

PARTS LIST

Most major parts are identified by the various illustrations in this manual. To identify any parts not shown (up to reference number 109) use this parts list with the exploded view given in Service Manual No. 5854, figure 11.

Ref. No.	Description	Part No.	Description	Part No.
1	Tone Arm Maroon; RC504, RC524, RC644, RC664, RC684, RC654, RC674, RC654, RC674	403C 60 403C 84-2 403C 84-4 403C 84-3	Leveling Arm Assembly Gold Spray; RC604, RC624, RC644, RC664, RC684	400B 562-2 400B 662 400B 662-3 405A 150 404A 355-3
2	Cartridge with Needles and Pin	409A 17 409B 21 409B 20	Leveling Arm Return Spring Retaining Ring (2 required) Tone Arm Rest RC604, RC624, RC644, RC664, RC684, RC654, RC674	403A 65 403A 65-2 2B 10-40-59 403D 64-4
3	Needles (s), Replacement RC604, RC624, RC644, RC664, RC684, RC654, RC674	98B 15-29 98B 15-44 98B 15-43 98B 15-32 98B 15-31	Speed Nut (3/16") Phono Escutcheon Green; RC604, RC624, RC644, RC664, RC684, RC654, RC674 Gold; RC604, RC624, RC644, RC664, RC684	2B 10-40-59 403D 64-4 403D 64-3 403D 64-3
4	Cartridge Mounting Screws RC604, RC624, RC644, RC664, RC684, RC654, RC674	45-750-02-47 405A 137 405A 137	Screw for Mounting Escutcheon #2x5/16" (not used on RC654), 1A 28-53-57 Turntable RC604, RC624, RC644, RC664, RC684, RC654, RC674	401B 395 400B 613 400B 613-1 400B 607 400A 608
5	Tone Arm Shielded Lead, #4-40x3/4 BWS	401A 403-1 401A 403-2	Speed Selector Link Assembly Switch and Reflect Arm Assembly Spring Washer RC604, RC624, RC644, RC664, RC684, RC654, RC674	401B 395 400B 613 400B 607 400A 608
6	Set-Down Adjusting Screw, #4-40x3/4 BWS	405A 137	Flat Washer (6 required) Reflect Arm Return Spring; Shunt-Off Link Return Spring	401B 395 401A 388
7	Tone Arm Wdg. and Pivot Plate	405A 137	Off Link Return Spring	405A 140
9	Speed Nut, 1/8" (2 required)	2B 10-5-59	Cear Indexing Arm and Stud Assembly	405A 140
10	Tone Arm Counterweight 1 required	401A 403-1 401A 403-2	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
11	Counterweight Mounting Screw only	404A 40	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
12	#4x2 RH Phillips #4x5/8 RH, RC604 only	1A 69-1-55 1A 70-6-20	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
13	Lift Adjusting Screw	402A 290	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
14	Lift Adjusting Spring	405A 148	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
14	Index Rubber Finger Cap	406A 27	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
15	RC654 only	406A 29	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
16	Retaining Ring (12 required)	401A 355-1 401A 48	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
17	Pivot Shaft	401A 48	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
17	Tone Arm Mount and Hub (includes Allen Set Screw)	400A 610	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
18	Allen Set Screw, #8-32x3/16 (2 required)	402A 296	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
19	Tone Arm Plastic Base Assembly (includes bearings)	402A 296	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
20	Maroon; RC604, RC624, RC644, RC664, RC684, RC654, RC674	403C 61 403C 61-2 13A 2-8-57	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
21	Snap-In Buttons "Hold-Down" Screw RMS #8-32x1 1/4" RMS #10-32x3 3/4"	80-1500-C2-24 102-1750-P2-57	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
22	Plastic Control Pointer (2 required)	403A 63 403A 63-2	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
23	Maroon; RC604, RC624, RC644, RC664, RC684, RC654, RC674	403A 63 403A 63-2	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
24	Control Knob Mfg. Screw, #4x4 PEGT (2 required)	404A 418 402A 342	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140
25	Screw, #8-32x3/16" BH (includes lock washer) (3 required)	760-187-02-57	RC604, RC624, RC644, RC664, RC684, RC654, RC674	405A 140

ADMIRAL RECORD PLAYER.

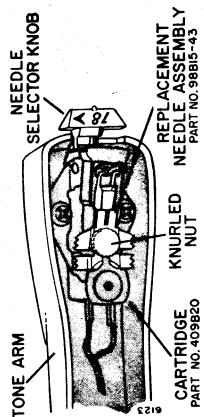


Figure 10. Cartridge and Needle Assembly Used in RC644, RC654 and RC664 Record Changers.

The cartridges shown in figures 10 and 11 use replaceable needle assemblies. Both jeweled needles are part of a replaceable assembly. To replace the assembly, loosen the knurled nut and remove the needle assembly. Insert replacement assembly in the exact same position and tighten knurled nut.

SERVICE HINTS

Reducing Hum

Hum may be reduced or eliminated on some phonograph models if the ground strap (if one is used) which grounds the motor to the changer pan is removed.

Cementing Inlay (Rej-On-Off, 33-78-45 or 33-78-45-16) To Record Changer Pan Cover on RC654 Record Changers

If the speed indicator inlay or Rej-On-Off inlay becomes loose, they can be cemented to the Phono Pan Cover with Ambroid or Pliobond cement. Caution: Be careful not to get any of the bonding material on the Phono Pan Cover, since it will dissolve the plastic.

Record Changer Drops More Than One Record At A Time on Turntable

If the centerpost slider (see figure 3) does not move freely on the record changer, then more than one record at a time may drop to the turntable. To correct this condition, the centerpost slider should be cleaned with carbon tetrachloride and lubricated with a light machine oil. If this does not correct the difficulty, the spring within the record ejector and spring assembly (122), may have lost its tension, and it should be bent to increase tension or be replaced.

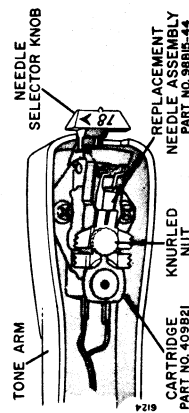


Figure 11. Cartridge and Needle Assembly Used in RC624 and RC674 Record Changers.

Changing the leveling arm angle slightly will, in some instances, improve record push-off action.

Reducing Possibility of Groove Skipping on 45 RPM Records

Groove skipping (failure of needle to follow grooves on 45 RPM record) may be caused by the tone arm shielded lead (5) being improperly dressed, or too short, producing a drag on the tone arm. This may be corrected by improving the shielded lead dress, or, if necessary, replacing the tone arm shielded lead (5) with new longer lead (part number G400A960).

Reducing Rumble

Rumble is due to vibrations developed by the motor, finding a conducting path to the ceramic pick-up. This path is generally through the thrust bearing in the turntable. To reduce rumble developed in this manner, the thrust bearing should be thoroughly cleaned with carbon tetrachloride and packed with a heavy grease which can be ordered under Admiral part number 418A68 or Houghton Absorbed Oil #100. Rumble may also be caused by insufficient motor grammet cushioning, idler wheel not rolling freely, or idler wheel being at an angle. These points should be checked if cleaning and greasing thrust bearing does not reduce rumble.

Used in early production RC654 record changers up to run 245.

Admiral

SERVICE DATA NO. ST569-1 FOR RC604, RC624, RC644, RC654, RC664, RC674 AND RC684 FOUR SPEED RECORD CHANGERS

This service manual contains temporary information for Admiral four speed record changers, models RC604, RC624, RC644, RC654, RC664, RC674 and RC684. For complete information on these changers, see Service Manual No. S569.

INSTALLATION

Installation instructions for these models are the same as those on page 2 of S454, Service Manual for the RC600 record changer, with the following exceptions.

A tone arm clip has been incorporated to permit the tone arm to be securely fastened during transport of the phonograph. The tone arm clip should be disengaged from the retaining stud on the tone arm rest before the record changer is operated.

Remove the needle guard by pulling it forward and off the cartridge. Remove the leveling arm retainer which holds it in position during shipment.

OPERATING INSTRUCTIONS

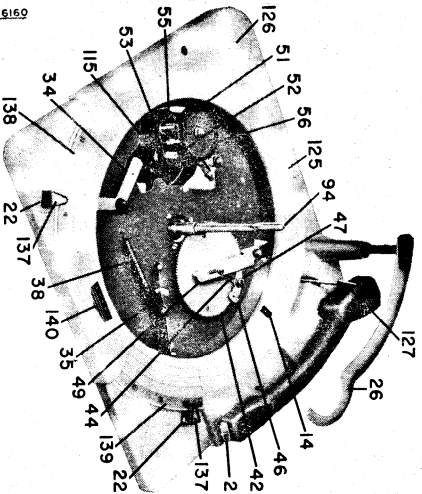


Figure 1. RC654 Record Changer with Turntable Removed.

Operating instructions for these record changers are the same as those for the RC600 on pages 2 and 3 of Service Manual S454 with the following excep-

tions. The SPEED SELECTOR knob has a neutral position. This knob should be left in the neutral position when the changer is not in use.

45 RPM adapters are not required when the 45 RPM spindle is used. The design of the leveling arm will allow the record changer to automatically shut off after the last record is played while using the 45 RPM spindle.

This series of changers will automatically play--
twelve 10-inch 33 or 78 RPM records, or
ten 12-inch 33 or 78 RPM records, or
fourteen 7-inch 45 RPM records, or
ten 7-inch 33 RPM records.

In addition, RC654 record changers will automatically play twelve 10-inch and 12-inch records of the same speed intermixed.

RECORD CHANGER DIFFERENCES

The Admiral line of four speed record changers is basically the same as the three speed record changers, the major difference being in the new motor assembly. Adjustments for three and four speed changers are identical and are described in detail in this manual.

All of the new four speed changers have these features:

- (1) Storage well to accommodate the 45 RPM spindle.
- (2) Redesigned leveling arm to permit the changer to shut off automatically after the last record has played when using the 45 RPM spindle.
- (3) Neutral position for SPEED SELECTOR that disengages the idler wheel from the turntable rim when the record changer is not in use.

ADJUSTMENTS

When making the following adjustments, keep in mind that the Push-off, Trip, and Set-Down mechanisms function independently.

VELOCITY TRIP MECHANISM

This record changer uses a velocity type trip, which depends upon a rapid movement of the tone arm toward the centerpost in any area between 2-7/8" to 7-7/8" from the center of the record. This trip requires no adjustment. However, in order for the changer to trip properly, there must be sufficient friction between the trip motion arm (44) and the gear engagement pawl (46). Friction may be increased by placing a very slight amount of a silicone lubricant such as Cosmoline #1 on the fiber washer (45). If necessary, replace the trip friction washer (47).

SET-DOWN ADJUSTMENT

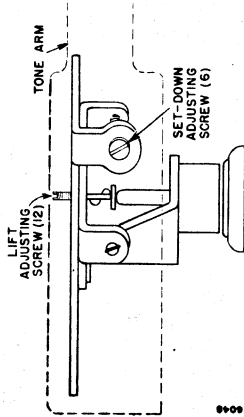


Figure 2. Set-Down and Lift Adjustments.

The set-down adjustment may be made while the changer is in its compartment or cabinet. Adjustment of the set-down point is made by adjusting the set-down adjusting screw (6). See figure 6. The tone arm will automatically set-down properly on 10-inch or 12-inch records if the set-down adjustment is made properly on a 7-inch record. The set-down adjusting screw is accessible through the hole in the left side of the tone arm. Turning this screw out (counterclockwise) moves the set-down point of the tone arm closer to the centerpost, and turning this screw in (clockwise) moves it away from the centerpost.

When operating the record changer out of its cabinet, the television line cord with the interlock socket (Admiral part number 89A22-1) may be used as an adapter for power at the phonograph motor plug.

Be sure the record changer is level. Make the set-down adjustment as follows:

1. Grasp the leveling arm at the point marked "LIFT HERE", and swing the arm from the centerpost to its stop above the tone arm rest.
2. Place a standard 7-inch, 45 RPM record on the turntable.

3. Rotate turntable by hand. Slide the reject pointer (22) to "REJ" position and let it return to "ON".
 4. Continue to rotate turntable until the tone arm swings over and begins to "Set-down". Stop turntable just as needle touches the record.
 5. "Touch-up" set-down adjusting screw (6) and repeat the preceding steps until needle sets down in the center of the starting groove of the 7-inch 45 RPM record.
 6. Check the set-down point with each size of record. "Touch-up" set-down adjustment until the set-down has been optimized for all sizes, 7, 10 and 12-inch records.
- If all sizes of records are not readily available, set-down adjustments may be accurately checked with a ruler. Follow steps 1, 2, 3 and 4. Measure from the near side of centerpost to the point of "Set-down". The distance should be between 3-1/4" to 3-5/32" for 7-inch records, between 4-10/16" and 4-11/16" for 10-inch records and between 5-19/32" and 5-22/32" for 12-inch records.

ADJUSTING THE TONE ARM LIFT

Be sure the record changer is level. The tone arm lift adjustment may be made while the changer is in its compartment or cabinet. The tone arm lift adjusting screw (12) is accessible through a hole on the top of the tone arm at the tone arm base. See figure 2. If the tone arm lift is too great, that is, the tone arm touches the record at the bottom of the stack of 12 standard 10", 78 RPM records on the turntable, turn the lift adjusting screw clockwise.

Adjust according to the following procedure.

- (1) Lift the leveling arm (26) and swing it outward toward the tone arm.
- (2) Rotate the turntable by hand. Slide the reject pointer (137) to "REJ" and let it return to "ON".
- (3) Continue rotating turntable slowly until the tone arm swings over the turntable. Stop the turntable before the tone arm begins to set-down in position for 7-inch records.
- (4) The needle must be 1-3/8" above the surface of the turntable to pass over 12 standard 78 RPM 10-inch records.
- (5) Adjust the tone arm lift adjusting screw (12) clockwise for greater lift and counterclockwise for lesser lift.
- (6) Place some records on the spindle shelf (94) and put the leveling arm in position. Start the record changer. During the reject cycle, if tone arm touches the records suspended on the spindle shelf, the lift is too great. Adjust accordingly. See pages 6 and 7 of Service Manual S454 for other adjustment instructions.

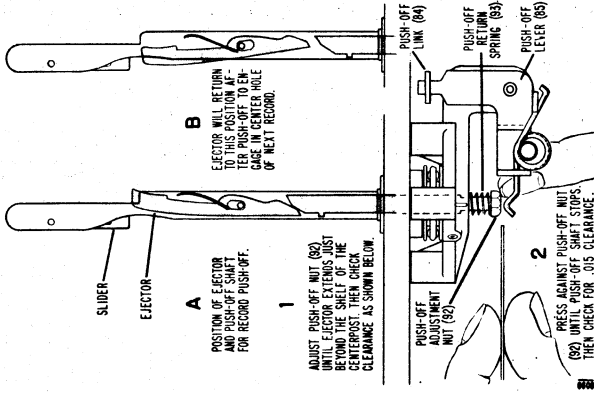


Figure 3. Adjusting For Correct Push-Off.

If the 45 RPM spindle does not operate properly, check to see that it is firmly pushed down on the centerpost, until it is firmly seated. If it still does not operate properly, then the Push-off adjustment should be made. A compromise adjustment may be necessary to get acceptable push-off for both the spindle and the small center hole records.

OPERATION OF 45 RPM CENTERPOST

Change Cycle

In the out of cycle position, the 45 RPM records rest upon the protruding ends of the record shelves (7a, 7b), see figure 4.

When the record changer goes into cycle, the ejector (122) and push-off shaft on the small centerpost assembly (94), are moved by the push-off lever (85). See figures 12 and 3. The outward movement of the ejector (122) in centerpost assembly (94) pushes against the push-out slider assembly (9) causing the record slicer drive studs to move the record slicers (5) outward. As the record slicers move outward and hold all but one record, a record shelf drive stud drives the record shelves, (7a, 7b) inward which allows the record to drop to the turntable.

After the record drops to the turntable, the record shelves move outward, then the slicers move in allowing all the records to again rest on the record shelves until the next change cycle starts.

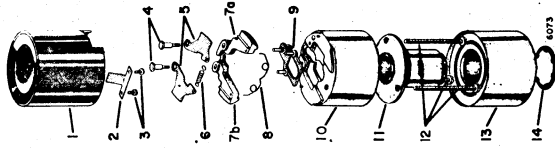


Figure 4. Exploded View of 45 RPM Centerpost.

DISASSEMBLING THE 45 RPM SPINDLE

(See figure 4.)

To disassemble the spindle for parts replacement, etc., proceed as follows:

1. Place spindle upside down on a clean, flat surface and remove retaining ring (14) by prying under it.
 2. Remove rotating base assembly (13) from the rest of the spindle.
 3. Remove the three screws (12) that hold the spindle shaft assembly (11) to spindle base assembly (10).
 4. Lift spindle shaft assembly (11) from spindle base assembly (10).
 5. Lift spindle base assembly (10) from spindle cap assembly (1).
- All moving parts which may require replacement are a part of the spindle base assembly (10) and are now accessible.

The slicer return spring (6) may be removed with a pair of long nose pliers. To replace the shelf return spring (8), the two pivot studs (4) must be loosened enough to allow clearance between the record shelf (7a, 7b) and the spindle base assembly (10).

To replace the record slicers (5), record shelf (7a, 7b) or push-out slider assembly (9), remove the two pivot studs (4).

ADMIRAL RECORD PLAYER.

Ref. No.	Description	Part No.	Ref. No.	Description	Part No.
70	Set-Down Index Return Springs.....	405A 143	121	Record Ejector and Spring Assembly.....	98A 77
71	Control Plate Assembly.....	400A 661	122	Washer, Motor Mfg. (0.2562x 1/32") (3 required).....	45 1-121-47
72	Retaining Ring.....	400A 352	123	Alden Plug.....	88A 8-1
73	Safety Arm and Stud Assembly.....	400A 662		RO644, RC654, RC684.....	88A 8-5
74	Safety Spring.....	405A 145		RO644, RC654, RC684, RO674.....	403A 71
75	Drive Link.....	400A 378	124	45 Rm Spindle Holder.....	403A 71
76	Shut-Off Link and Arm Assembly.....	400A 669	125	Record Changer Pan Cover, Beige (RC654 only) (includes linkys, ref. nos. 138, 139 and 140).....	400C 667
77	Shut-Off Arm Spring.....	405A 151	126	45 Rm Spindle Holder Cap.....	403A 73
78	Cam Return Spring.....	400A 152	127	Tone Arm Alignment Bracket and Trigger Assembly (RC654 only).....	400A 651
79	Retaining Ring.....	400A 353-7	128	Trigger Cooking Spring (RC654 only).....	405A 160
80	Shut-Off Delay Stop.....	400A 398	129	12" Set-Down Slide Assembly (RC654 only).....	400A 652
81	Shut-Off Delay Stop Engagement Spring.....	405A 153	130	Record Clamp Spring (RC654 only).....	405A 162
82	Drive Eccentric Assembly.....	400A 605	131	Record Clamp Bearing (RC654 only).....	404B 46
83	Lock Washer, #4-32x1 BH (includes lock washer).....	285-250-C2-47	132	12" Set-Down Slide Spring (RC654 only).....	405A 159
84	Push-Off Link.....	401A 379	133	Drive Screw, #6x1 IH (for mtg. record changer pan cover, 7 required) (RC654 only).....	402A 355
85	Push-Off Lever Assembly.....	400A 652	134	Tone Arm Clip, RC654, RC664, RC674, RC684.....	401A 428
86	Washer (0.196x3/8x1/32).....	45 1-68-47	135	Tone Arm Clip Stud, RC654, RC664, RC674, RC684.....	402A 358
87	Turnable Rib Support and Shaft (less Allen set screw).....	404A 41	136	Tone Arm Clip Mtg. Screw, RC654, RC664, RC674, RC684.....	1A 69-1-55
88	Screw, Self-Tapping, #6x3/8 (3 required).....	1A 70-10-47	137	Control Knob (RC654 only).....	401A 417
89	Drive Gear Bearing.....	415A 31	138	Speed (Inlay), 33-78-45-N-18 (RC654 only).....	404B 416-3
90	Retaining Ring.....	405A 99	139	Inlay, "Re-1-On-Off" (RC654 only).....	404B 416-2
91	Turnable Thrust Bearing.....	415A 29	140	Admiral Crest Inlay (RC654 only).....	404A 415
92	Push-Off Adjustment Nut.....	402A 277	141	Resistor, 330,000 ohms, 1/2 watt (RC654 only).....	60B 8-334
93	Push-Off Start Return Springs.....	405A 142	142	Capacitor, 0.1 mf., 200 volts, tubular (RC654 only).....	64B 5-30
94	Centerpost Assembly (includes 92 and 93).....	400B 601			
95	Screw, Self-Tapping, #6x5/8 (3 required).....	402A 263			
96	Tone Arm Lead Clamp.....	9A 8-2			
97	Shut-Off Link Hold-Down.....	414A 50			
98	Screw, Self-Tapping, #6x3/16 RH (4x2A 316 Switch and Mtg. Plate Assembly).....	400A 606			
99	4 Speed Motor Complete.....	400C 663			
100	RO644, RC654, RC674, RC684.....	400C 663-2			
101	Motor Grommet.....	406A 19			
102	Retaining Ring (3 required).....	401A 355-4			
103	Speed Selector Link Grommet.....	406A 24			
104	Flare Spring, 3/4" high (3 required).....	19A 10-5			
105	Terminal Board.....	10B 1-18			
	RO644, RC654, RC664, RC674, RC684.....	10D 1-29			
106	Audio Cable (20') Includes Plug.....	413A 11-5			
107	Charger Pan Assembly.....	400D 664			
	RO644, RC654, RC664, RC674, RC684.....	400D 664-3			
	RO654.....	400D 619			
108	45 Rm Record Adapters.....	45A 8-2			
109	Plastic Rubbing, 1 1/2".....	96B 18-9-10-C			
110	Cartridge Knob, Coral.....	403A 75-2			
111	Set Screw (for cartridge knob).....	409B 19-5			
112	Knurled Nut (fits between cartridge knob and tone arm).....	409B 19-4			
113	Loosening Plate for 409B 19-8.....	409B 19-3			
114	Cocking Roller.....	402A 354			
115	Slide Assembly (RC654 only).....	406A 20			
116	Tone Arm Counterweight Slug (3 required).....	401A 403-2			
117	Set-Down Adjusting Washer (0.125x1/2x1/32").....	441-19-47			
118	Counterbalance Spring.....	405A 163			
119	Tone Arm Clip.....	401A 426			
120	Push-Off Safety Spring.....	405A 154			
120a	Record Changers Only, Runs EX5, 215 & 245 Using 409B 19-8 Cartridge.....				

PARTS FOR CONVERTING 407023 AND 407023-2 MOTORS FOR 50 CYCLE OPERATION

50 Cycle Conversion Kit..... 98B 15-54

PARTS LIST FOR 45 Rm SPINDLE (400B645)

Ref. No.	Description	Part No.
1	Spindle Cap.....	403A 68
2	Index and Retaining Springs.....	403A 143
3	Screw, #4x1/4" Elco Pan Head (2 required).....	402A 342
4	Pivot Stud (2 required).....	402A 349
5	Record Slicer (2 required).....	401A 410
6	Slider Return Spring.....	405A 156
7a	Record Shell.....	403A 70
7b	Left.....	403A 69
7c	Right.....	403A 157
9	Shaft Return Spring.....	400A 639
9	Push-Out Slider Assembly.....	400A 643
10	Spindle Base Assembly.....	400A 643
11	Spindle Shaft Assembly.....	400A 640
12	Screw, #4-40x1 3/4" FEES (3 required).....	10-1790-C2-47
13	Rotating Base Assembly.....	400A 642
14	Retaining Ring.....	400A 414