Thorn Domestic Appliances (Electrical) Ltd. Service Division

REVISED This manual supersedes K002

KENWOOD Service Manual and Spares List for Chef models A.701 A.701A & Attachments

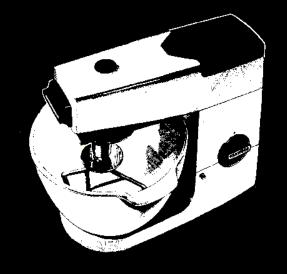


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THORN DOMESTIC APPLIANCES (ELECTRICAL) LTD.,
SERVICE DIVISION,
LIMBERLINE ROAD, HILSEA, PORTSMOUTH, HANTS.
TELEPHONE: Portsmouth 64466

OVERSEAS ENQUIRES AND ORDERS TO: THORN DOMESTIC APPLIANCES (EXPORT) LTD.. NEW LANE, HAVANT, HANTS. TELEPHONE: HAVANT 6400

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All reasonable care has been taken to ensure the information contained in this publication is correct at the time of printing.

Product Specifications and accessories are subject to change without notice, and the right is therefore reserved to supply goods which may differ slightly from those illustrated and described in this publication.

In order to ensure prompt supply of replacement parts it is ESSENTIAL to provide the following information:

- 1. Model Number
- 2. Serial Number
- 3. TDA Part Number
- 4. Part Description

When ordering coloured parts the following chart gives the colour corresponding to the part number suffix:

PART NO. SUFFIX	COLOUR
GY	Grey
R	Red
Y	Yellow
ZN/W	New White
Z	White
BE1	Light Blue
BE4 & BE5	Dark Blue
BN1	Brown
WE1	White

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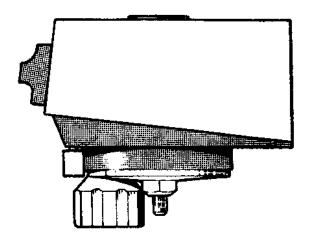
General Description

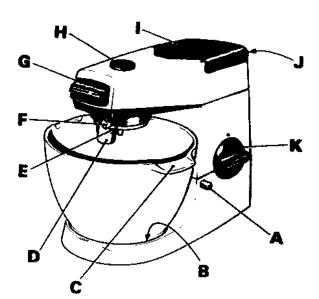
The Kenwood Chef is a free standing food preparation machine, for which a range of attachments is manufactured. Power is provided by a series wound motor, the speed of which is varied by a controller assembly. Radio and television suppression components are fitted. The machine has four power outlets, three through a gear box, and the fourth a high speed outlet which is a direct drive from the armature shaft of the motor. Removal of the high speed outlet cover automatically disconnects the drive from the motor to the gear box.

The motor and the gearbox are encased by a stove enamelled aluminium casting.

The head of the machine is hinged and a spring and push button quadrant lock assembly allows it to be opened and closed with one hand. The machine is double insulated and does not require to be earthed.

A 701 Up to Serial No. 253476.





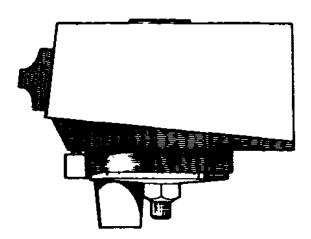
The models A701 and A701A differ in the method employed to secure the attachments to the Planetary drive.

The model A701 has a spring loaded beater release ring, which when rotated allows the shaft of the attachment to be inserted into the housing. A recess in the top of the attachment drive shaft engages with a pin in the housing and when the ring is released, the spring engages into a recess in the shaft to secure it.

The model A701A planet hub is designed to accept a beater shaft with a drive pin and circlip form of fixing which enables attachments to be fitted with a push-in action.

Attachments designed to be driven by the planet hub are peculiar to each model e.g. 'K' Beater, Whisk, Dough Hook, Potato Peeler and Colander & Sieve. All other attachments designed to be driven by the slow speed outlet, high speed outlet and Juice Extractor outlet can be used with either model.

A701A After Serial No. 253476.



- A. Push Button Release.
- B. Bowl Recess.
- C. Bowl handle and pouring lip.
- D. Beater fixing.
- E. Planet Hub.
- F. Slow speed attachment locking catch knob.
- G. Slow speed outlet cover.
- H. Juice extractor outlet cover.
- High speed outlet cover.
- High speed outlet cover catch knob.
- K. On/Off Switch and speed control knob.

Specification

With the exception of the Planet Hub arrangement, the specifications of the two models are identical. Overall dimensions with bowl:

Length	381mm (15ins.)
Width	267mm(10 ½ ins.)
Height	304mm(12ins.)
Weight plus bowl	9.09Kg.(20lbs.)
Voltage range	200/250 volts A.C.50-60 Hertz
	110/150 volts AC.50-60 Hertz
	(Up to serial No. 1002844)

Double insulated (Note: Certain overseas countries use an earthed 3 core cable)

Wattage	450 watts
Speeds	Variable control

60 r.p.m. ± 5 r.p.m. at minimum setting of control knob to a maximum of 180 - 200 r.p.m. setting of control knob. Measured at planet hub or juice extractor outlet.

Recommended fuse - 200/250 v 3 amps 110/115v 10 amps

The Serial No. and rating data plate is sited on the underside of the pedestal.

List of Service Tools Required

TDA Part No.	Decription
327214	Phillips No. 302 Screwdriver T36
264618	5/16" O/E Spanner T40
327769	2BA Allen Key T43
327252	Phillips No. 301 Screwdriver T56
327264	1/8" Insulated Screwdriver T57
237421	Tension Pin Extraction/Insertion Tool T150
264591	7/16" O/E Spanner T151
264606	3/16" Screwdriver (long blade) KT10068
250057	Pulley Removal Locking Fixture KT10167
237718	Circlip Dispenser KT10168
256702	Centralising Plate KT20078

DISMANTLING INSTRUCTIONS

ALWAYS DISCONNECT MAINS SUPPLY FIRST AND SUITABLY PROTECT THE PAINT FINISH ON THE CASTINGS.

A) Top Cover (1)

- 1) Remove bowl (54).
- 2) Remove Slow speed outlet cover (8).
- 3) Remove High speed outlet cover assembly (2).

- Remove three screws (17) and washers (18) 4) securing Spigot plate assembly (16).
- 5) Lift off Spigot plate assembly (16) note the position of the location slots.
- Lift off Top Cover (1) rear end first and remove 6) anti-vibration ring (10).

B) Timing Belt (92)

- Follow previous instructions (A).
- Remove timing belt (92). 2)

Note: early belts part no. 197920 must be only used with the black small pulley (127) and metal large pulley assembly (90). Part No. 197944 Red banded belt, must be used when either small pulley (127) or the large pulley assembly (90) are made of glass filled nylon.

C) Small Pulley (127)

- 1) Follow previous instructions (A) and (B).
- 2) Remove sleeve (128),
- 3) Using tool No. T150 carefully remove tension pin (129).
- The small pulley can now be withdrawn from the 4) motor spindle.

Note: Replacement small pulleys will be of glass fibre filled nylon, always use a Red banded belt.

D) Planet Hub and Beater fixing assembly

- 1) Lift head of mixer.
- Remove planet nut (82 or 86) and washer (83). 2)
- Remove High speed outlet cover assembly (2). 3) with a hide mallet.

E) Planet Gear (73 or 81)

- 1) Follow previous instructions (D).
- 2) Remove push on fastener (74) and lift off planet

Note: Before serial number 157894, model A701, a different planet gear was used, see illustration.

F) Planet Gear Shaft (72 or 85)

- Follow previous instructions (D) and (E). 1)
- 2) The Drive Shaft (72 or 85) can now be withdrawn from the Planet Hub.
- A701 only. The Beater release ring (75) can now 3) be removed with the shaft (72).

G) Beater Release Cover (76) and Spring (77) A701 only

- 1) Lift head of mixer.
- Remove three screws (78) securing Release 2) Ring cover (76),
- Lift away release ring cover. NOTE: A small pin 3) which is part of the release ring cover, is used to operate the spring. Always ensure the cover is correctly assembled with the pin engaging the side wall of the spring.
- The spring may now be removed, noting, the tail of the spring engages into a hole in the planet shaft. If the spring has fatigued, replace, do not attempt to adjust.

H) Gear-box Assembly

Follow previous instructions (A) and (B). 1)

- Pull knob (11) from slow speed attachment locking lever.
- Remove lower gear box cover (12) by removing four screws (13).
- The spring (87) and cover felt (14) may now be removed.
- Remove two screws (95) and washers (96) two special screws (94) and nuts (97). The gear box assembly can now be lifted away.
- To remove Planet Hub assembly follow previous instructions (D).
- 7) The service replacement gear box is supplied minus planet hub assembly, Clutch dog (88), large pulley (90) and spring (87).

NOTE: In the Home Market, internal defects in the gearbox should be dealt with by fitting a service replacement gearbox.

For the information of overseas agents, details of the gearbox instructions are given on page 6.

I) Clutch dog (88) and Large Pulley assembly (90)

- Follow previous instructions (A) and (B).
- Use special tool KT 10167 by inserting into slow speed outlet, this will lock the gear train.
- Remove Clutch Dog (Right hand thread) with 7/16" SPANNER T151.
- The large pulley assembly (90) spring (89) and washers can now be removed.

NOTE: If the gear train is broken inside the gear box, it will not be possible to lock the gear train using tool KT10167. The following procedure should be adopted.

 With a long nose pair of pliers hold the shaft of the Drive Pinion and remove the Clutch dog.

NOTE: Replacement large pulley assemblies (90) will be glass fibre filled nylon. It is not necessary to use the paxolin washer 203602. The timing belt must be of the red banded type (197944), when used with glass fibre filled nylon large pulley assembly (90).

If re-using the metal type large pulley assembly, ensure the paxoline washer (203602) is fitted over the protruding part of the bearing before refitting to shaft. NOTE: On re-assembly, raise the threaded portion of the Drive pinion to full extent, prior to assembling Clutch dog to thread.

J) Catch Pin (25) and Quadrant Assembly (28)

- 1) Lift head of mixer.
- Remove circlip (27) from outer end of Catch Pin (25), slide catch pin out from Pedestal (37), the spring (26) is now free.
- When refitting circlip, Tool KT 10168 is available, which will assist in retaining circlip whilst being refitted to catch pin.
- To remove Quadrant assembly, first carry out previous instructions 1 and 2.
- Remove four screws (31) securing Body cover (30) allow Body Cover to drop.
- Access is now available to two screws (29) securing Quadrant assembly to Body assembly.

K) Flex Cord Assembly (55)

ENSURE MAINS SUPPLY IS DISCONNECTED

1) Remove screw (34 and 36) together with cable

- clip (33) from terminal cover (32). Withdraw terminal cover.
- Disconnect cord assembly from terminal board assembly by removing screws (154) and washers (155) and earth wire, (fitted only to certain overseas machines).
- Slacken screws (42) from cable clamp assembly and withdraw cord assembly.
- 4) The cable clamp upper (40) clamp lower (41) cable bush (43) and bush ring (44) can now be replaced if necessary.

NOTE: On machines prior to Serial No. 144851 a cable grommet screw and cable clip was used. The pedestal used with this type of clamp is no longer available. Use the current type with the latest cable clamp.

L) Pedestal (37)

- Follow previous instructions (J & K).
- Using a pin punch, the hinge pin (49) can be removed, thus separating the pedestal (37) from the body (19).
- The counter balance spring (45) pin (46) and collar (47) can be removed, by removing circlip (48).
- When refitting the circlip, Tool No. KT 10168 can be used.
- If replacing the pedestal ensure the model/Serial number plate is transferred to the new pedestal.

M) Rubber Feet (38)

- Remove mixing bowl and place machine on its side.
- Early machines had the five rubber feet pushed into the recess on the base of the pedestal. Later machines have a hammer drive pin used to secure the rubber feet. Remove with a pair of pliers.
- If the hole for the hammer drive pin is damaged, secure the replacement rubber feet with an adhesive

N) Motor Controller Assembly

NOTE: In the Home Market, any defect on the motor armature, fields or bearings should be dealt with by fitting a factory assembled service replacement motor controller. For the information of overseas agents, details of the motor assembly are given on page 7.

ENSURE MAINS SUPPLY IS DISCONNECTED

- Follow previous instructions (A and B) (K1 and 2).
- Remove two screws (156) securing terminal board assembly. Allow board to fall through aperture in body cover (30).
- With head of machine raised, remove four screws (31) securing body cover (30). Allow to drop, the body cover cannot be removed at this stage.
- Remove two screws (29) securing quadrant assembly (28), push catch pin (25) and allow quadrant assembly (28) to slide down over catch pin (25).
- The body cover (30) can now be removed.

- Release four screws (124) securing motor controller assembly to body (19). The screws (124) will be retained by the rubber mounting grommets (123).
- 7) The motor controller assembly may now be withdrawn from the body (19) if difficulty is experienced in withdrawing motor controller assembly, slacken off the lock nuts (23) and screws (22) used for centralising.

Notes on re-assembly:

- a) Ensure the spacing washers (125 and 126) are fitted to either side of the rubber mounting grommet (123) if necessary fix into position using a rubber solution. The securing screws must be tight, they have a shoulder so cannot be overtightened.
- b) Ensure the insulation ring (24) is fitted over the end frame of the motor and that the split is sited between the centralising screws (22).
- After refitting the motor controller assembly, a check must be made for centralising as follows:

O) Centralising of Motor Controller Assembly

- When replacing or refitting the motor controller to the body (19), a check must be made for centralising before refitting the top cover (1).
- A special tool is available for this purpose (KT20078). This fits over the small pulley (127) and locates into the three tapped holes for the spigot plate assembly (16).
- Adjust the three centralising screws (22) so that the small pulley is centrally disposed in the central aperture of the tool. Tighten the lock-nuts (23) and apply a small quantity of Shellac to lock into position.
- 4) If the special tool KT20078 is not available, use the existing spigot plate assembly (16) loosely secure to body assembly and adjust by the three centralising screws (22) so that the small pulley (127) is centrally disposed in the centre aperture of the spigot assembly (16). Lock into position.
- 5) When refitting the top cover (1) and the spigot plate assembly (16) re-check that the spigot plate assembly (16) is centrally disposed to the small pulley.

P) Carbon Brush Assembly (165)

- Follow previous intructions (N).
- 2) Remove brush holder caps (166).
- 3) Brushes can now be removed for examination. Replace if they are shorter than 9.5mm (3/8").

Q) Motor Controller Assembly Control Knob (130)

(Before Serial No. 628327)

- 1) Follow previous instruction (N),
- Using special tool T150 remove the Tension pin (133) securing the Control knob (130) to the shaft, withdraw the knob from shaft.

(After Serial No. 628327)

- The control knob (130) can be removed without removing the motor controller assembly from the body casting (131).
- With a thin penknife blade carefully lift away Kenwood name plate (131).
- With a pair of pliers release the circlip (132) securing the knob to the shaft, now withdraw

control knob (130).

NOTE: Relacement control knobs are suitable for either type of fitting.

R) Cam friction Spring (135) and Cam (134)

- 1) Follow previous instructions (Q),
- The Cam friction spring (135) and Cam (134) can now be withdrawn from the shaft.
- When replacing Cam (134) ensure the engagement pin on the Contact Bar assembly is located into the slot in the rear of the cam.

S) Main On-Off Switch (136)

- 1) Follow previous instruction (N),
- 2) Remove two screws (137) shakeproof washers (138) and washer (140) Solder tag (139).
- Unsolder leads.
- 4) The switch is now available for replacement.

T) Contact Bar Assembly

NOTE: The contact bar assembly can be removed by removing the motor controller assembly from the body casting (19) see instructions (N) or by following these instructions:

- 1) Follow previous instructions (K) and (N 1-5).
- The contact bar assembly is now available for service.

To remove the contact bar assembly from the motor controller assembly:

- Remove two speed adjusting screws (150) together with springs (152) and clips (151).
- If any defect occurs to the contact arms or points, the complete contact bar assembly should be replaced.
- Certain modifications have been made to the design of the contact bar assembly during its production life. The latest contact bar assembly supplied for service requirements is directly interchangeable with previous designs on these models.

NOTE:

- a) When replacing capacitor (143) care must be taken to ensure that the leads connecting it to resistor (144) are kept short to avoid the capacitor being pressed into contact with the on-off switch, a minimum of 9.5mm (3/8") clearance is required.
- b) Earlier contact bar assemblies had a 2 amp white sleeved choke which is wired in series with the contact arms and sited as a flying lead choke. It is possible this can give rise to interference. Current production contact bar assemblies have a 3 amp black sleeve choke (145) sited parallel to the contact arms. Replacement chokes will be of the 3 amp black sleeved type (145) and should be sited parallel to the contact arms, take care it cannot touch the resistor (144).

U) Fan and Governor Assembly (159)

- Follow previous instructions (T).
- Release grub screw securing Fan and Governor assembly (159) to shaft.
- Withdraw Fan and Governor assembly (159).
- As from Serial No. 982173 a glass fibre filled nylon fan is used, the original being metal.

- Service spares will be of the new type, a longer grub screw is used for securing to motor spindle. The new Fan and Governor assembly is directly interchangeable with the original metal one.
- 5) When refitting Fan and Governor assembly, press the motor shaft downwards (i.e. from the small (pulley end).
- 6) Slide the Fan and Governor assembly onto the lower end of the motor shaft until it is firmly pressed against the bronze bush.
- Firmly tighten the fan securing grub screw, and check that the end float on the motor shaft has been taken up.
- A small amount of anti-scuffing paste should be applied to the ball bearing on the governor before refitting contact bar assembly.

V) Controller Housing Assembly (162)

- 1) Follow previous instructions (U).
- Remove two screws (163) and washers (164), remove controller housing assembly (162).
- When re-assembling ensure the motor leads sleeved in P.V.C. pass cleanly through the slot provided in the controller housing assembly (162).

W) Thermal Cut-Out (141)

- Certain overseas machines have a thermal cut out (141) fitted to the underside of the controller housing.
- The thermal cut out is wired in series with the line supply to the motor, see circuit diagram.

X) Radio and T.V. Interference

Provided no fault exists in any of the interference suppressor circuit components, the Kenwood Chef should not give rise to complaint. If interference is encountered the following checks should be made.

- a) A good outside aerial is being used.
- b) That the mixer is not connected to the same power outlet as the receiver.
- That the mixer is situated at least 4.50 metres (15 feet) from the receiver.
- d) In fringe reception areas the fitting of a 50 ohm resistor (part number 200179) in the position shown in the wiring diagram, will effect a cure, but it will be found to slightly reduce the smoothness of the motor speed control.

Speed Adjustment

The speed of the planet hub should be 60 ± 5 r.p.m. at minimum setting of the control knob and can be checked by counting the revolutions of the planet hub against a stop watch. Speed adjustment should be made after the machine is completely re-assembled.

The following service check and speed adjustment procedure should be adopted.

- Lift the head of the machine and leave it in the open position.
- b) Run at maximum speed for at least 3 minutes.
- c) Return the control knob to minimum and check the speed rotation of the Planet Hub within 15 seconds, then switch off. The speed should be 60 ± 5 r.p.m. if incorrect, adjust as follows:

- d) The speed is adjusted by means of the two spring located screws that retain and act as a hinge to the contact bar assembly. These screws may be reached with an insulated screwdriver through the body cover slot and the adjacent hole.
 - The screws should both be adjusted evenly, half a turn at a time, tighten (clockwise) to reduce speed, slacken (anti-clockwise) to increase speed.
- After adjustment switch onto maximum setting of the control knob, re-check the speed within 15 seconds.
- f) If the speed is still incorrect repeat steps (d) and (e).
- g) If the correct speed has still not been attained, start again at step (a) and repeat the test procedure.

Adjustment of Beaters

The correct adjustment for beater is as follows:

- a) Whisk: Just clear of the base of the bowl.
- K. Beater: No more than 2.3mm (3/32") off the base of the bowl.
- 1. Round shaped dough hook 9.5mm (3/8") off the base of the bowl.

To adjust: Hold the beater firmly and loosen the locking nut two or three turns. Screw the shaft up or down as required. Retighten the nut.

- 2. Angular stainless steel dough hook 3.2mm (1/8") off the base of the bowl (Not adjustable).
- Angular scoop shaped dough hook with locknut fully tightened will clear base of the bowl (not adjustable).

IMPORTANT

When using the slow speed outlet it is advisable to remove the mixing bowl and any associated attachments from the planetary hub.

Y) Gear Box Servicing

Top Cover Assembly (98) Gear Box

- Follow previous instructions (A,B,H and I) to obtain access to gear box assembly.
- Remove six screws (115) and on earlier models, six washers securing top cover assembly (98) to body assembly (103).
- The output shaft assembly (109) is a push fit into the bearing in the top cover assembly (98) and can now be removed.
- Remove the spring and tension pins (120 and 121), the latch lever (118) and plunger (119) can be removed without dismantling the Top Cover assembly.

Gears and Body Assembly

- Remove Top Cover assembly (98).
- The following gears may now be removed, noting position of shim washers. (Drive Pinion (112).

Penultimate Gear Assembly (110). Intermediate gear and pinion assembly (111). Vertical drive shaft assembly (108).

Renewing Grease, and notes on re-assembly and re-sealing

- When grease requires re-newing, thoroughly clean the gears, top cover assembly and body assembly, using Kerosene (Paraffin) and dry.
- Re-assemble all gears and shims, replacing as found.
- 3) Check that all teeth mesh and gears run freely.
- 4) Check that the jointing faces are clean and apply a thin coat of silastic or silastoseal (212809) to the body assembly jointing face.

NOTE: On earlier models Red Hermetite was used for jointing and Grey Delcote for sealing the two outer edges of the Top Cover and body assembly.

- Re-assemble Top Cover assembly and secure, check that gears run freely.
- 6) Remove filler cap screw (116) and sealing washer (117). Using a grease nipple gun to inject into the gearbox 133 grammes (4 3/4 ozs) of Shell L.G.P.I. grease (see gearbox parts list for TDA part number).
- 7) Run in gear box on machine, it is normal for a small amount of grease to escape from the juice extractor outlet when initially run-in. This acts as an escape vent to relieve any excess grease present in gear box.

SERVICING THE MOTOR (DISMANTLING MOTOR)

- Suitably mark end frames in relation to stack, to ensure correct re-assembly, lightly polish the motor shaft with a fine grade of emery paper to avoid the possibility of scoring the bearing.
- 2) Remove Brush Caps (181) and Brushes (180).
- 3) Unscrew the three through bolts (188).
- Remove bolts and lift Drive End Frame clear of stack.
- Lift out armature and fan assembly, noting carefully the position if the shims.
- 6) Lift out Field and Stack assembly, taking care to remove the two brush tags and noting the location of the two coloured brush leads for correct assembly.

Examination Of Parts, Armature and Fan Assembly

Visually check:

- That fan is securely fixed to shaft (press fit only).
- 2) For burnt or badly worn commutator.
- 3) For damaged windings.
- For damaged shaft or worn bearings.
- 5) For overheated windings.

Overheated windings will be apparent from discolouration or charring, a shorted coil by discolouration of the defective coil, and excessive pitting of two or more Commutator Segments. It is advised that no attempt should be made to repair faulty armatures, a replacement component should be fitted. Worn commutators should be re-skimmed, minimum diameter .950" (24.13mm) using sharp pointed tipped tool for the best result. Micas should be left flush and the maximum eccentricity is .0015", (0.038mm) Total Indicator Reading.

Armature Shafts

Factory minimum size for shaft diameter is .3114" (7.911mm). Armatures with shaft dimensions below this size should be replaced.

Electrical Test Of Armatures

Provided that the Armature has passed a visual and mechanical check, it should then be given an electrical test: the first test is to apply 1500v 50 cycles between the Commutator and the shaft for ten seconds. If high voltage test gear is not available a 500V D.C. Megger can be used and the reading obtained should not be lower than 5 megohms. If neither high voltage nor megger tests be available a rough check can be given by using a series test lamp at normal mains voltage.

Field Assembly Test

Field Coils should be inspected for signs of over-heating or burning, and replaced should this be apparent. Test the insulation resistance from windings to ground using same equipment as for test on armature. Check for open circuits and resistence value.

Test Specification Of Armature And Field Winding Resistance

Description	Voltage	Resistance
Armature	110V	2.8/3.2 ohms
Armature	220V	11.0/11.5 ohms
Field Coil	110V	1.1/1.3 ohms
Field Coil	220V	4.5/5.0 ohms

NOTE: The above resistance values are measured at an ambient temperature of 15.6° C (60°F).

If the Field Coils are damaged, replace the complete Field Assembly.

If the Field Coil tests are satisfactory, but the lead covering is perished, they may be sleeved with Systoflex or similar insulated material.

Check the soldered tags at the end of the brush lead for good soldered joints.

Drive End Frame Assemblies

End frames are fitted with oil impregnated sintered bronze, self-aligning bearings and lubricated from felt washers. Having checked the motor in the assembled stage and subsequently measured wear on shaft as indicated above, an assessment can be made of the degree of wear on bearings, minimum internal dimensions .3118" (7.920mm). The bearings are held in position by a spring steel retainer with sufficient tension to allow for alignment and yet prevent any possibility of skidding. Should bearings be badly worn, it is suggested that a new bearing be fitted. If bearings are found to be in good condition felt washers should be loaded with good quality lubricating oil, Shell Turbo 41. The end frame is then ready for re-assembly.

Commutator End Frame

Check the bearing as above. Examine brush holders and check that they are secure and that the brushes slide freely in the brush guide. Check the insulation from the brass holder to the end frame using the same equipment as used for the Armature and Field insulation.

Replacing Bearings In End Frame

Drill rivet heads from inside end frame and discard bearing retainer, felt washers, and bearing. Replace with new parts using replacement rivets to secure. When an early enclosed type fan part number 5244 (now obsolete) is fitted to the Motor, you can use 4BA screws, nuts and washers in place of the rivets on the Drive End Frame. Rivets must be used on current motors, using open form type fan, part number 171263. Lubricate felt washers with good quality oil, Shell Turbo 41. Take care not to over saturate.

Re-Assembly of Motor, Read with notes below

Having checked all the components and replaced any defective parts, the motor can now be re-assembled as follows:

Insert brass brush holders into bakelite moulding. Thread all supply leads through correct ventilating hole in the end frame and insert the field lead tags between the moulding and brush holders, setting the tag if necessary, to obtain a firm contact. It is important that the leads are connected to the correct brush holders as reversal will result in wrong rotation. Place field assembly in the end frame, aligning the scribe mark previously made (should end frame have been changed, line should be scribed on new frame in exactly the same position as on the old frame). Check that the field leads cannot foul the armature or balance weights on the controller assembly.

Fit the steel shims to the armature shaft at the commutator end. Lightly oil the shaft and insert in the commutator end bearing.

Fit Drive End Frame over armature drive shaft and tighten through bolts evenly. Ends of through bolts must not protrude in excess of 0.030" (.762mm) above the Drive End Frame Casting face.

The Commutator End Frame face must be square to the centre line of the motor. Insert carbon brushes into brush holders and secure with caps. Repeat running test as previously explained.

Motor must be run with commutator downwards as there is no thrust arrangement at the drive end.

NOTE:1 For certain overseas countries where mains voltages are between 200-240v, a motor with a 30° lead was supplied.

This motor is designed to achieve maximum power at the lower voltage using the same armature and field coils with-in the voltage range of 200-250v.

All countries now have supplied a motor with 15° lead

Note: it is important when replacing a field coil assembly of a 30° lead motor, that the new field coil is positioned as before.

If a new armature is to be fitted, align Field coil in accordance with table and illustration.

A 30° lead motor can be identified by a spot of red paint on the Commutator End Frame.

NOTE: 2 Changes in the method of manufacturing motors have been introduced and these make it necessary for special care to be taken when replacing armatures or field assemblies.

The essential difference in manufacture is in the method of connecting the armature windings to the commutator.

- Fig. 1 Originally the wires were connected to the commutator segments approximately 45° from the point at which they emerge from the armature laminations.
- Fig. 2 Current production armatures have the wires connected to the commutator segments directly in line with the point at which they emerge from the armature laminations.

This armature is supplied as a spare under TDA part number 171287 220v.

This change in the method of armature winding has made necessary a change in the relationship between the brushes and the centre line of the field assembly, and it is most important that when fitting a current production armature in place of one of the original type, the position of the field assembly be adjusted to suit.

The attached drawing illustrates the two types of motors and shows the field assembly to brush relationship of both types.

A motor containing an original type of armature is illustrated in Fig. 1 and the special features are:

- The line between the two brushes is across the two field coils.
- The leads emerge from the motor at approximately 90° to the brushes.
- The lead from the field coil is connected to the brush holder as shown.

A motor containing a current type of armature is illustrated in Fig. 2 and the special features are:

- The line between the two brushes is between the two field coils.
- The leads emerge from the motor adjacent to the brush holder.
- The lead from the field coil is connected to the brush holder as shown.

When an armature is requested the current type 171287 will be supplied and the following procedure must be followed when it is necessary to replace the armature in a motor of the type illustrated in Fig. 1

- 1) Dismantle motor and remove defective armature.
- Pull wiring tag 'A' out of the brush holder, turn the field assembly in a clockwise direction until it assumes the position shown in Fig. 2.
- Re-connect the field coil lead to the brush-holder as shown in Fig. 2 'B'.
- 4) Re-assemble and test motor.

ORIGINAL TYPE

CURRENT TYPE

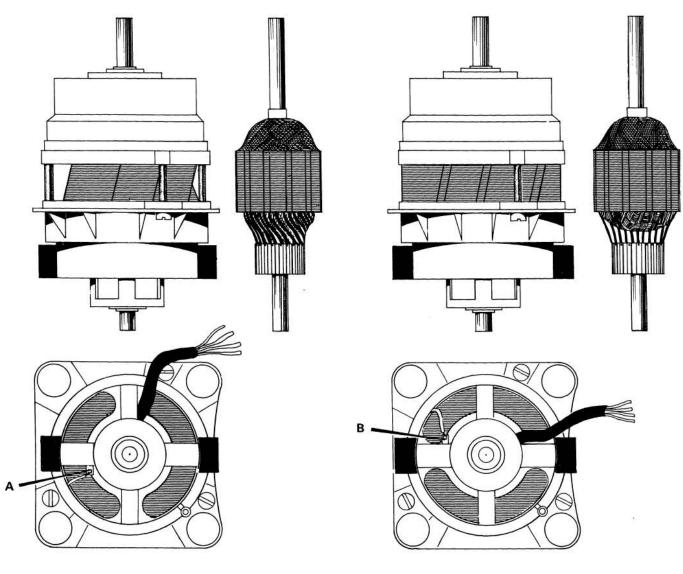


Fig 1

Fig 2

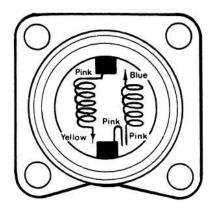


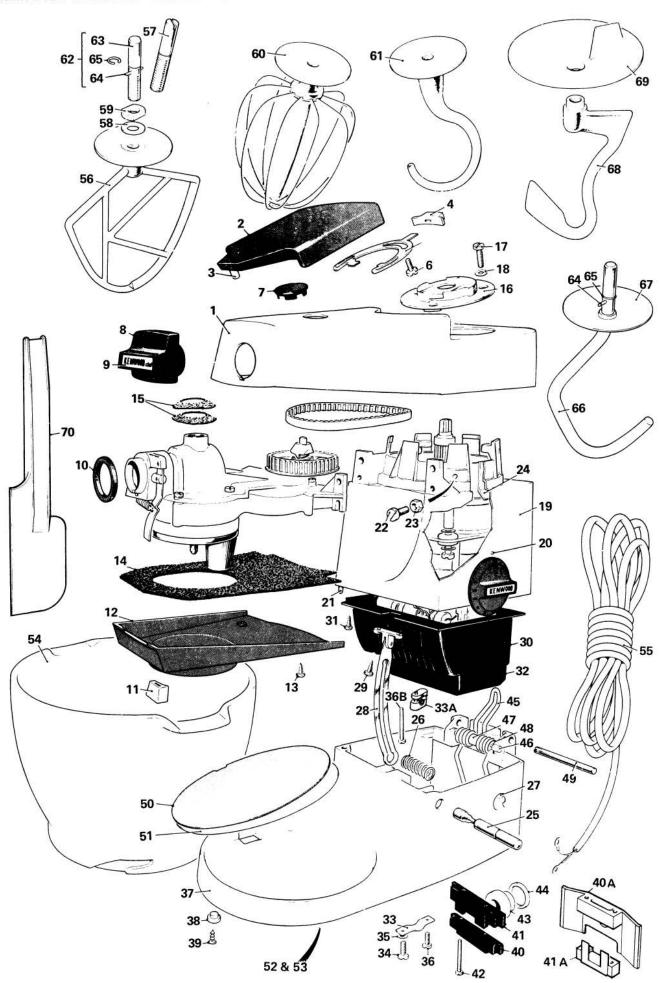
TABLE 1

Permitted Combinations of Armature And Field Assembly

Armature TDA, Part No.	Field Assy. TDA, Part No.	Voltage	Assemble Motor as:
171287 171287	171275 218657	220v 220v	Fig.2 Fig.2 Australia can be used for other

countries.

MAIN BODY ASSEMBLY Item Nos. 1-70



PARTS LIST

NOTE: External plastics have been manufactured in four colours: Grey, Light Blue, Dark Blue, and Brown. Please quote colour when ordering spares.

Please quote	colour when ordering	spares.			
ITEM NO.	TDA PART NO.	DESCRIPTION	QUA A701	ANTITY A701A	REMARKS
1	182092	Top Cover 18613Z	1	1	
1	333196	Top Cover 18613R	2	1	
1	333201	Top Cover 18613Y		1	
1		[1	
1	356409	Top Cover 18613ZN/W		1	
1	356564	Top Cover 18613BE5		3	
2	178352	Liquidiser outlet cover assembly 17744GY	1/20	2	0.1 : 1 1
		comprising:	1	1 2	Original used compressed moulding with moulded in pin. At serial no. 75213 injection moulding, with removable pin introduced.
2	176366	Liquidiser outlet cover with pin 17375GY	1	1	
3	185434	Plastic pin 19349	1	1	
4	177114	Knob 17533	1	1	
5	177229	Lever 17541	1	1	
6	177580	Special screw 17580	3	3	
2	212407	Liquidiser outlet cover assembly 17744BE1		_	
2	212407	** G		1	
•	470000	comprising:		1	
2	176330	Liquidiser outlet cover with pin 17375BE1	-	<u> </u>	
3	185434	Plastic pin 19349	1	!	
4	177114	Knob 17533	1	1	
5	177229	Lever 17541	1	1	
6	177580	Special Screw 17580	3	3	
2	212419	Liquidiser outlet cover assembly 17744BE4			
		comprising:		1	
2	176354	Liquidiser outlet cover with pin 17375BE4		1	
3	185434	Plastic pin 19349	1	1	
4	177114	Knob 17533	1	1	
5	177229	Lever 17541	1	1	
6	177580	Special Screw 17580	3	3	
2	360278	Liquidiser outlet cover assembly 17744BN1		~	
2	300276	comprising:		1	
•	25.05.20			1	
2	356538	Liquidiser outlet cover with pin 17375BN1	1	4	
3	185434	Plastic pin 19349		1	
4	177114	Knob 17533	1	1	
5	177229	Lever 17541	1	1	
6	177580	Special Screw 17580	3	3	
7	177176	Top Cover Cap 17536GY	1	1	
7	177140	Top Cover Cap 17536BE1		1	
7	177152	Top Cover Cap 17536BE4		1	
7	356514	Top Cover Cap 17536BN1		1	
8	178168	Slow speed outlet cover assembly 17719GY			
		comprising:	1	1	
8	266379	Slow speed outlet cover 17539GY	1	1	
9	178182	Slow speed outlet cover nameplate 17720	1	1	
8	178144	Slow speed outlet cover assembly 17719BE	1		
Ü	170144	comprising:		1	
0	177017	Slow speed outlet cover 17539BE1		ì	
8	177217			1	
9	178182	Slow speed outlet cover nameplate 17720	4	<u></u>	
8	178156	Slow speed outlet cover assembly 17719BE	4	•	
	12027242222	comprising:		1	
8	266276	Slow speed outlet cover 17539BE4		!	
9	178182	Slow speed outlet cover nameplate 17720	27	3	
8	356887	Slow speed outlet cover assembly 17719BN	1	400	
		comprising:		1	
8	356526	Slow speed outlet cover 17539BN1		1	
9	178182	Slow speed outlet cover nameplate 17720		1	
8	212574	Slow speed outlet cover assembly 19346GY			
5 2	ALTERI I	comprising:	1	1	Blakeslee,
8	266379	Slow speed outlet cover 17539GY	1	1	
9	185410	Slow speed outlet cover nameplate 19347	1	1	Blakeslee.
			- 50	1	Blakeslee.
8	264515	Slow speed outlet cover assembly 19346BE4	*		Dianesiee.

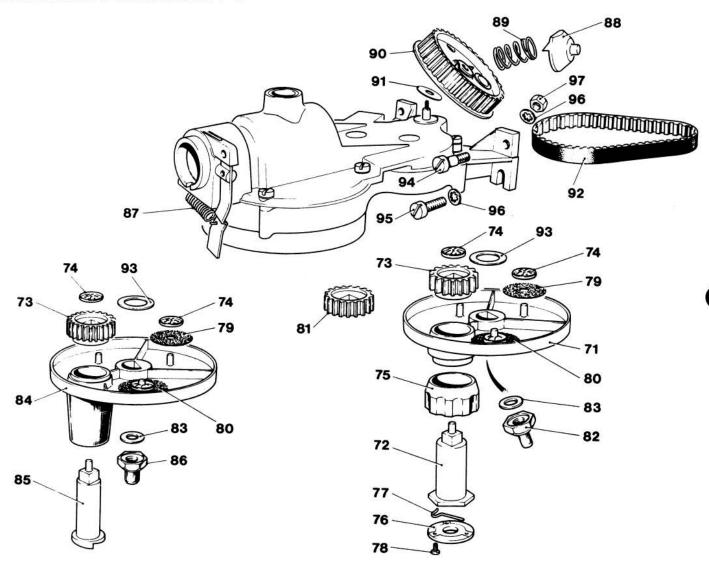
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ITEM NO.	TDA PART NO.	DESCRIPTION	A701	ANTITY A701A	REMARKS
ITEM NO.	IDA FART NO.	DESCRIPTION	A/UI	ATOTA	NEWANKS
8	266276	Slow speed outlet cover 17539BE4		1	
9	185410	Slow speed outlet cover nameplate 19347	60.1	1	Blakeslee.
10	177097	Anti-Vibration ring 17531	1	1	
11	177102	Knob slow speed attachment lever	41	940	
12	176938	17532WE1 Gear box cover lower 17508GY	1 1	1	
12	176914	Gear box cover lower 17508BE1	(1)	i	
12	176926	Gear box cover lower 17508BE4		i	
12	356502	Gear box cover lower 17508BN1		1	
13	332958	Screw S/T No. 4 x 5/16" 70546/SW	4	4	
14	182444	Cover-felt 18713	1	1	
15	182432	Washer-felt 18712	2	2	Used on early machines
		2.0	32	124	only.
16	176990	Spigot plate 17516	1	1)	A
16 16	177009 364547	Spigot seating plate 17517	1	1)	Available as seperate
16	203731	Screw 2BA x 5/16" 52010/S/W Lock washer 2BA 66201S	3	3) 3)	items only.
17	196043	Screw 2BA x 5/8" 52020/S/W	3	3	
18	203339	Washer-fibre 65817	3	3	
19	182171	Body assembly 18642Z	1	1)	
19	333213	Body assembly 18642R	3.5	1)	
19	333225	Body assembly 18642Y		1)	
19	356411	Body assembly 18642/ZN/W		1)	The body only is not
					available as a finished
					item assembly comprises
					of finished body plus
40	050500	D 1 10040DEF		- 1	rivet and locating pin.
19	356590	Body assembly 18642BE5	1	1) 1)	
20 21	233554 177700	Rivet 63438 Locating pin 17603	1 1	1)	
22	196005	Centralising screws 2BA x 9/16"	84	.,,	
	100000	52018/S/T	3	3	
23	205155	Lock nut 2BA 67702/T	3	3	
24	180939	Centralising insulation ring 18349	1	1	
25	177566	Catch pin 17578	1	1	
26	177554	Catch pin spring 17577	1	1	
27	198493	Catch pin circlip 5/16" dia 61510	1	1	
28	178273	Quadrant Assembly 17729	1	1	
29	201393	Screws S/T No.8 x ½" 64155/S/W	2	2	
30 31	176952 332958	Body Cover 17510 Screws S/T No. 4 x 5/16" 70546/S/W	1 4	1 4	
32	260040	Terminal Cover 23776	1	1	Overseas & Home
52	200040	Terrimial Cover 23770	- 22	1088	Market. Introduced
					serial no. 1584232.
32	263353	Terminal Cover 23834	1	1	Norway & Sweden.
					Introduced serial no.
		11 101 NOTE OF			1584232.
33		Cable Strap 19143			Superceded by item
					33A, TDA part no.
22		Cable Clin 19079			364523 or 322159. Superceded by item 33A,
33		Cable Clip 18078			TDA part no. 364523
					or 322159.
33A	364523	Cable anchor clip 61667		1	3 core machines &
00/1	001020				Australia 200/250v.
					Introduced at serial no.
					1584232.
33A	322159	Cable anchor clip 61668		1	Overseas & Home Market
					Introduced at serial no.
		11.0			1584232.
34	196976	Cable strap securing screw 6BA x 5/16"	4	4	
25	205442	56010/S/W	1 1	1 1	
35	205442	Cable strap washer 6BA Screw 2BA x ½" 52016Q		1	
36	233463	JULEM ZDA X /2 320100			

ITEM NO.	TDA PART NO.	DESCRIPTION	QUAN A701	A701A	REMARKS
36B	364535	Terminal cover fixing screw 2BA x 1 5/16"			
	001000	52042/S/W	1	1	Introduced serial no. 1584232.
37	183565	Pedestal assembly 19046Z comprising:	1	1	
37	182119	Pedestal 18615Z	1	1	
38	199411	Rubber foot 62109	5	5	
39	365541	Hammer drive screw pin 63609	5	5	
7	333172	Pedestal assembly 19046R comprising:		1	
37	333251	Pedestal 18615R		1	
38	199411	Rubber foot 62109		5	
39	365541	Hammer drive screw pin 63609		5	
7	333184	Pedestal assembly 19046/Y comprising:		1	
37	333249	Pedestal 18615Y		1	
38	199411	Rubber foot 62109		5	
39	365541	Hammer drive screw pin 63609		5	
7	356435	Pedestal assembly 19046ZN/W comprising:	1	1	
37	356423	Pedestal 18615ZN/W		1	
38	199411	Rubber foot 62109		5	
39	365541	Hammer drive screw pin 63609		5	
7	364509	Pedestal assembly 19046BE5 comprising:		1	
37	356588	Pedestal 18615BE5		1	
38	199411	Rubber foot 62109		5	
39	365541	Hammer drive screw pin 63609		5	
0 & 41	182200	Cable clamp assembly 18644 comprising:	1	1	Superceded by item 40A
40	181830	Cable clamp upper 18533	1	1	Superceded by item 41A
41	181828	Cable clamp lower 18532	1	1	Superceded by item 40A
42	197047	Screw 6BA x 1" 56032/S/T	2	2	**************************************
3	181842	Cable Bush 18534	1	1	For machines prior to
	751701070 O.T.				serial no1815930,
4	172786	Bush ring 15438	1	1	For machines prior to serial no 1815930.
90A	359669	Clamp & Grommet Assembly 20176	1	1	Introduced serial no. 1815930, replaces part number 18644 (TDA 182200).
41A	343983	Clamp 20175	1	1	
42	197047	Screw 6BA x 1" 56032/S/T	2	2	
5	180551	Counter balance spring 18273	1	1	
6	179265	Counter balance spring pin 18077	1	1	
7	178065	Counter balance spring collar 17711	1	1	
8	198508	Counter balance spring pin circlip ¼"			
=		61512	1	1	
9	218700	Hinge pin 7630	1	1	
0	178948	Bowl seating plate 17875	1	1	
i1	177205	Bowl seating pad 17538	1	1	
2	104.00-0-0-0	Serial No. Voltage plate (Not available			
		as a spares item)	1	1	Self adhesive plate introduced at serial no. 1371538.
3	201707	Serial No. Voltage plate securing screw No.	2	2	
54	323127	4 x 3/16" 64196/S/T Kenlyte Bowl 19658	1	1	Supercedes glass bowl.
4	265026	Kenlyte Bowl (packed) 19659	1	i	Supercedes glass bown.
4	177322	Stainless steel bowl 17551	i	i	Sold as attachment on Home Market and certain overseas countries
	343270	Stainless steel bowl (packed) 18749	1	1	
4		Flexcord Assembly 23695/WE1	1	1	Standard 200/240V/220V
	271180				South Africa 240V.
5		Side in control the Children of Control Control (Control Control Control Control Control Control Control Control	1	1	South Africa 240V.
5 5	184246	Flexcord Assembly 19127/WE1	1	1	Switzerland 220V.
54 55 55 55 55		Side in control the Children of Control Control (Control Control Control Control Control Control Control Control	1 1 1	1 1 1	

ITEM NO.	TDA PART NO.	DESCRIPTION	QUAI A701	A701A	REMARKS
55 BEATERS	348361	Flexcord Assembly 24337/WE1	1	1	Denmark 220V, Finland Germany, France, Holland, Lebanon, Iceland, Austria, Sweden, all 220V.
3EATERS	178091	K Beater Assembly 17714 comprising:	1		
56	177231	K Beater 17542	1		
57	178077	Beater Shaft 17712	1		
58	204357	Washer 66427	1		
59	177578	Lock Nut 17579	i		
6	182781	K Beater Assembly 18800 comprising:	1000	1	
56	177231	K Beater 17542		1	
58	204357	Washer 66427		ો	
59	177578	Lock Nut 17579		1	
62	182779	Beater Shaft Assembly 18799		1	
63	102//3	Beater Shaft 18796	32	i	Not available as a
03		Deater Shart 10790		8	seperate item.
64	357300	Beater Shaft Pin 64949		1	Introduced at serial no 1616054. Replaces part no 64925 (TDA 222531).
65	182767	Beater Shaft circlip 18798		1	
0	178118	Whisk Assembly 17716 comprising:	1		
60	353689	Whisk wires & hub assembly 24697	1		Introduced at serial no. 2663753. Replaces part no. 17425 (TDA 176598).
57	178077	Beater shaft 17712	1		
58	204357	Washer 66427	1		
59	177578	Lock Nut 17579	1		
0	353677	Whisk assembly 24698 comprising:	•	1	Introduced at serial no. 2663753. Replaces part no. 18802 (TDA 182808). Introduced at serial no.
60	353689	Whisk wires and hub assembly 24697		1	2663753. Replaces part no. 17425 (TDA 176598).
58	204357	Washer 66427		1	
59	177578	Lock Nut 17579		1	
62	182779	Beater shaft assembly 18799		1	2012/1-11 1431-414 201-425
63		Beater shaft 18796		1	Not available as a seperate iter
64	357300	Beater Shaft Pin 64939		1	Introduced at serial no. 1616054. Replaces part no. 64925 (TDA 222531).
65	182767	Beater shaft circlip 18798		1	
1		Round Dough Hook 17543			No longer available, superceded by item 68. No longer available,
6		Angular Dough Hook 19237			superceded by item 68.
7	184789	Plastic Shield 19236	1	1	one X
8	186701	Angular scoop shaped dough hook assembly 20193 (packed with yeast			
	550 S452 ALMAN	cookery book part no. 80661 (TDA 335974))	1	Optional extra.
8	220284	Angular scoop shaped dough hook assembly 20180 comprising:		1	Optional extra.
68	186622	Dough Hook 20182		1	100 miles
58	204357	Washer 66427		1	
59	177578	Lock Nut 17579		1	
69	186610	Shield 20181		1	
62	182779	Beater shaft assembly 18799		1	
63	102/10	Beater shaft 18796		i	Not available as a seperate item.
64	357300	Beater shaft pin 64939		1	Introduced at serial no. 1616054. Replaces part no. 64925 (TDA 222531).

	QUANTITY						
ITEM NO.	TDA PART NO.	DESCRIPTION	A701	A701A	REMARKS		
65	182767	Beater shaft circlip 18798		1			
68	186622	Dough Hook 20182	1		Not available as an assembly for model A701.		
57	178077	Beater shaft 17712	1				
58	204357	Washer 66427	1				
59	177578	Lock Nut 17579	1				
67	184789	Shield 19236	1				
70	175001	Spatula 16996	1	1			

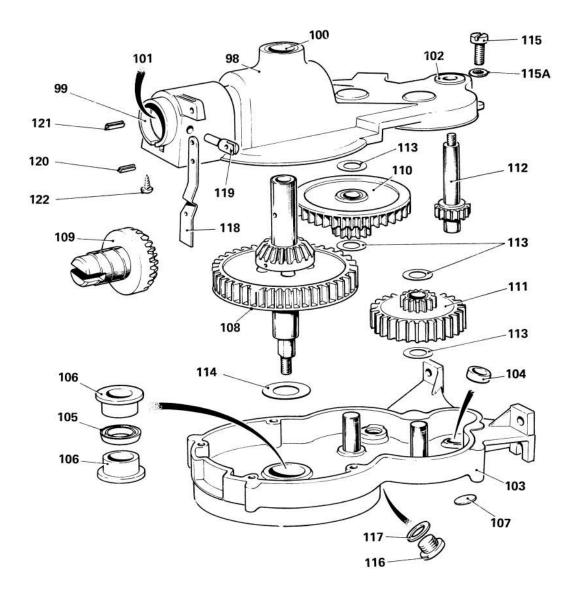
GEARBOX AND FITTINGS Item Nos. 71 - 97



LIST OF SPA	RE PARTS		Qua	intity	
ITEM NO.	TDA PART NO.	DESCRIPTION	A701	A701A	REMARKS
	177504	Gearbox assembly 17570 with planet hub, large pulley, and clutch dog	ĩ		
	183943	Gearbox assembly 19087 with planet hub, large pulley, and clutch dog	eri i	1	
	183967	Gearbox 19088 (service replacement) supplied less planet hub, large pulley, clutch dog and		1/2	
	100570	spring	1	1	
	182573	Planet hub and beater fixing assembly 18772			
	*	comprising:	1		Introduced serial no. 157894 previous planet assembly no spares available, only planet gear 19056 directly interchangeable.
71	182547	Planet hub and bearing 18770	1		
72	182561	Planet shaft assembly 18771/OP	1		
73	183644	Planet gear (metal) with mounting shoulder 19056	1		Was 18769 nylon. Quantity 4 when felt discs fitted.
74	199459	Push on fastener 62202	1		Used only on early versions of planet hub.
75	219479	Beater release ring 17545	1		un en trates de la content. • Tradition (2004) (2007) (3

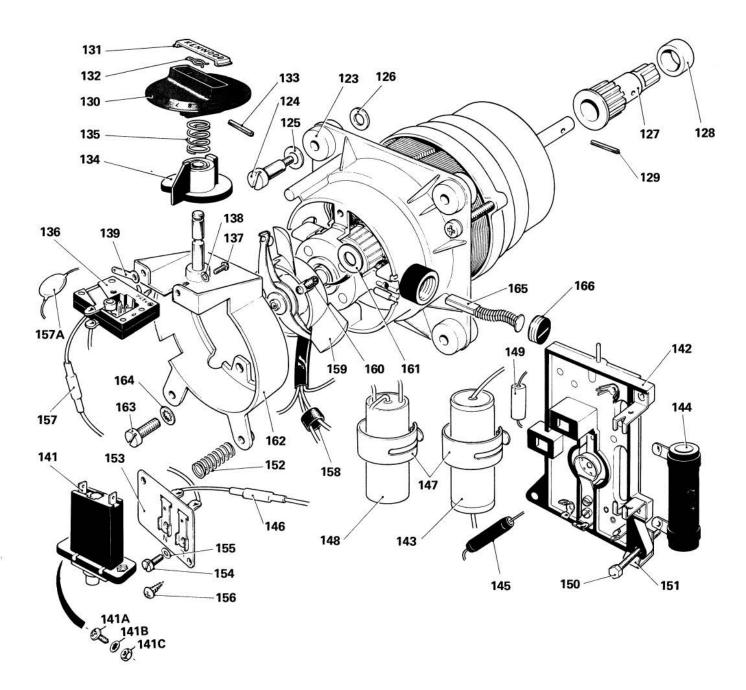
LIST OF SE	PARE PARTS		Qua	ntity	
ITEM NO.	TDA PART NO.	DESCRIPTION	A701	A701A	REMARKS
76	177279	Beater release ring cover 17546	1		
77	177542	Spring 17575	1		
78	212990	Screw 6BA x 9/16" 63710/S/W	3		
79	182705	Felt disc (small) 18790	1		Used only on early versions of planet hub.
80	182690	Felt disc (large) 18789	2		Used only on early versions of planet hub,
81	177059	Planet gear (without mounting shoulder) 17526	1		Used only on planet hubs before serial no 157894.
82	182810	Planet hub nut 18803	1		
83	203705	Planet hub washer 66110	1		
	184234	Planet hub and beater assembly 19126 comprising:		1	
84	182743	Planet hub and bearing 18794		i	
85	182731	Planet shaft 18793		i	
73	183644	Planet gear (metal) with mounting shoulder			W 40700 (. d)
74	100450	19056		1	Was 18769 (nylon).
74	199459	Push on fastener 62202		1	Quantity 4 when felt discs fitted.
79	182705	Felt disc (small) 18790		1	Used only on early versions of Planet hub.
80	182690	Felt disc (large) 18789		2	Used only on early versions of Planet hub.
86	182810	Planet hub nut 18803		1	
83	203705	Planet hub washer 66110		1	
87	177061	Slow speed attachment spring 17528	1	1	
88	177023	Clutch dog 17521	1	1	
89	177530	Clutch dog spring (copper plated) 17573	1	1	
90	177463	Large pulley assembly (glass fibre filled nylon)			Originally metal. Use
		17565	1	1	red banded belt with glass fibre filled nylon and large pulley.
91	204450	Shim washer .319 i/d x .625 o/d 33 S.W.G.			
		66441	1	1	
92	197920	Timing Belt 60702	1	1	
92	197944	Timing belt (red banded) 60704	•	1	Use only with glass
				·	fibre filled nylon, small and large pulley.
93	204448	Shim washer .507 i/d x .937 o/d 33 SWG.			Between planet
		66440	1	1	hub and gearbox. Used only on early versions.
94	178089	Special Screw 17713	2	2	ACI 210112.
95	196043	Screw 2BA x 5/8" Ch.Hd. 52020/S/W	2	2 2	
96	203731	Lockwasher 2BA 66201/S	4	4	
97	205052	Nut 2BA 67402/ST		2	
		Hut 20/1 0/402/31	2	2	

GEARBOX ASSEMBLY Item Nos. 98 - 122



ICT OF CD	ARE PARTS				
TEM NO.	TDA PART NO.	DESCRIPTION	QUA A701	ANTITY A701A	REMARKS
12.01.110.	IDATAII NO	DESCRIPTION	A/01	AIUIA	REWARKS
98	177334	Top cover assembly 17552 comprising:	1	1	
	182121	Top cover 18616	1	1	
99	177346	Slow speed outlet bush 17553	1	1	
100	177358	Bearing bush (vertical drive shaft) 17554	1	1	
101	197774	Bearing (slow speed outlet shaft) 60506	1	1	
102	197815	Bearing (drive pinion) 60510	1	1	
03	182482	Body Assembly 18744	1	1	
104	197750	Bearing (drive pinion) 60414	1	1	Spares for 18744 (TDA 182482) boo
					assembly.
05	205777	Oil Seal 69301	1	1	Spares for 18744 (TDA 182482) boo
00	107011	Company to the second second		1022	assembly.
06	197841	Bearing (vertical shaft) 60515	2	2	Spares for 18744 (TDA 182482) boo
07	177407	Div. 17560	1907		assembly.
07	177487	Plug 17568	1	1	Spares for 18744 (TDA 182482) boo
08	177384	Vertical drive shaft assembly 17557	1	1	assembly.
09	177425	Output shaft assembly 17561	1	1	
10	177449	Penultimate gear and pinion assembly 17563	1	1	
11	177451	Intermediate gear and pinion assembly 17564		1	
12	185769	Drive pinion assembly (metal gear) 19516	1	1	Was nylon part no.
13	204436	Shim washer .381 i/d .562 o/d x 33 S.W.G. 66439	4	4	17559.
14	204448	Shim washer .507 i/d .937 o/d x 33 S.W.G. 66440	1	1	
	204553	Shim washer .381 i/d .562 o/d x 39 S.W.G. 66460	A/R	A/R	
	204565	Shim washer .507 i/d .937 o/d x 39 S.W.G. 66462	A/R	A/R	
15	195792	Screw 2BA x 1/2" 52016/ST	1	1	
15A	203731	Washer 66201/S	i	1	
16	177475	Filler cap screw 17566	i	1	
17	203157	Sealing Washer 65602	í	1	
	328452	1lb tin grease, Shell L.G.P.1 62819)	3		
	212885	28lb tin grease, Shell L.G.P.1 62814)	(133gms	(4%0ZS)	
	212809	Silastic or Silastoseal 1 tube 60023	A/R	A/R	
18	177085	Slow speed attachment lever 17530	1	1	
19	177073	Slow speed attachment plunger 17529	1	1	
20	213164	Tension pin .125" dia x 5/16" 64905	1	1	
21	202567	Tension pin .187" dia x ¼" 64910	1	1	
22	201367	Screw S/T No. 4 x 5/16" 64154/S/W	1	1	

CONTACT BAR ASSEMBLY AND FITTINGS Item Nos. 123 - 166





LIST OF SPARE PARTS

ITEM NO.	TDA PART NO.	DESCRIPTION	QU/ A701	ANTITY A701A	REMARKS
	365137	Motor controller assembly 220V 17648	1	1	France
	327379	Motor controller assembly 200-240V			
		23813	1	1	Standard, Holland,
					France, Iceland, N. Zealand.
	236702	Motor controller assembly 220V 19119	1	1	With 50ohms &
	200702	Motor controller assembly 220 vierre			0.1mfd & 0. 1+
					0.01 mfd capacitors
					Finland, Switzerland,
	104170				Austria.
	184179	Motor controller assembly 200-240V 19120	1	1	Standard 3 core
		19120	•	₹ 5 00	earthed.
	220014	Motor controller assembly 220 19137	1	1	With thermal cut-out
					and 50ohm resistor
					& special motor
					mounting grommets. Norway.
	219998	Motor controller assembly 220V 19134	1	1	With thermal cut-out
	2.0000	,			& special on-off
					switch. Sweden.
	233891	Motor controller assembly 200-240V	1	1	Special insulation
		17646	7,8	*	Australia.
	364822	Motor controller assembly 220V 17647	1	1	Germany & Denmark
					with 0.02 mfd
					capacitor,
	184131	Motor controller assembly 110-130V 19117	1	1	
123	199514	Motor controller assembly mounting		•	
ACTURE!		grommet 62317	4	4	
123	199538	Motor controller assembly mounting			500 508
404		grommet 62322	4	4	Norway only.
124	232988	Motor controller assembly special screw 17581	4	4	
125	204503	Motor controller assembly washer	- 3		
	20.000	66453	4	4	
126	205208	Motor controller assembly washer 2BA		-	
107	105 100	67902/S/O	4	4 1	Name along filong
127	185422	Small Pulley 19348	1	1	Now glass fibre filled nylon, use
					red banded belt.
					(Was 17512 small
					pulley block).
128	182688	Small Pulley Sleeve 18788	1	1	
129	202543	Small Pulley Tension Pin 1/8" x 9/16" 64908	1	1	
130	185070	Control knob 19278BE1		i	Can be used with
.00	100070	GOILLOT KINGS TOLTOSE		æ	circlip or tension
					pin fitting.
131	185109	Name Plate Kenwood 19279	1	1	
132 133	198584 202610	Arderton Circlip 61526 Tension pin 1/8" x 9/16" light		1	
133	202010	duty 64919	1	1	
130	185082	Control Knob 19278BE4	70	1	Can be used with
					circlip or tension
101	105100	Name Black IV	200		pin fitting.
131 132	185109 198584	Name Plate Kenwood 19279 Anderton Circlip 61526	1	1	
132	202610	Tension pin 1/8" x 9/16" light duty	T	1	
133	202010	64919	1	1	
		smoothadas (MC CCCMC)	51		

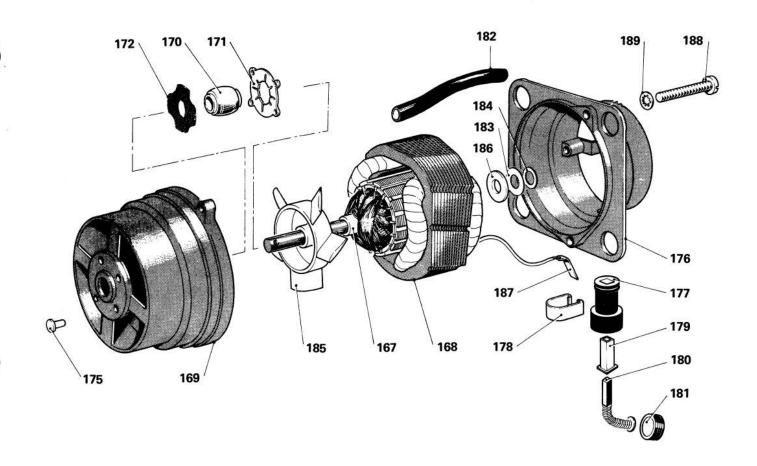
Secretary of the second					
LIST OF SP ITEM NO.	ARE PARTS TDA PART NO.	DESCRIPTION	QUAN A701	NTITY A701A	REMARKS
130	185094	Control Knob 19278GY	1	1	Can be used with circlip or tension
121	105100		91	2	pin fitting.
131 132	185109	Name plate Kenwood 19279	1	1	
133	198584 202610	Anderton Circlip 61526	1	1	
133	202010	Tension pin 1/8" x 9/16" light duty 64919	1	1	
130	220064	Control Knob 19277BE1		1	Circlip fitting only.
131	185109	Name Plate Kenwood 19279	1	1	Circip fitting only.
132	198584	Anderton circlip 61526	i	1	
130	185056	Control Knob 19277BE4	8	1	Circlip fitting only.
131	185109	Name Plate Kenwood 19279	1	1	on one mening only.
132	198584	Anderton circlip 61526	1	1	
130	220076	Control Knob 19277GY	1	1	Circlip fitting only.
131	185109	Name Plate Kenwood 19279	1	1	restriction and a series of the series of th
132	198584	Anderton circlip 61526	1	1	
130	356540	Control Knob 19277BN1		1	Circlip fitting only.
131	185109	Name Plate Kenwood 19279	1	1	
132	198584	Anderton Circlip 61526	1	1	
134	177035	Speed control cam 17522	1	1	
135	177724	Speed control cam spring 17605	1	1	
136	202828	Switch (3 amp) 65120	1	1	
137	197102	Screw 6BA x 1/4" 56108/S/JU	2	2	
138	203810	Washer 6BA Lockwasher 66209/T	2	2	
139	203004	Solder tag 6BA 65320	1	1	
141	199174	Thermal cut-out (1.8amp) 220V 61902	1	1	Norway, Sweden.
141	266549	Thermal cut-out (3 amp) 115V 61901	1	1	
	221848 364884	Thermal cut-out lead 61334 Thermal cut-out lead 72542	1	1	Replaces T/V choke
	364896	Thermal cut-out lead 72543	1	1	61407 (TDA 198431 on contact bar assemblies 19585 (TDA 185848) & 19663 (TDA 364858) Replaces T/V choke 61406 (TDA 198429)
141A	364901 196615	Thermal cut-out lead 71350 Thermal cut-out screws 4BA x 5/8"	1	1	on contact bar assemblies 19585 (TDA 185848) & 19663 (TDA 364858), Export only,
1414	190015	54020/S/W	2	2	
141B	203779	Thermal cut-out washers 4BA 66204/T	2	2	
141C	364511	Thermal cut-out nut 4BA 67404/T	2	2	
142	185848	Contact bar assembly with components	1774 1774	2 37 2	
5 MD	13333.13	19585 comprising:	1	1	Standard Holland, France, Iceland, New Zealand.
142	184492	Contact bar assembly 19169	1	1	
143	199057	Capacitor 0.1mfd 61827	1	1	
144	200155	Resistor 450 ohms 63305/A	1	1	
145	198443	T/V choke 3 amp Black sleeved 61408	1	1	
146	198429	T/V choke 2 amp white sleeved 61406	1	1	
147	198986	Capacitor clip 61714	1	1	
142	364834	Contact bar assemblies with components			5090 FBS 5559 93 0590522477775477824
8112		19122 comprising:	1	1	Sweden, Standard, Earthed, Australia.
142	184492	Contact bar assembly 19169	1	1	
148	199100	Capacitor 0.1mfd + 0.01mfd 61835	1	1	
148	343220	Capacitor 0.1mfd + 0.01mfd 61868	1	1	
143	199057	Capacitor 0.1mfd 61827	1	1	
144	200155	Resistor 450ohms 63305/A	1	1	
145	198443	T/V choke 3 amp black sleeved 61408	1	1	
146	198429	T/V choke 2 amp white sleeved 61406	1	1 2	
147	198986	Capacitor clip 61714	2	2	

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		KENWOOD ONE! MODEL		, ,,,,,,,	G ATTAOTHILLITO
			QUA	NTITY	
ITEM NO	TDA PART NO.	DESCRIPTION	A701	A701A	REMARKS
	101000				
142	184208	Contact bar assembly with components	1	1	Austria, Switzerland.
		19123 comprising:	1.		Was 19649 (TDA
					232720) before
					serial no. 1239175
					to Germany.
142	184492	Contact bar assembly 19169	1	1	
148	199100	Capacitor 0.1mfd + 0.01mfd 61835	1	1	
148	343220	Capacitor 0.1 mfd + 0.01 mfd			
		61868	1	1	
143	199057	Capacitor 0.1mfd 61827	1	1	
144	200155	Resistor 450ohms 63305/A	1	1	
149	200179	Resistor 50 ohms 63316	1	1	
145	198443	T/V choke 3 amp black sleeved 61408	1	1	
146 147	198429 198986	T/V choke 2 amp white sleeved 61406 Capacitor clip 61714	2	2	
147	177762	Contact bar assembly with components	~	_	
142	177702	17610 comprising:	1	1	110-130V.
142	185020	Contact bar assembly 19274	1	1	
148	199100	Capacitor 0.1 mfd + 0.01 mfd 61835	1	1	
148	343220	Capacitor 0.1 mfd + 0.01 mfd 61868	1	1	
143	199057	Capacitor 0.1 mfd 61827	1	1	
	222189	Resistor 145ohms 63305/D	1	1	
145	198443	T/V choke 3 amp black sleeved 61408	1	1	
	198455	T/V choke 3 amp black sleeved 61409	1	1	
147	198986	Capacitor clip 61714	2	2	
142	232720	Contact bar assembly with components	1	1	Germany, Denmark.
142	184492	19649 comprising: Contact bar assembly 19169	1	1	Germany, Denmark,
148	364913	Capacitor 0.1 mfd 61850	i	1	
143	199057	Capacitor 0.1mfd 61827	1	1	
144	200155	Resistor 450ohms 63305/A	1	1	
149	200179	Resistor 50ohms 63316	1	1	
145	198443	T/V choke 3 amp black sleeved 61408	1	1	
146	198429	T/V choke 2 amp white sleeved 61406	1	1	
147	198986	Capacitor clips 61714	2	2	
142	364846	Contact bar assembly with components	-	4	
440	104400	19584 comprising:	1 1	1	France.
142	184492 198443	Contact bar assembly 19169 T/V choke 3 amp black sleeved 61408	1	1	
145 146	198429	T/V choke 2 amp white sleeved 61406	i	1	
147	198986	Capacitor clips 61714	2	2	
143	199057	Capacitor 0.1 mfd 61827	1	1	
144	200155	Resistor 450ohms 63305/A	1	1	
149	200179	Resistor 50ohms 63316	1	1	
142	364858	Contact bar assembly with components			(800) 91 6
		19663 comprising:	1	1	Alternative for
		***************************************	4	1	19585 (TDA 185848).
142	184492	Contact bar assembly 19169	1 1	1	
145	198443	T/V choke 3 amp black sleeved 61408	1	1	
	221915	Cable Strap 61661 Spacer 21861	1	1	
	364937 213190	Copper wire 22 SWG tinned 50mm 66602	- 20	i	
	364925	Capacitor 0.1mfd (RIFA) 61862	1	1	
144	200155	Resistor 450ohms 63305/A	1	1	
142	364860	Contact bar assembly with components			
5)		19664 comprising:	1	1	Alternative for
		Valueto imparto, no orte y montre e estado Valueto (100 Valueto Value			19122 (TDA 364834).
142	184492	Contact bar assembly 19169	1	1	
145	198443	T/V choke 3 amp black sleeved 61408	1	1	
146	198429	T/V choke 2 amp white sleeved 61406	1	1	
147	198986	Capacitor clips 61714	1	1	
	221915	Cable strap 61661	1	1	
	364937	Spacer 21861	1	1	
	213910	Copper wire 22 SWG tinned 50mm 66602	1 1	1	
	364925	Capacitor 0.1mfd (RIFA) 61862	t	3	

				YTITY	
ITEM NO.	TDA PART NO.	DESCRIPTION	A701	A701A	REMARKS
148	199100	Capacitor 0.1mfd + 0.01mfd 61835	1	1	
148	343220	Capacitor 0.1 mfd + 0.01mfd 61868	1	1	
142	364872	Contact bar assembly with components			
		19665 comprising:	1	1	Alternative for 19584 (TDA 364846)
142	184492	Contact bar assembly 19169	1	1	
145	198443	T/V choke 3 amp black sleeved 61408	1	1	
146	198429	T/V choke 2amp white sleeved 61406	1	1	
	221915	Cable strap 61661	1	1	
	364937	Spacer 21861	1	1	
	213910	Copper wire 22SWG Tinned 50mm 66602	1	1	
	364925	Capacitor 0.1mfd (RIFA) 61862	1	1	
144	200155	Resistor 450ohms 63305/A	1	1	
149	200179	Resistor 50ohms 63316	1	1	
150	200595	Contact bar adjusting screw 4BA x 1.3/8 "			
		63722	2	2	
151	343567	Locking clip 24524	2	2	
152	177712	Spring 17604	2	2	
153	181919	Terminal board assembly 18544	1	1	Two way.
153	181933	Terminal board assembly 18546	1	1	Three way
154	196500	Screw 4BA x 3/8" 54012/S/0		2)	3 off when used
55	205387	Washer 4BA brass 68204	2	2	with three way
156	201288	Screw S/T No. 6 x 3/8" 64137/S/W	2	2	terminal board.
	364949	Earth lead assembly 18608	1	1	Earthed machines only.
157	198431	T/V choke 2 amp white sleeved 61407	1	1	200-250V
	198467	T/V choke 3 amp black sleeved 61410	1	1	110-130V.
157A	199095	Capacitor 0.02mfd 61833	1	1	
158	202127	Sleeve ¼" i.d. x 3/8" neoprene 64660	1	1	
159	181464	Fan & Governor assembly 18415	1	1	Now glass fibre
133	101707	Tan & dovernor assembly 10-110	28		filled nylon, interchangeable with original metal version.
160	201020	Grub screw 2BA x ¼" 64033/S/M	1	1	For use with nylon fan.
161	204632	Packing Washer 66476	A/R	A/R	Between fan and motor bearing.
162	176988	Controller housing 17513	1	1	155
163	195960	Screw 2BA x 1/2" 52016/S/O	2	2	
64	203729	Washer S.P. 2BA 66201/0	2	2	
65	170764	Carbon Brush 5051	2	2	
166	170738	Carbon Brush cap 5043	2	2	
100	233657	Anti-scuffing paste (1 tube) 62805	A/R	A/R	

MOTOR ASSEMBLY Item Nos. 167 - 189



LIST OF SPARE PARTS KENWOOD MOTOR

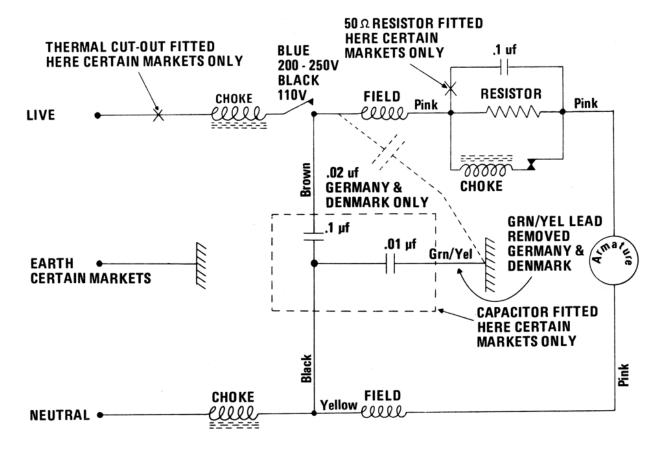
			QUA	NTITY	
ITEM NO.	TDA PART NO.	DESCRIPTION	A701	A701A	REMARKS
	171366	Motor Assembly 15º lead 220V 5250	1	1	
	218669	Motor Assembly 15º lead 220V 5252	1	1	Heavy duty wires 23/.0076.
		Motor Assembly 30º lead 220V 5251	1	1	No longer available, use
4.07					218669.
167	171287	Armature and Fan Assembly 220V 5210	1	1	22 A
167	364951	Drilled Armature Shaft Assembly 24693	1	1	Singapore only,
168	171275	Field Assembly 220V 5200	1	1	Connecting wires 14/.0076.
168	218657	Field Assembly 220V 5201	1	1	Australia, Connecting wires 23/.0076.
168	170805	Field Assembly 110V 5075	1	1	
	171122	Drive End Frame Assembly 5168 comprising:	1	1	
169	171055	Drive end Frame 5160	1	1	
170	197918	Bearing 60605	1	1	
171	212354	Bearing retainer 5139	1	1	
172	222684	Felt Washer 65719	1	1	
175	200480	Rivet (see note 1) 63545	4	4	
	171110	Commutator End Frame Assembly 5167 comprising:	1	1	
176	171134	Commutator End Fram 5169	1	1	
170	197918	Bearing 60605	1	1	
171	212354	Bearing Retainer 5139	1	1	
172	222684	Felt Washer 65719	1	1	
175	200480	Rivet (see note 1) 63545	4	4	
177	170776	Brush Guide Outer 5052	2	2	
178	171067	Clip 5161	2	2	
179	170740	Brush Guide Inner 5044	2	2	
180	170764	Brush Assembly 5051	2	2	
181	170738	Brush Cap 5043	2	2	
182	322719	Sleeve 4½" 114.3mm 71460	1	1	
182	364963	Sleeve 71425	1	1	Australia,
183	204620	Shim Washer (large) 66475	1	1	
184	204632	Packing Washer (small) 66476	2	2	
185	171263	Fan (open type) 5192	1	1	Was 5244 enclosed type.
186	170910	Armature nylon washer 5124	1	1	Commutator end of armature.
187	364975	Terminal tags 5240	2	2	
188	222426	Screw 2BA x 1 5/16" LG 63764	3	3	Was 52042/S.
189	203896	Lock Washer 2BA 66217	3	3	

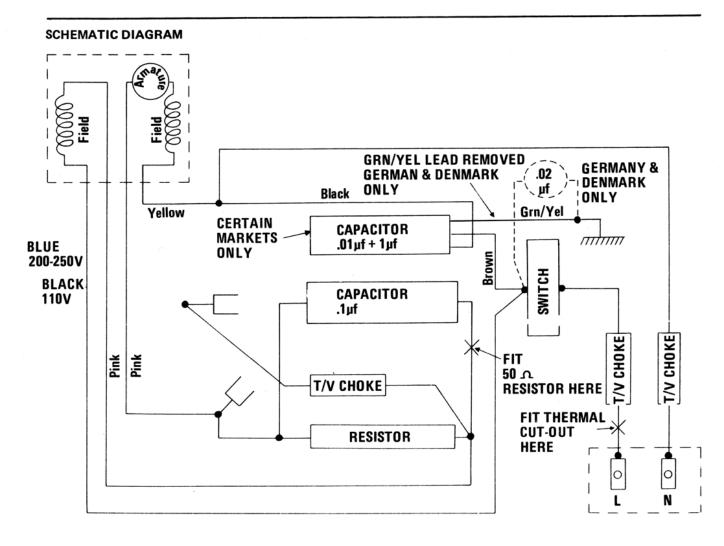
NOTE: 1

Early motors used an enclosed type fan part number 5244. The drive end frame bearing retainer can be secured by screws, nuts and washers. Rivets must be used on current motors using an open form fan, part number 5192, (TDA 171263).

196861	Screw 54216/S/O	4	4
204096	Lock Washer 66327/T	4	4
205076	Nut 67404/T	4	4

CIRCUIT DIAGRAM





1.SPEED CONTROL, General

All three methods of speed control have the same mechanical arrangements. Turning the speed control knob clockwise from the 'O' position will close the 'ON-DFF' switch to supply power to the circuit. Further movement of the control knob physically increases the distance between the armature fan assembly and the governor contacts, or between the armature magnet and the pick-up coil.

2. Governor Resistor Control

When power is supplied to the circuit it accelerates the motor until the governor contacts are opened by the arm on the armature fan. Opening the contacts introduces a resistor into the circuit which reduces the supply voltage to the armature. This causes the motor to slow down until the governor contacts re-make and the full supply voltage is again applied to the circuit. This sequence continues with the motor maintaining an average of the desired speed.

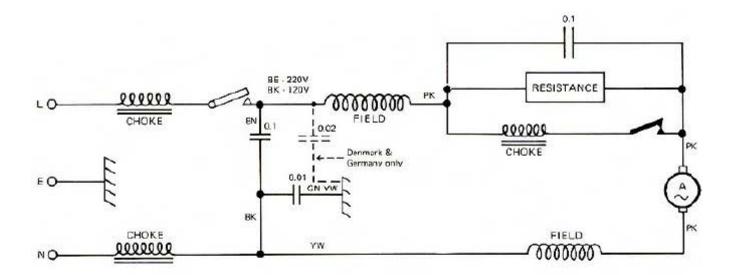


Fig. 3 Governor-resistance control

3. Governor Electronic Control

when the supply is applied to the circuit a trigger voltage is applied to the gate of the triac through the governor contacts. This voltage causes the triac to conduct and apply the supply voltage to the armature. When the governor contacts open the gate supply is interrupted and the triac stops conducting. The governor contacts close and the gate again receives a voltage and the triac passes the supply voltage to the armature. This sequence continues with the motor maintaining an average of the desired speed.

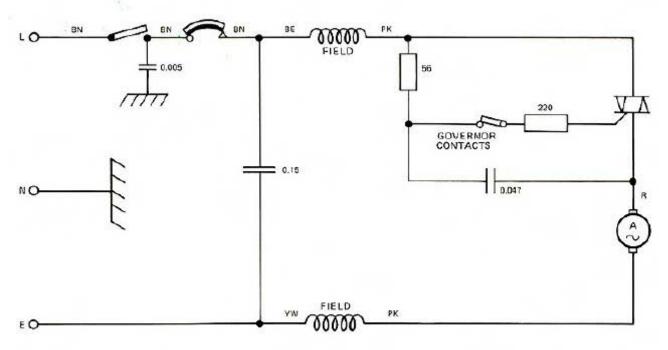


Fig. 4 Governor-electronic control 220V

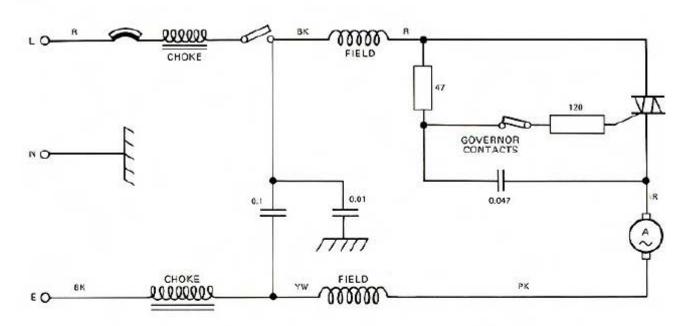


Fig.5 Governor-electronic control 120V

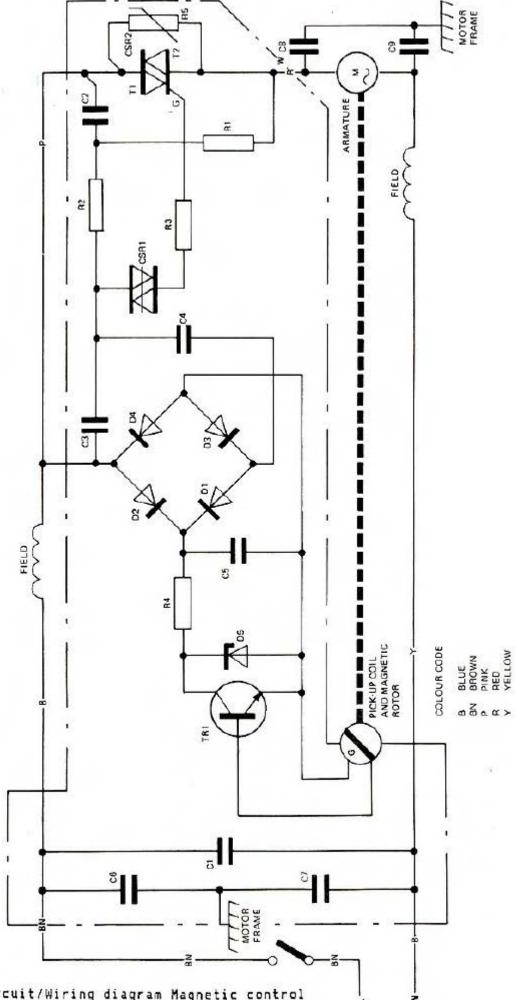


Fig. 6 Circuit/Wiring diagram Magnetic control

MAGNETIC CONTROL

4. INTRODUCTION

The wiring diagram (Fig) is considered as two separate functions in this description. The diagram is thus divided into a trigger circuit (Fig 7) and a control circuit (Fig 8).

OPERATION

5. Trigger circuit

The mains supply frequency is 50Hz and thus one complete cycle lasts for a period of 20 milliseconds (1/50 sec=0.02 sec) and one half cycle, a period of 10 milliseconds (Fig 6).

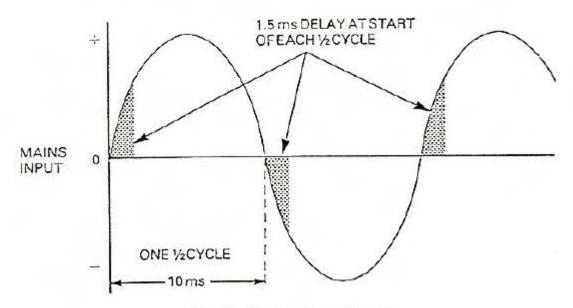


Fig. 7 Mains Periodicity

The time to reach diac breakover of C3.R2 is 1.5ms which determines a fixed delay at the start of each half cycle as shown in Fig.6. Both positive and negative going half cycles charge up C3 through R2 (Fig 7). When the volt drop across C3 reaches 27V, diac CSR 1 conducts to discharge C3 to triac CSR 2 gate through R3. Thus a triac triggering pulse is provided. The triac is latched in the conduction state by a charging current from C2. Mains neutral is always connected to the motor and line is connected while the triac is in a state of conduction. The motor now runs up to full speed and the line voltage is applied during the latter 8.5ms of each half cycle of input voltage.

Resistor R1 provides current limitation to the stored charge on capacitor C2 during switch on. It also provides protection against high voltage transients while the appliance is running.

Resistor R3 is a current limiting resistor which ensures that the current to CSR 2 gate does not exceed a specified value. Additionally, it provides the necessary pulse length by the time constant C3.R3.

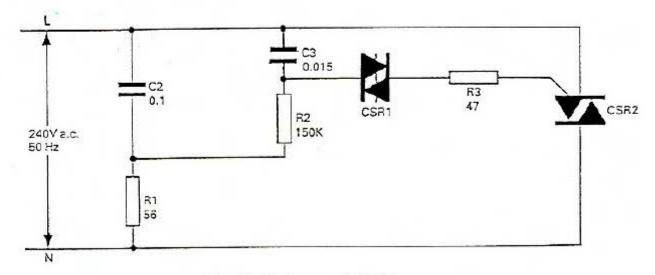


Fig. B Trigger circuit

6. Control Circuit

The simplified circuit of Fig.8 shows how the speed control function is achieved.

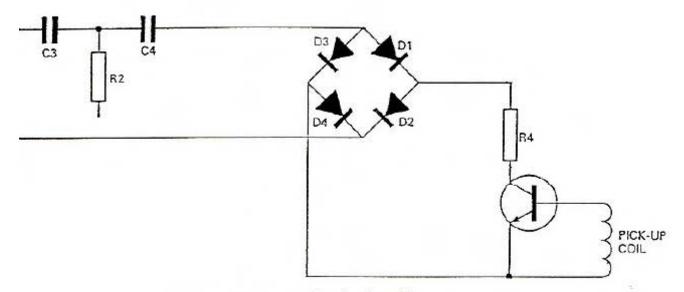


Fig. 9 Control circuit

At the end of the 1.5ms delay (Fig6), there is a period of 8.5ms in each half cycle during which the triac is conducting and the motor is running at maximum speed. If, however, the time constant of C3.R3 were to be increased beyond 1.5ms, there would be less of each half cycle for the triac conduction and the motor would run slower. To achieve this control of slowing the motor speed from maximum the current flowing into C3 during charge time is reduced thus ensuring that C3 takes a longer time in charging up to 27V. To regulate C3 current, the circuit of Fig.8 is used.

The voltage induced in the pick up coil depends on two factors:

- a) the speed of the motor
- b) the distance between the motor driven magnet and the coil.

KENWOOD A700 SERIES

The distance betwen the magnet and the coil is determined by the user's speed selection. When maximum speed is selected, the magnet is at its maximum distance from the coil and a voltage less than that required for transistor switching is induced in the coil. Thus the transistor does not conduct, there is no current flow through R4 from the bridge rectifier and no current flows through the dc blocking capacitor from the mains supply. The time constant of C3.R2 is 1.5ms leaving 8.5ms of each cycle for triac conduction and the notor runs at maximum speed.

However if a lower speed is selected, the magnet and pick up coil are brought into closer proximity and a voltage may now be induced into the pick up coil. When the voltage is 0.6V or greater the transistor conducts to place a load across the bridge rectifier.

Current flows through C4 as the mains supply is rectified. As the speed control is set between maximum and minimum, more or less current flows through C4 affecting the current through C3 and thus the time constant C3.R2. The triac conducting time varies according to the speed selection and thus the speed of the motor varies in sympathy. The lower the speed selected, the greater the damping effect of the transistor on the circuit, the longer it takes to charge C3 up to 27% and the slower the motor speed. The opposite is true if a higher speed is selected.

The distance between the magnet and the pick up coil has the main effect on motor speed. However, there is a self compensating effect which helps maintain a constant motor speed at the selected setting. If motor speed should increase although the setting has not been altered, more current will be taken by C4 as the damping effect of the transistor increases, thus reducing the motor speed to that consistent with the setting. The converse also applies when notor speed drops although the setting is not altered, until the limitations of motor torque come into effect.

A701 up to Serial No 253476

A701A from Serial No 253477





Figure 1 Differences between A701 and A701A

A707 up to Serial No 022849

A707A from Serial No 022850



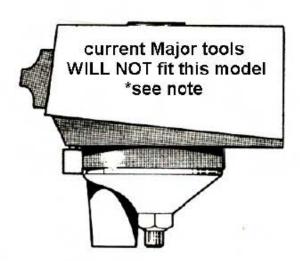


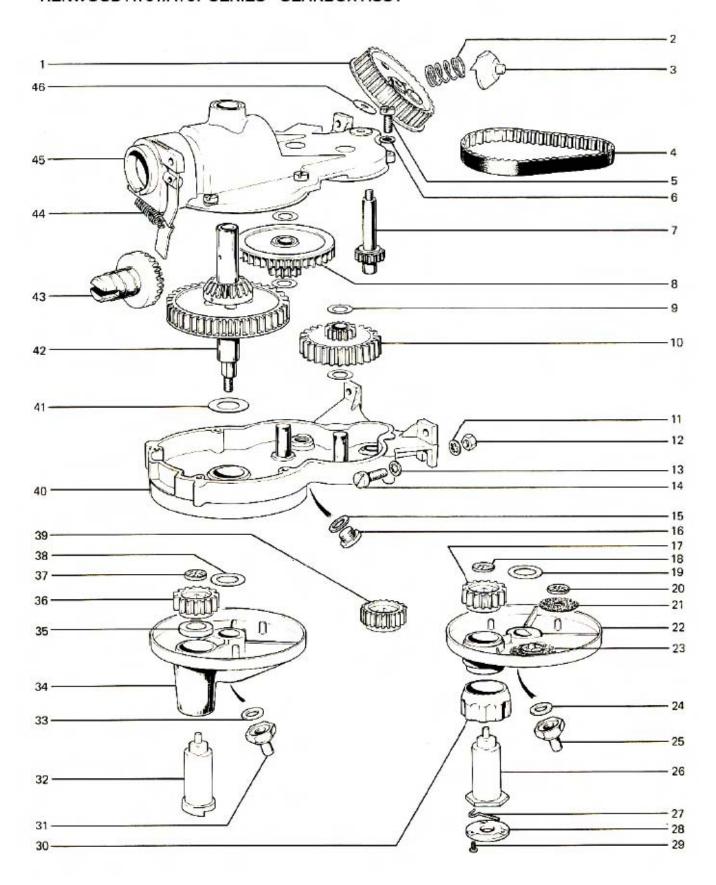
Figure 2 Differences between A707 and A707A

*The model A707A can be converted to use the current Major tools by fitting the current Major hub and replacing all 3 tools.

This conversion should be undertaken by a technically competent person.

The Customer should be made aware that this is an expensive option.

KENWOOD A701/A707 SERIES - GEARBOX ASSY



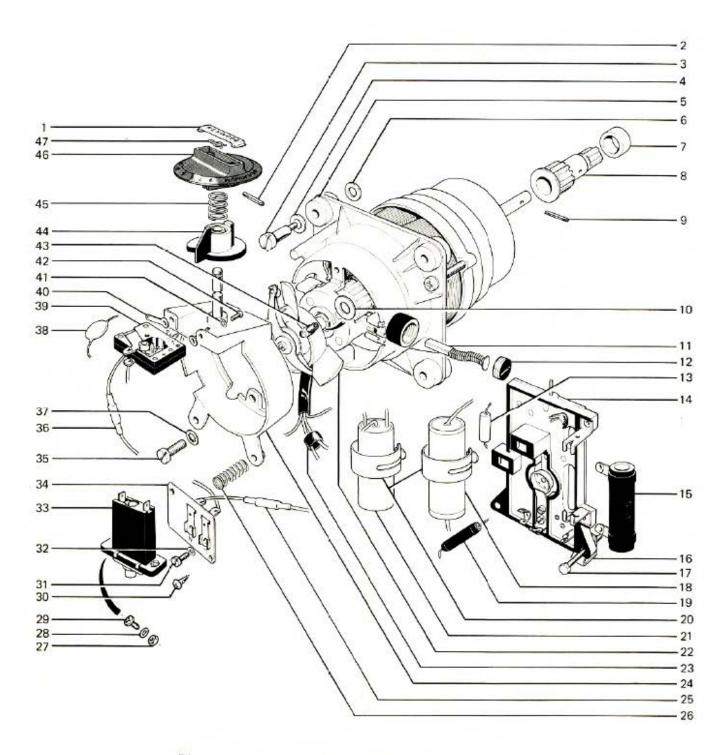
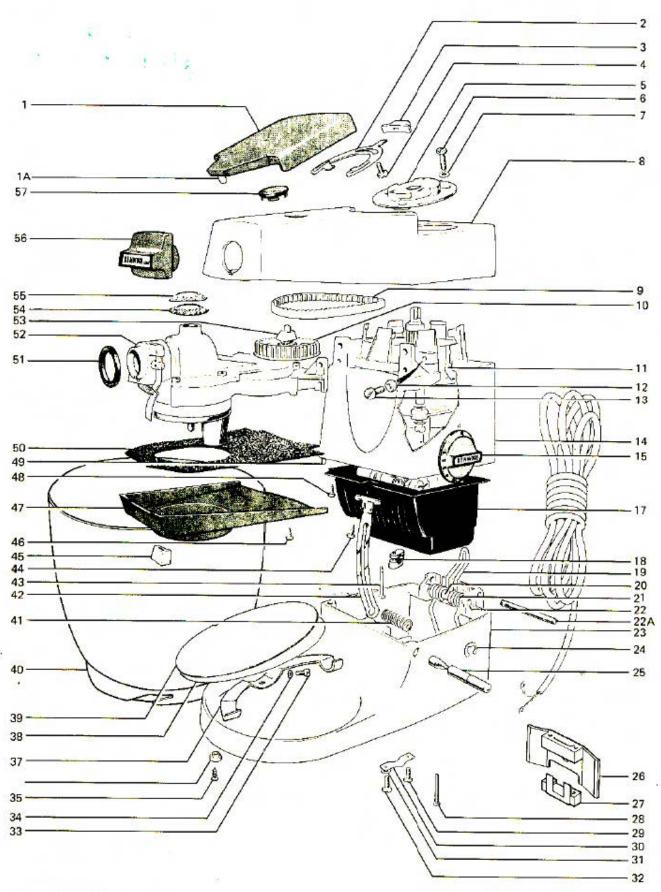


Fig.13 Motor controller (Governor-resistor control)

KENWOOD A701/A707 SERIES - MAIN BODY



Kenwood Service Information

YOUR KENWOOD CHEF & MAJOR "READY REFERENCE" ATTACHMENT GUIDE











A701 CHEF

A701A CHEF

A901 CHEF

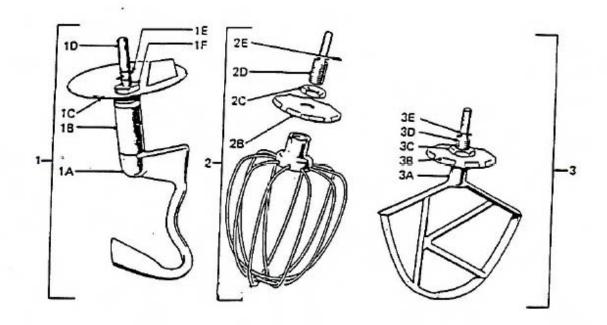
A902 CHEF

A717C & A707A

A907D MAJOR

A701 CHEF	A701A CHEF	A901 CHEF		A902 CHEF		MAJOR	A907D MAJOR	
ATTACHM	ENT	MODEL NO.	A.701 CHEF	A.701/A CHEF	A.901 SERIES CHEF	A.902 SERIES CHEF	A.707/A A.717/C MAJOR	A.907/D MAJOR
Kenlyte Bowl (Chef)		19659	X	×	Х			
Kenlyte "D" Bowl (Chef))	28714				Х		
Kenlyte Bowl (Major)	,	26538					X	X
Stainless Steel Bowl (CI	hef)	18749	X	X	X	X		
Stainless Steel Bowl (M.		18748					X	X
Dough Hook	-47	20193		X	Х	X		
Colander and Sieve (Ch	nef)	A992 or A792/A		×	X			
Colander and Sieve (Ma		A751					X	
Colander and Sieve (Ma	aior)	A930						X
Potato Peeler (Chef)	,,,,	A934		X	X	X		
Potato Peeler (Major)		A752					X	X
Juice Extractor		A795	X	X	X	X	X	X
Mincer		A720	X	X			X	- "
Mincer		A920			X	X		X
Sausage Adaptor (For A	720 or A920)	A926	X	X	x	X	X	x
Coffee Grinder	(720 01 A320)	A779	x	X		^	X	
Coffee Grinder		A979		-	X	Х	~	X
Cream Maker		A727	X	X		^	X	
Cream Maker		A927			X	X		X
Can Opener		A778	X	X	_ ^	^	X	
Can Opener		A978		_^	X	X	^	X
Liquidiser (Glass)		A788G	X	X	_ ^	^	X	^
Liquidiser (Acrylic)		A989	^	-	X	X	^	X
Liquidiser (Glass)		A990			x	X		x
High Speed Sicer & Shr	oddor	A729	X	X	^	^	X	^
High Speed Sicer & Shr	oddor	A929	_^	^	Х	X	^	X
Continuous Juice Separ		A735	X	X	^	^	X	^
Continuous Juice Separ		A935	^		X	X	^	X
Wheat Mill	ator	A731	X	X	^	^	X	^
Wheat Mill		A931		_ ^	X	X	^	×
Bean & Peel Slicer		A732	X	X	^	^	X	^
			_ ^	_ ^	X	Х	^	X
Bean & Peel Slicer		A932 27215			×	^		^
Splash Guard				V	X		V	
Pasta Extruder		A736 A936	Х	Х	X	X	X	X
Pasta Extruder			×	×	×	٨		^
Plastic Dust Cover (Chef)		20021 25639	Α	×	^		X	X
Plastic Dust Cover (Major)					X		^	^
Plastic Dust Cover (Chef de Luxe)		28008			Α		V	
Slow Speed Slicerand S		A728	Х	Х			X	
Slow Speed Slicer and S		A928			X		V	X
Kebbe Extruder (for A72	(0 or A920)	A937	X	Х	Х	Х	Х	X

BET June 85



DOUGH HOOK, WHISK, K BEATER

*%	375948	SPATULA
*%	204357	WASHER, CHEF, BETWEEN 1F&1C
1	221551	DOUGH HOOK ASSY MAJOR
	186701	DOUGH HOOK ASSY CHEF, A701A
	238671	
1C%	186610	SHIELD DOUGH HOOK MAJOR
1D	238683	BEATER SHAFT ASSY MAJOR, LONG A707A
8	182779	BEATER SHAFT ASSY CHEF, A701A, A707 TO SN022849
1E/2E/3E	182767	SHAFT CIRCLIP
1F	177578	LOCKNUT, FOR 1D
2	221537	WHISK ASSY, MAJOR
	353677	WHISK ASSY COMPLETE A701A
2B/3B		SHIELD MAJOR WHISK AND BEATER
2C/3C		LOCKNUT MAJOR
2D/3D	434744	BEATER SHAFT ASSY A717
	185240	BEATER SHAFT ASSY A707A, A707 FROM SN022850
3%	602212	CONTOUR K BEATER

BEATER SHAFTS VARIATIONS

