature (43).
2. Fit washer (41), bearing (40) and bearing mounting (39) on the armature.
3. Fit assembled armature into gearbox (112).

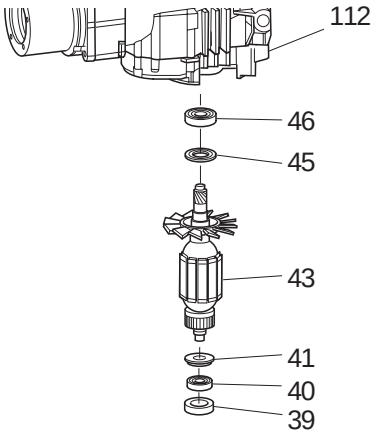


Fig. 83

Fitting the motor

1. Position the motor housing (35) to the gear box (56) ensuring the gears engage, secure the motor using two screws (36) and two screws (50) **torque load to 4Nm**.
2. Fit two brushes (32), two brush covers (29 and 30) and secure with two screws (31) **torque to 1.8Nm**.

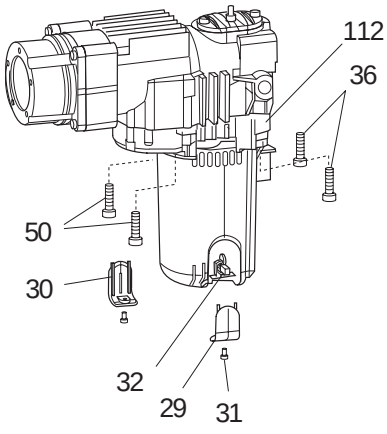


Fig. 84

Assembling the top cover (KV, SV only)

1. Fit top cover (112) to top housing and fit retaining ring (118).
2. Fit strap casting (114), screw (113) gauge change (111) and secure using clamping wheel (115). Fit handle (116) and secure using screw (117).
3. Fit cover (119) and secure using retaining ring (120). Fit depth gauge rod (110).

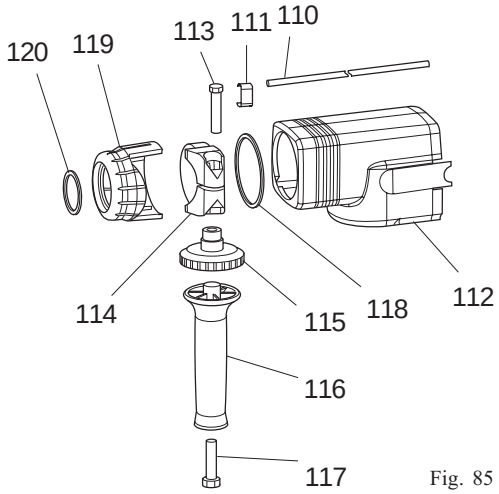


Fig. 85

Assembling the latch bar

1. Fit latch bar (105), spring cover (106), latch spring (107) and secure with latch retainer (108).

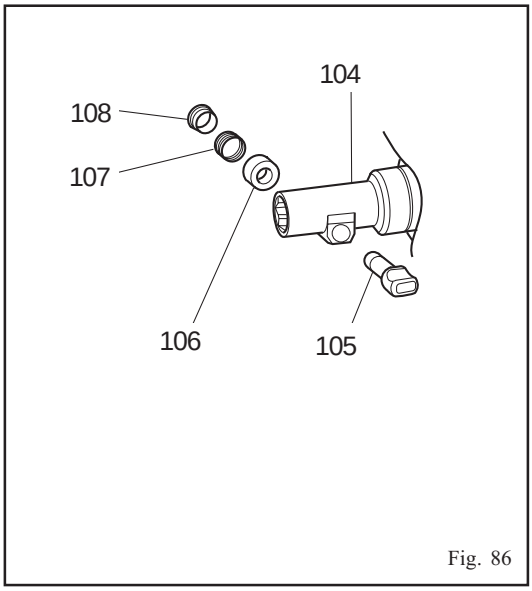


Fig. 86

Assembling the top cover (MV only)

1. Fit top cover (116) to top housing and fit retaining ring (118).
2. Fit strap casting (127), screw (123) gauge clamp (122) and secure using clamping wheel (126). Fit handle (125) and secure using screw (124).
3. Fit cover (128) and secure using retaining ring (129). Fit depth gauge rod (121).

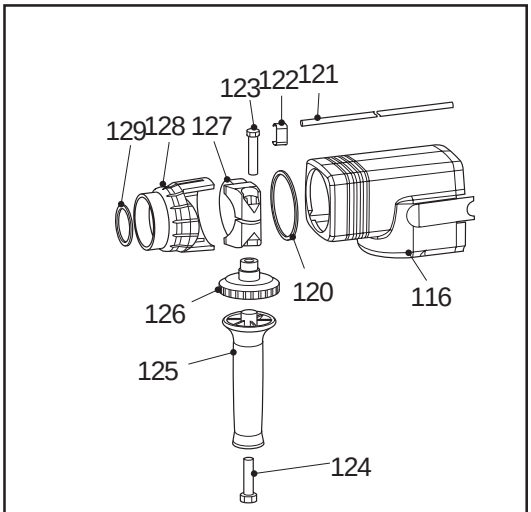


Fig. 87

Assembling the chuck assembly (MV only)

1. Fit the following items onto driver (110):
- washer (130)
- latch spring (131)
- latch plate (132)
- latches (133)
- chuck (134)
- buffer (135)
- buffer stop (136)
- wire clip (137)

2. Fit chuck cover (138) and nose cone end cap (139).

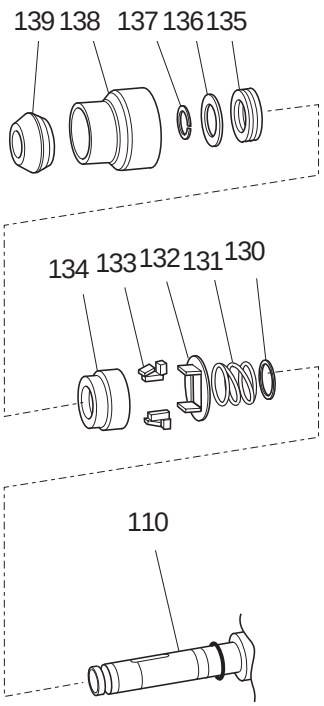


Fig. 88

Assembling the switch assembly (MV only)

1. Fit knob (145) and secure using clamp plate (146) and two screws (147). **Torque load to 0.7Nm.**

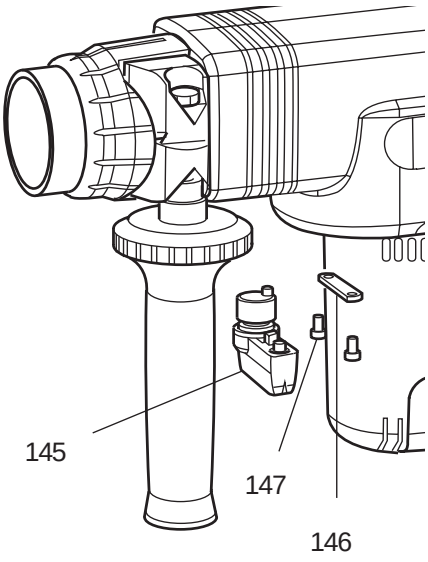


Fig. 89

Assembling the isolation module assembly

1. Fit bellows (20) to mount (19) insert module (21).

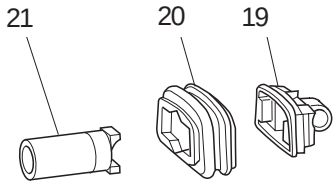


Fig. 90

Assembling the lower handle

1. Route RTR loom (26) through lower handle cover (13) and position grommet.
2. Secure with retaining plate (28) and screw (27) **torque load to 0.7Nm.**
3. Fit pivot isolators (15).

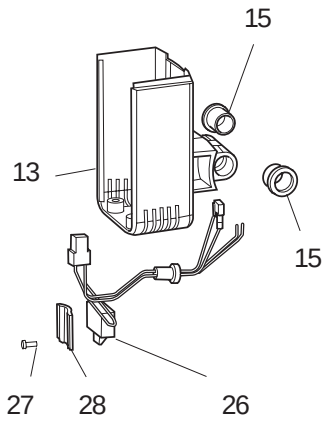


Fig. 91

Assembling the handle halves and speed control switch

1. Fit handle half (5) to lower assembly.
2. Fit lower cord clamp (8), and terminal block ((123) 760KV/SV) ((143) 760 MV) to handle (5).
3. Fit cable and cord protector.
4. Fit switch (24) and speed control (10) to handle (5) and connect wires. Connect wires from RTR loom to switch (24) and terminal block (126).
5. Fit foam slug (9), upper cord clamp (7) and bellows assembly to handle (5). Position handle (6) and secure with four screws (2) **torque to 1.8Nm**.
6. Fit cushion grip (1) and secure with one screw (2) **torque to 1.25Nm**.

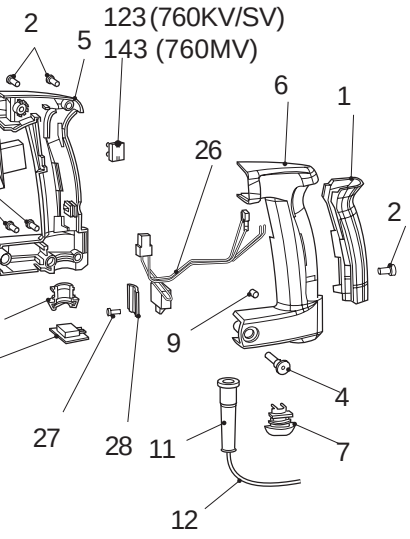


Fig. 92

Assembling the handle covers

1. Fit upper handle cover (23) and secure with two screws (22) **torque load to 1.8Nm**.
2. Slide up rear handle assembly, taking care to locate module (21) within upper handle cover.
3. Secure with lower handle screw (14) **torque load to 1.8Nm.**
4. Fit washers (18) to screws (17) and use to secure bellows **torque load to 4Nm.**

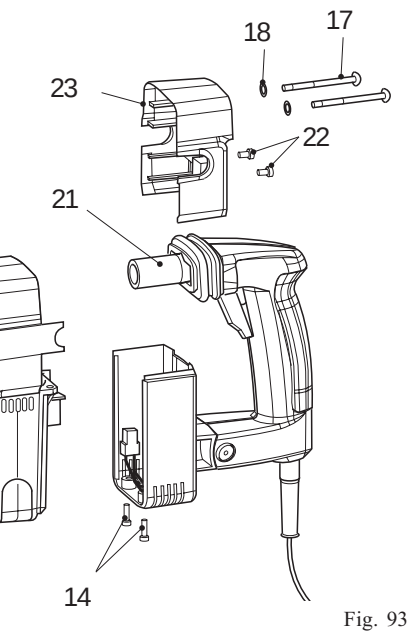


Fig. 93

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 over-stressing 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.