ARISTOCRAT

THE INTELLIGENT CHOICE

MICROSTAR

MK 2.5 STEPPER

SERVICE & PARTS MANUAL

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FORWARD

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However, additional information is, from time to time, available in the form of technical bulletins.

This document itself is subject to change in the form of new issues.

SECTION 1 THE MK 2.5 STEPPER

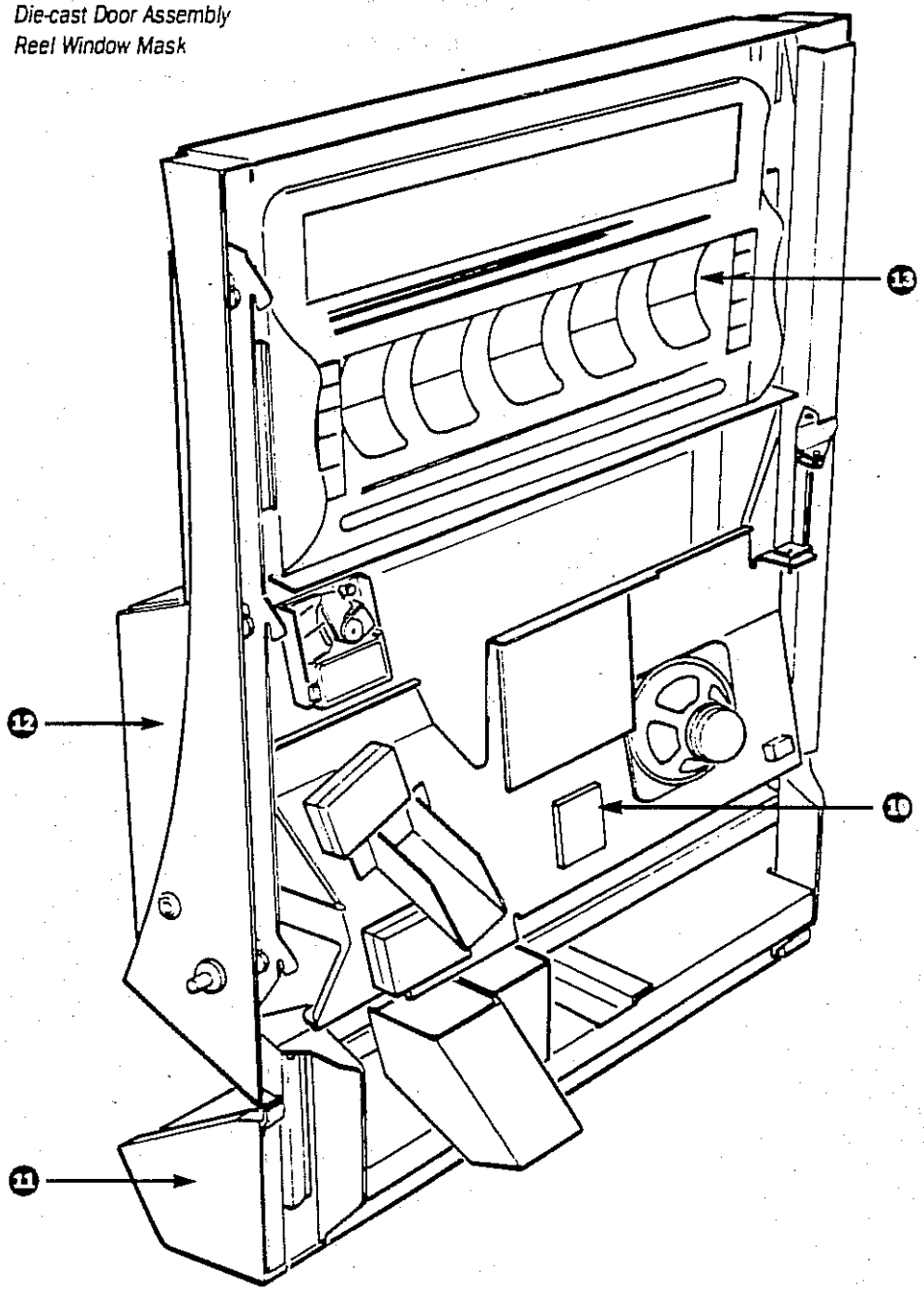
SECTION 2 INSTALLATION

SECTION 3 SERVICING GUIDE

MK 2.5 SERIES STEPPER: MAIN COMPONENTS LAYOUT

DOOR LAYOUT

10. *Reflector Assembly*
11. *Chip Tray Assembly*
12. *Die-cast Door Assembly*
13. *Reel Window Mask*

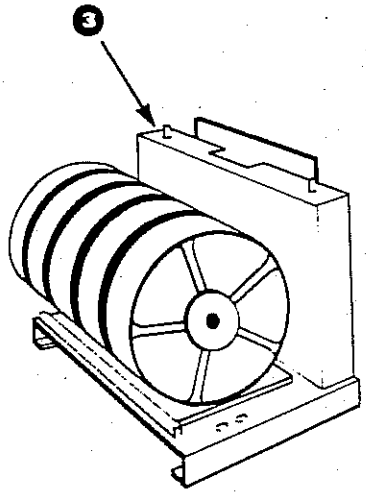


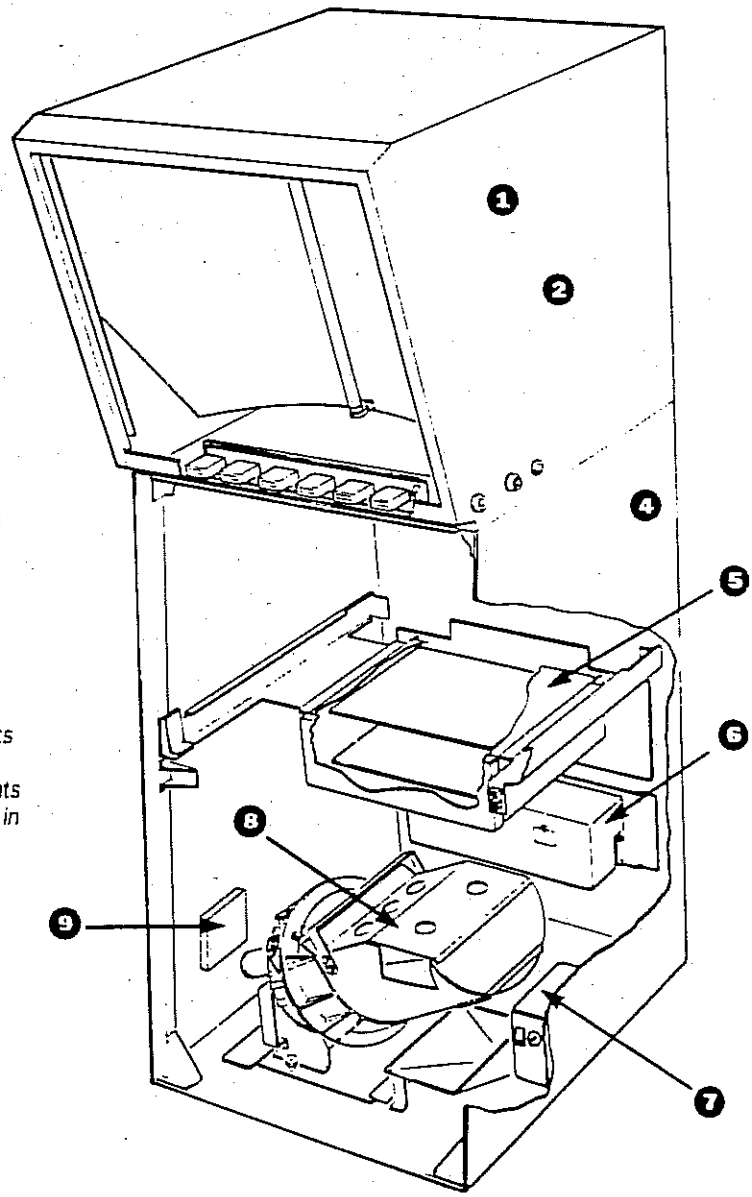
MK 2.5 SERIES STEPPER: MAIN COMPONENTS LAYOUT

MK 2.5 SERIES STEPPER

MAIN FEATURES

- State-of-the-art electronics
- Advanced security
- Super-strong die-cast door, with triple-latch locking bar
- Soft-touch play buttons
- Player-friendly graphics and artwork preferred by players





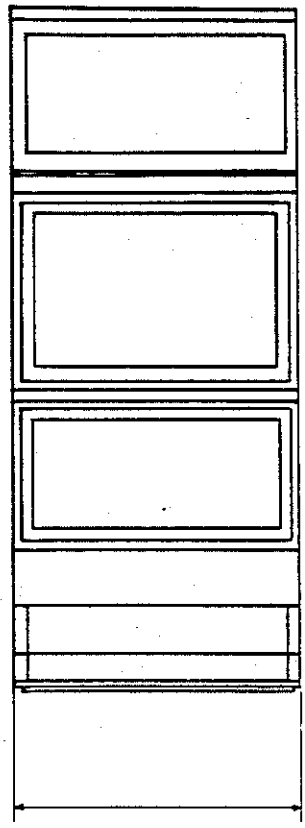
CABINET LAYOUT

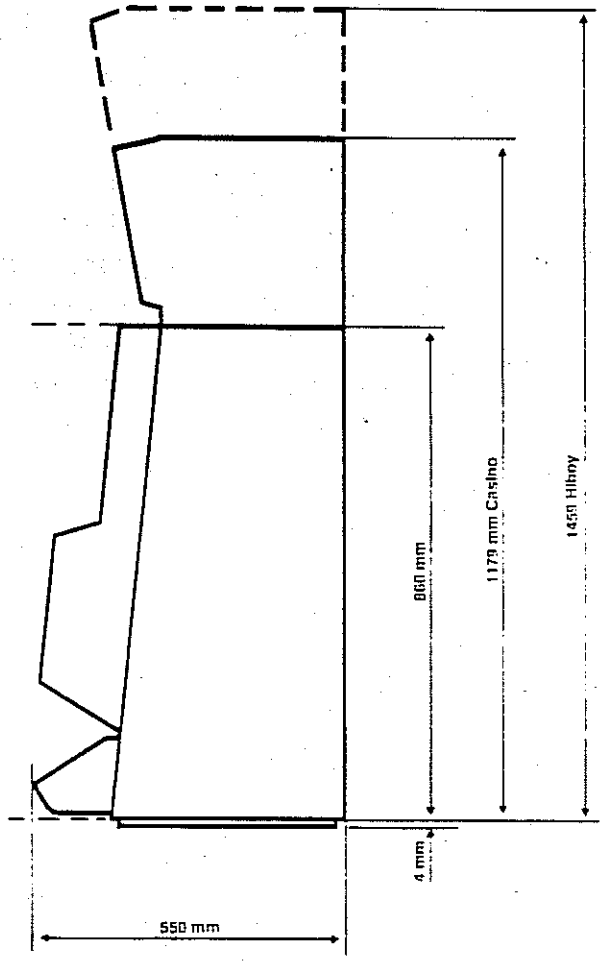
Shown here are the main components and their location within the Mk 2.5 Video Machine. See Main Components Part Numbers under 'Specifications' in this section.

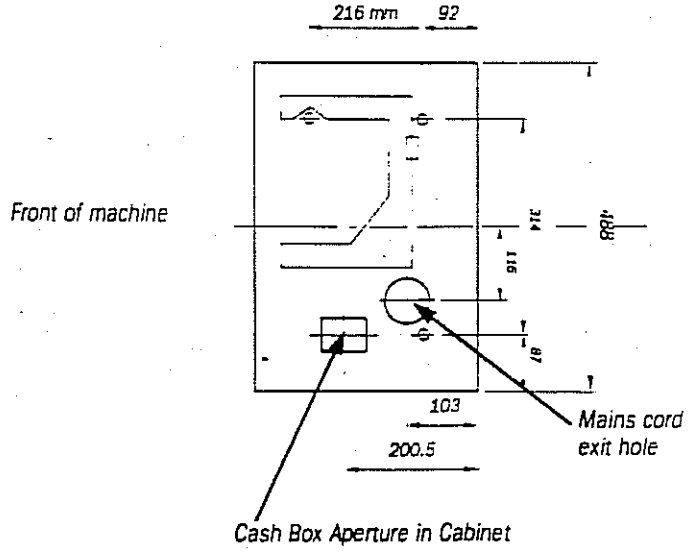
1. *Hi-Boy Top Box Assembly*
2. *Casino Top Box Assembly (not shown here)*
3. *Stepper Mechanism*
4. *Cabinet Body Assembly*
5. *PGC Assembly*
6. *PSU (Power Supply Unit)*
7. *Main Switch Box*
8. *Hopper Assembly*
9. *Communications Interface Board (if applicable)*

MK 2.5 SERIES STEPPER: SPECIFICATIONS

PHYSICAL PARAMETERS







MK 2.5 SERIES STEPPER: SPECIFICATIONS

MAINS CORD STORAGE DURING TRANSPORT

1. There is a provision for storage of the mains cord inside the Mk 2.5 Stepper machine cabinet. This enables connection to the mains supply through a hole in the cabinet base (where the mains lead is internal through the stand), or through the rear wall of machine where the mains supply would be from a wall socket.
2. The latest machines have a "trap door" in the cabinet rear to facilitate easier routing of the cord to the rear.
3. The 'trap door' is configured to mount in two positions:

a. in conjunction with the cord grip grommet to rout the cable to the rear, through the cabinet (Fig 3a);

b. this position is for the cord dropping to the cabinet base and blocks the exit hole at the rear (Fig 3b).

4. Sketches below show optional configurations.

Figure 3a

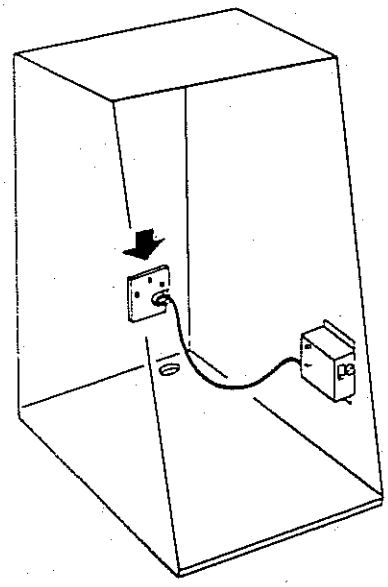
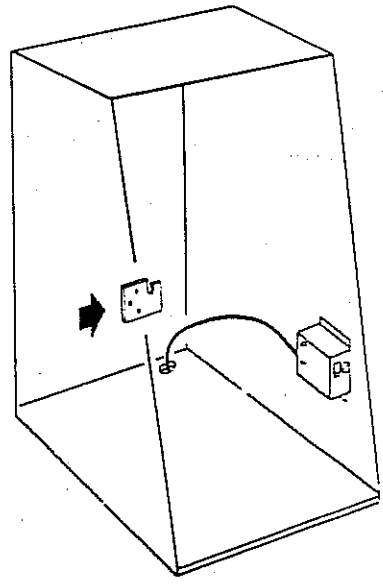
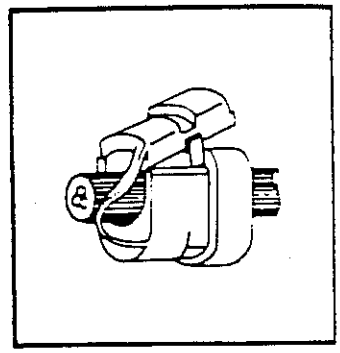


Figure 3b



IMPORTANT

Cable grommet/strain relief (illustrated right) must be fitted to the mains cord where it passes through the trap door, so as to avoid wear on cord and strain on the terminals.



MK 2.5 SERIES STEPPER: SPECIFICATIONS

Weight

Casino (without handle)	76.5 kg
Hi-Boy (without handle)	81.2 kg
Handle Assembly	4.5 kg

Heat Emissions and Current Loadings

Per machine: Current drain per machine at idle	0.6 amps max.
Per machine: Current drain per machine at max. load	0.75 amps max.
Max. heat emission per machine at idle	524.7 kJ (495BTU/HR)
Max. heat emission per machine at max. load	651.9 kJ (615BTU/HR)

NOTE: *Max. load = Hopper jammed, Light Tower on, Animation on.*
Heat emission is total and includes 20% of heat being generated as light.

Power Supply Unit/SMPSU (Switch Mode Power Supply Unit)

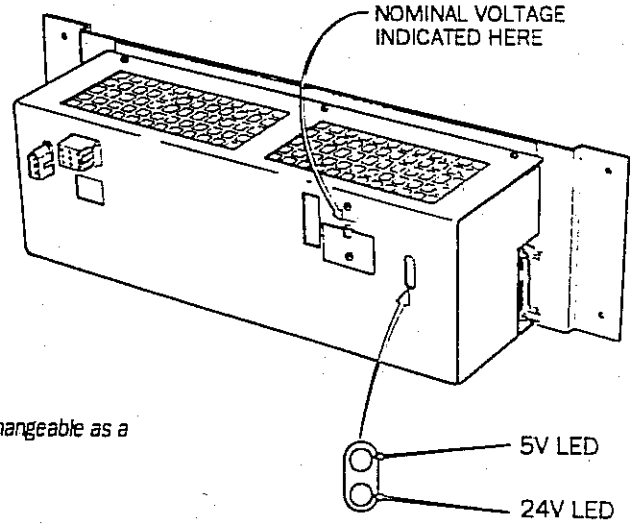
Listed below are compatible fluorescent light drivers and their power supply.

Power Supply Type	Visual Description	Power Supply Part No.	Fluorescent Tube Rating Driver Part No.	Fluorescent Light Supply PCB	Connection to Power
SETEC	Yellow Indicator LED's	2501-50224	8 Watt	2501-17615	2 pin Molex
			14Watt	2501-17616	

Part Number Identification: *The Fluoro Driver PCBs are used in other PSUs (only components changed). The Part Numbers that do not apply to that PCB assembly have been struck out on the PCB.*

The machine's internal voltages, 5V DC and 24V DC are controlled by the Switched Mode Power Supply Unit. The unit is factory set to suit the customer's nominated mains power supply and the mains input voltage is indicated on the plate as shown below.

Check the operation of the 5V and 24V supplies by observing the LEDs.



LOCAL MACHINES
(NSW ONLY)

The current unit is the Ainsworth 3 supplied by Setec.
The indicating LEDs are orange.

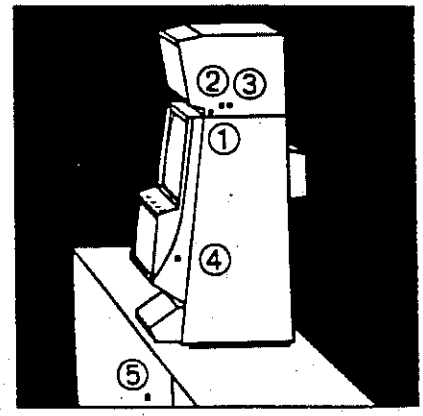
IMPORTANT: *These power units are only inter-changeable as a complete unit.*

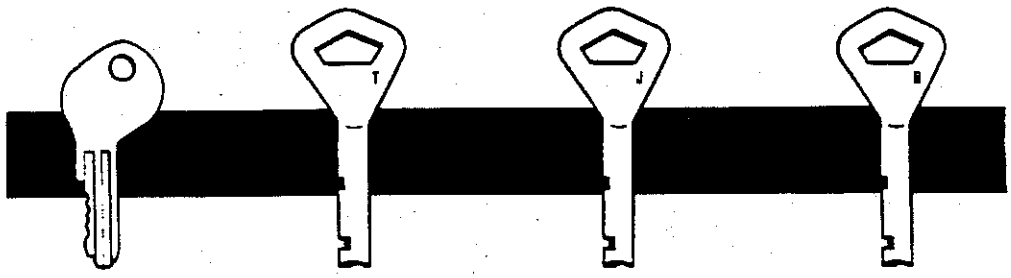
MK 2.5 SERIES STEPPER: SPECIFICATIONS

The Keys

Four keys are needed to operate and service the machine. To ensure security of the machine, great care is taken by management to ensure that these keys are in safe and reliable hands at all times.

1. T-KEY LOCK
   The T-KEY is inserted here and turned to
   (a) display the electro-mechanical counters and
   (b) unlock the top box access panel.
2. J-KEY SWITCH for 'cancel credit'.
3. AUDIT METER KEY SWITCH for audit display.
4. T-KEY LOCK to open main cabinet door.
5. B-KEY LOCK for cash box door.





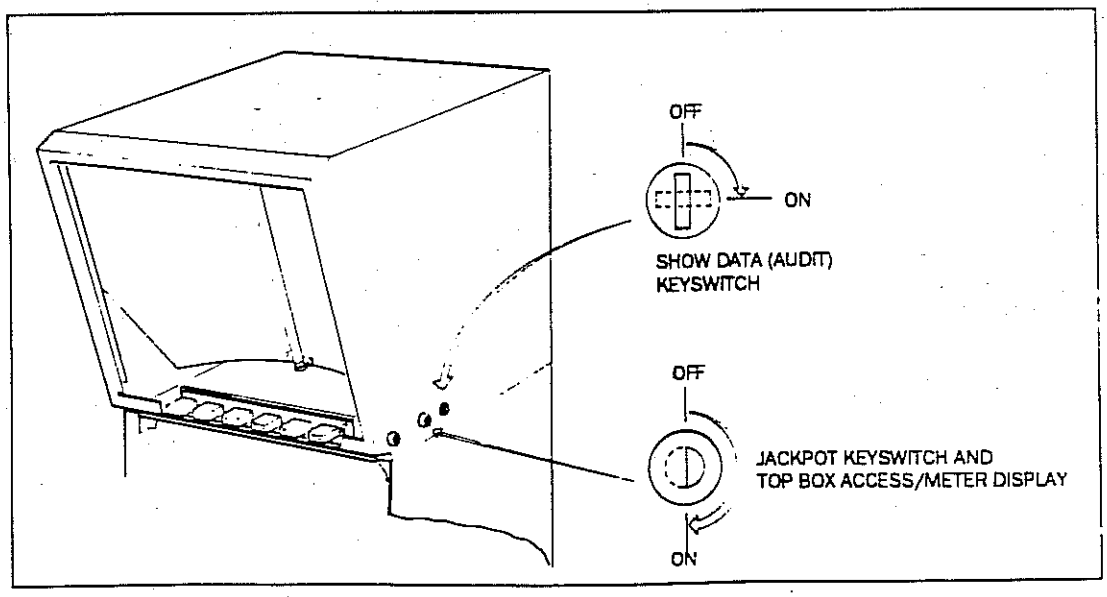
Audit Meter (3) Key

T-Key (1-4) Cabinet Door and Top Box Key

J-Key (2) Cancel Credit Key

B-Key (5) Cash Box Door Key

NOTE: *Keys subject to change*



MK 2.5 SERIES STEPPER: MAIN COMPONENTS PART NUMBERS

MAIN COMPONENTS AND PART NUMBERS

Part	Qty	Number
Hi-Boy Top Box Assembly		3302-51377
Casino Top Box Assembly		3302-51378
Tongue Cabinet Body Assembly (no handle - black)		2212-52513
Mechanism 5 Reel Assembly		4301-51425
5 Reel Module	5	0735-51435
Lamp 24V 3W		5507-03447
PCB Assembly		2501-40067
Mechanism 4 Reel Assembly		4301-52159
4 Reel Module	4	0735-52160
Lamp 24V 3W		5507-03447
PCB Assembly		2501-40067
Mechanism 3 Reel Assembly		4001-51779
3 Reel	3	0735-51777
Lamp 24V 3W		5507-03447
PCB Assembly		2501-40067
PGC Assembly		2209-15835
PSU Assembly		3112-51421
SETEC PSU		2501-50224
SETEC Fluoro tube drive – 14 watt		2501-17616
Main Switch Box(GPO)		3109-50474
Hopper ADH (See Hopper ADH Parts and Part Numbers in Section 3b):		
Australian 5 cent		3802-08800
Australian 10 cent		3802-08799
Australian 20 cent		3802-08798
Australian 50 cent		3802-14145
Australian 1 dollar		3802-10494
Australian 2 dollar		3802-17449
Reflector Assembly for coins 23mm to 38mm diameter		3310-51374
Chip Tray Assembly Coins up to 38mm diameter		2001-50693
Die-cast Door Assembly		3317-09441
Stepper Mechanism Reel Mask:		
5 Reel		0728-51557
4 Reel		0728-51558
3 Reel		0728-51559
Reflector Panel		3310-51372

Audit Meter Key
T-Key: Cabinet Door and Top Box
J-Key: Cancel Credit
B-Key: Cash Box Door

2. INSTALLATION

CORRECT SITING REQUIREMENTS

Ensure that:

- the surface the machine will sit on is level, well ventilated and away from hot and humid areas;
- the machine will sit in a dry place;
- the machine will not sit in direct sunlight;
- the base is standard for a Mk 2.5 Video machine, the holes must align correctly with the cash box on the base (see 'Specifications – Physical Parameters in SECTION 1);
- coin entry is aligned;
- the machine is positioned correctly on base so as not to overbalance;
- bases should be bolted together where possible for support.

INSTALLATION PROCEDURE

Completely check the machine. All machines produced by Aristocrat undergo rigorous tests and quality inspections at every stage of their manufacturing process. However, the company cannot guarantee that the machine will not be damaged during transportation after it leaves the plant.

- Unpack the machine and install it on a level base.
- Examine exterior panels of the machine for dents, chips and broken parts.
- Unlock and open the top box and cabinet doors.
- Remove the Transit Fastener bolts along the top-inside door. This allows access to the window interior. (See illustration A, left.) Remove the remaining Transit Fastener bolts from beneath the Stepper Mechanism (illustration B).
- Check that the licence approval and the number have been supplied to the club (in case of NSW, Australia).
- Check that the machine's operating percentage matches with the statutory declaration provided.
- Inspect the machine interior. Pay particular attention to the following points:

Illustration A

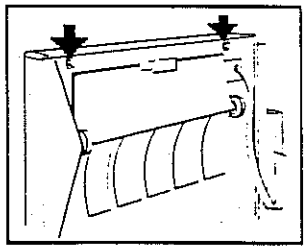
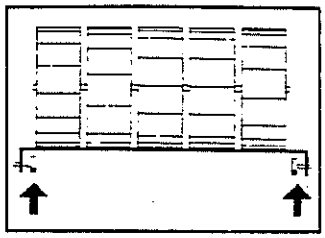


Illustration B



PLUG-IN CONNECTORS
Check that all connectors are firmly seated, re-plug any connectors found loose or disconnected.

DO NOT FORCE THE CONNECTION
The parts are matched so they only mate in the proper orientation.

REMOVE SEAL FROM PROCESSOR CAGE

PRINTED CIRCUIT BOARDS (PCBs)
Check for foreign objects sitting on PCBs.
Check that all PCBs are firmly seated in their sockets.
Check that PROMs are seated correctly in PCB.
Check that Dips Switch settings REFILL and CANCEL CREDIT are correct for clublicence requirements (In case of NSW, Australia).

Set Dip Switches according to local regulations as follows:

Switch Bank Two

Switch No. (On/Off)	*Refill*	*Cancel Credit*
7 Off 8 Off	400	300
7 On 8 Off	200	150
7 Off 8 On	200	100
7 On 8 On	100	50

Switch Bank Three

Switch No. (On/Off)	*Result*
5 Off 5 On	Reel spin sound Reel attract sound
6 On 7 On	Attract music Disable
6 Off 7 On	2 minute intervals
6 On 7 Off	10 minute intervals
6 Off 7 Off	30 minute intervals

HOPPER
Check that the hopper assembly is correctly located and locked in position.

MAINS CABLE
Check for any insulation damage.

EARTH CONNECTIONS
Check the earth wires for good connections.

MAINS VOLTAGE
Ensure that mains voltage specified on the machine's data plate matches your power supply requirement.

- Connect power. Cord can be routed out through either hole in base or hole in rear wall (to use the latter, first remove the small cover plate). See SECTION 1 under "Specifications".

- Depress memory reset button while powering up.
- Switch the main power switch on and check all lights and indicators.
- Place machine in robot test mode to check machine operation (lights, coin-in, monitor operation, optics, etc., Give approximately 5 minutes. See SECTION 3A under (iii) POSSIBLE PROBLEMS AND THEIR CORRECTION PROCEDURE – "Sequential Robot Test and Error Messages".
- Check and record for management the readings on the electro-mechanical counters. These non-resetable cumulative counters, with audit performance data, are at a reading of '0000000' when first installed in the machine. Factory testing of the game advances the counters – so management's House Accountancy Record sheets start with the numbers displayed when the machine is being placed into play.
- The procedure for initial Hopper coin fill is:

  a. While door is closed insert one coin into coin entry slot. This coin registers one credit and is deposited in the cash box.

  b. Wait approximately 30 seconds until screen displays "CALL ATTENDANT – OUT OF COINS".

  c. Open door, put appropriate number of coins into Hopper (for correct amount, see Jurisdiction Variations folder).

  d. Press clock initiate button and wait till chimes sound and "REFILL RECORDED" appears on the screen.

  e. Close and lock door.

  f. Hopper will discharge one coin. Put this coin back into the Hopper.

  g. Retrieve the original coin from the cash box and put this coin into the Hopper.

  (Steps 'f' and 'g' are necessary to bring the total of coins-in up to the required fill number. The refill meter will be indexed by that amount of coins.)

- Coin test machine. Machine is ready for operation.
- Complete the QUALITY CONTROL CARD and return it to the Aristocrat Service Division.

3A. SERVICING GUIDE TO THE STEPPER MECHANISM

(i) THE STEPPER MECHANISM IN DETAIL

The Stepper Mechanism consist of a number of single reel modules mounted side by side within the mechinism shelf.

Each reel module consists of a single reel independantly driven by it's own bi-directional stepper motor.

Each module is held in position by right angled lugs, one at the back and one at the front, located in slots in the mechanism shelf and secured in place by a retaining lug at the front of the reel frame.

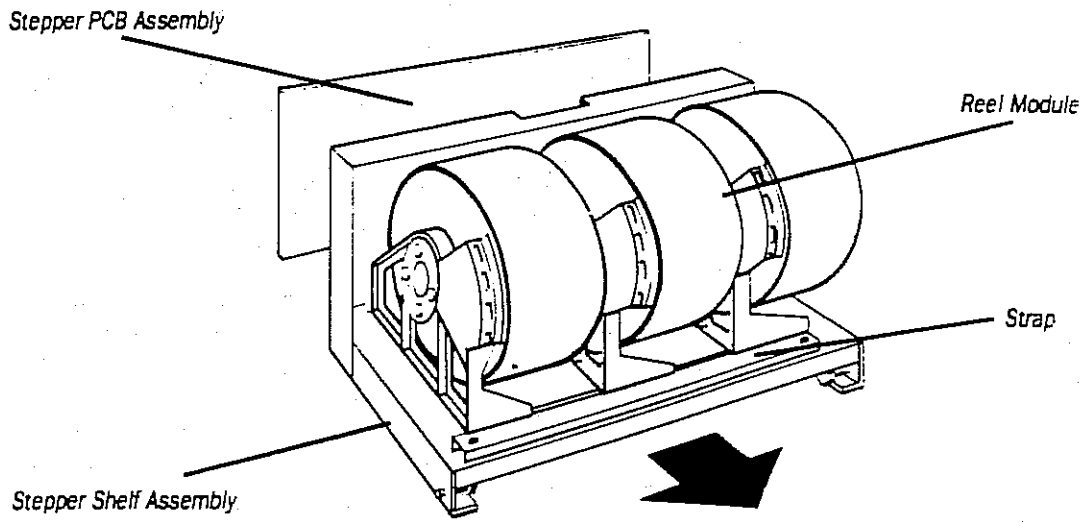
Reel position monitoring is through an indexing tag (mounted on the reel) which interupts the infra-red light beam, of a stationary photo-optic unit, once per reel revolution.

To remove the reel and shelf assembly from the machine:

1. TURN POWER OFF. Unplug the 40-way ribbon cable connector at the rear of the mechanism.
2. Pull in the two spring-loaded shelf retaining pins.
3. Slide the reel and the shelf assembly out.

To remove a reel module:

1. Unplug the module's 15-way lead from the Stepper Mechanism Controller Board (mounted at the rear).
2. Remove the retaining strap.
3. Lift the thumb tag at the front of the module to spring the retainer lug free of the shelf slot.
4. Slide the module towards the front of the shelf to clear the two right angled tags and then lift, making sure that the motor boss clears the adjacent reel module.



SERVICING GUIDETO THE STEPPER MECHANISM

SERVICE MODES

On opening the door of the machine, the photo-optic and mechanical door switches change the MPU program to Service Mode. This relaxes the machine security.

The "Game Invalid" light starts flashing. Function push button switch 3 "Service Mode 1 and 2" (inside the door on the Credit Meter PCB) selects between Service Mode 1 and 2 and vice versa.

Service Mode 1 (On opening the door)

- Normal playing with relaxed security.
- Cash box photo-optic detector disabled.
- No coin-in timing.
- Use credit button, on the coin chute under the selector, to increment service credits.
- Meter readings disappear after 15-20 seconds during Service Mode. The previous play mode figures replace them when the door is closed.

Hopper Photo-optic Count Test (Service Mode 1)

1. Open the door.
2. Turn on the Jackpot keyswitch.
3. Set up 10 credits with the button on the accept/reject chute. One press per credit.
4. Press the "Collect" button.
5. 10 coins will pay out into the chip tray. The count is displayed in the "Coins Collected" section on the right side of the dot matrix display, but the machine meters do not register.
6. Put the 10 coins back into the hopper.
7. Turn off the jackpot keyswitch and close the door.

NOTE

This 10 coin test can only be carried out once per door opening. If the hopper is empty, proceed as above but break the photo-optic beam 10 times by hand in place of step 5.

Service Mode 2 (Press "Service Mode 1 and 2" button)

This mode is used for testing the reel mechanism. Checks can be made on reel alignment, reel position, winning combinations, etc.

1. Entering Service Mode 2 by pressing "Service Mode 1 and 2" button will bring up the program number and the percentage on the dot matrix display above the reel window.
2. Press the "Robot" button once and a "bleep" will sound. The left hand side of the dot matrix will display Reel No. 1. To the immediate right of this the dot matrix will display the reel symbol position on the pay line.
3. To step the reel backwards through each of the symbol positions, use the "Collect" push button – one press for each symbol position.
4. To step the reel forwards use the "Reserve" button.

Service Mode 2 (Press "Service Mode 1 and 2" button)

5. The "Virtual Reel" Concept

MACHINE WITHOUT "VIRTUAL REEL" PROGRAM

When stepping through reels in Service Mode 2, reel symbols on the dot matrix display (software display) correspond, in sequence, with symbols on the reel strip. That is, the software contains the same number of symbols as are on reels.

NOTE

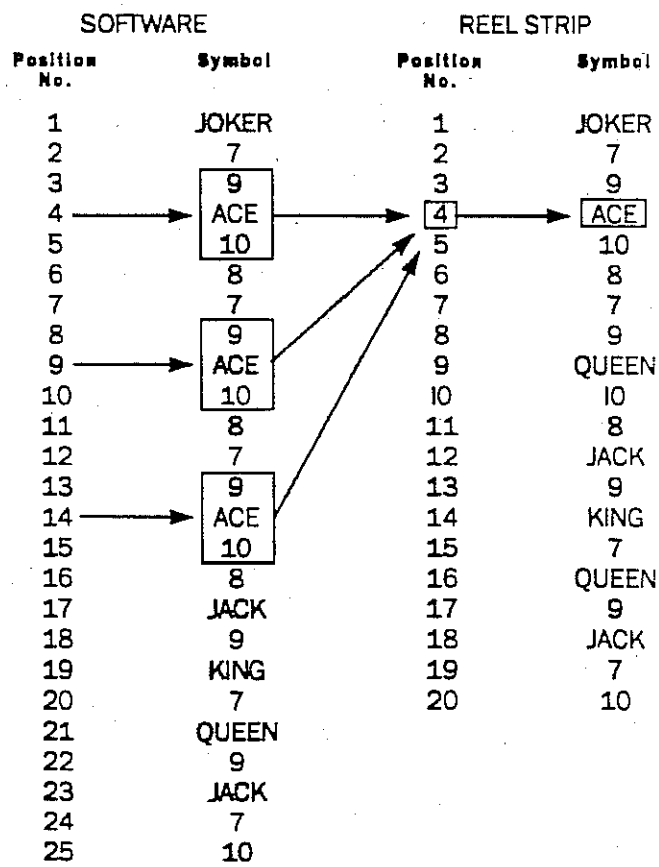
Consequently, when stepping sequentially through reels in Service Mode 2, it must be noted that reels may rotate more than half a turn to match the next (software) position. Once on the payline, the dot matrix verifies that reel symbol.

MACHINE WITH "VIRTUAL REEL" PROGRAM

The number of symbols held in memory may or may not correspond with the number and/or sequence of symbols on a reel strip.

As shown in the example below, software holds 25 reel symbols for a reel. The reel strip contains 20 symbols.

EXAMPLE:



Service Mode 2 (Press "Service Mode 1 and 2" button)

6. To move to Reel No. 2 press the "Robot" button once. The left side of the dot matrix will change to No. 2.
7. Repeat steps 3 and 4 (above) for this reel and so on through all the reels.

– Throughout this the value of any winning combination will be displayed on the right hand side of the dot matrix.

– The machine cannot be played in this mode and readouts disappear when the door is closed.

8. To revert back to Service Mode 1, press "Service Mode 1 and 2" button (3) again.

On closing the door, whether in Service Mode 2 or 1, the machine automatically reverts to Play Mode. Meter readings return to those displayed before the door was opened and the reels spin and return to the last game played position.

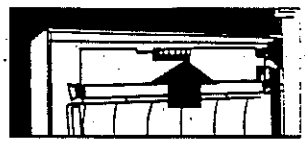
SERVICING GUIDETO THE STEPPER MECHANISM

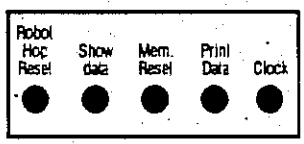
REAL TIME CLOCK SETTING

The real time clock provides time of day, alarm function and date.

The clock should be adjusted after initial power up.

Clock setting is operated by push button switches on the dot matrix PCB.





Clock Setting (see illustration opposite)

1. Press "Clock Init" button. This places the machine in clock mode.
2. Press "Show Data" button or turn audit key switch to set hours in units of ten..
3. Press "Mem Reset" button to set hours in units of one.
4. Press "Robot Hop Reset" button to set time in minutes.
5. Press "Show Data" button or turn audit key switch to set minutes time in units of ten.
6. Press "Mem Reset" button to set minutes time in units of one.
7. Press "Robot Hop Reset" button to set time in seconds.

Continue as above until seconds are adjusted.

Clock Adjustment in Sequence (Displayed on Dot Matrix)

a. Hours Time

b. Minutes Time

c. Seconds Time

d. Hours Alarm (needed if printer fitted)

e. Minutes Alarm (needed if printer fitted)

f. Seconds Alarm (needed if printer fitted)

g. Day Date

h. Month Date

i. Year Date

Hours : Minutes (14:30)

Followed by:

Day/Month/Year (15/05/90)

When the machine is switched off, the battery backup on the Controller Board provides power for the clock.

SERVICING GUIDETO THE STEPPER MECHANISM

ROBOT TEST

The Robot Test is part of the program which takes the machine automatically through a series of self tests as listed below.

Mechanism, solenoids, lamps, photo-optics, meters, door switches, sound chip, etc., are tested.

A particular step can be tested continuously by pressing the "Reserve" button during that step. To continue the Robot Test, press this button again.

How to Operate

START

Switch the machine on while holding the "Robot Hop Reset" button depressed until the reels stop. This will place the machine in the Robot Test mode until the machine is switched off again. Indicator/animation lamps will flash.

NOTE

The hopper probe and all photo-optic sensors are considered to be switches.If the coins in the hopper have reached the probe, move some away to open the circuit of this switch.

SWITCH TEST

Press the "Play" button until the "bleep bleep" sound is produced, then press the "Reserve" button. This will hold the Robot Test cycle in the switch test position. Each correctly functioning switch, when tested, will produce the "bleep" sound.

FAULTS

If a fault condition is detected the Robot Test will halt and the error is displayed on the dot matrix. To continue, press the "Reserve" button and testing will resume.

NOTE

The Robot Test will stop in the Switch test, bleeping constantly, if a full hopper shorts out the probe. To continue the Robot Test Cycle, disconnect the probe or move coins away from the probe.

Don't forget to reconnect the hopper probe before returning to Play Mode.

To hold any one test, press "Reserve" button during Robot Test cycle.

Re-press "Reserve" button and the Robot Cycle continues.

Robot Test Cycle

This consists of 6 main tests:

1. LAMP TEST: runs concurrently with all other tests. This flashes all lamps.
2. SOLENOID TEST: coin block, handle and diversion are each pulsed three times.
3. SWITCH TEST: all inputs are tested. A repetitive "bleep" signals non faulty switches, when a switch is activated, and the tested switch is identified on the dot matrix.
4. REEL MECHANISM TEST: all reels are spun and the reel mechanism reset. An audible alarm is raised if a fault occurs.
5. DOT MATRIX TEST: all LEDs are tested
6. DOOR SWITCH MISMATCH TEST: if a mis-match exists "Door Switch Fault" is displayed on the dot matrix and an alarm sounds.

SERVICING GUIDETO THE STEPPER MECHANISM

METER DISPLAY

First Audit Display

1. Turn the Audit keyswitch on. This puts the machine into audit display.
2. Step the display forward through the audit sequence with the "Collect" button.
3. Use the "Reserve" button to step the display backwards.
4. Turn off the Audit keyswitch to exit.

NOTE

First audit information can only be displayed when there is zero credit or when the door is open in Service Mode 1.

Machine Meters Displayed (First Audit)

M/c No.	Machine Number
T/Over	Turnover (of coins)
T/Wins	Total Wins
C/Box	Coins in Cash box
C/Crs	Cancelled Credits
Stroke	Number of Games
Refill	Hopper Refill Amount
Coins In	Total Coins In
Coins Out	Total Coins Out
5 Coin Games	Total Games on Max Bet (where max is 5)
5 Coin Wins	Total Wins on Max Bet (where max is 5)
Time	
Date	

SERVICING GUIDETO THE STEPPER MECHANISM

METER DISPLAY

Second Audit Display

1. Turn the Jackpot keyswitch on.
2. Turn the Audit keyswitch on.
3. Step display forward through audit sequence with "Collect" button.
4. Use "Reserve" button to step display backwards.
5. Turn off the Audit and Jackpot keyswitches to exit.

NOTE

Second audit information can only be displayed when there is zero credit or when the door is open in Service Mode 1.

Machine Meters Displayed (Second Audit)

M/c No	Machine Number
D/O	Door Openings
P/F	Power Failures
S/T	Short Timeouts
L/T	Long timeouts
INV.C	Invalid Coins-Yo-Yo or Coin-in Fault
INV.G	Invalid Game
ICG	1 coin games
ICW	1 coin wins
2CG	2 coin games
2CW	2 coin wins
3CG	3 coin games
3CW	3 coin wins
4CG	4 coin games
4CW	4 coin wins
5CG	5 coin games
5CW	5 coin wins
Time	
Date	

NOTE

Resetting of the secondary meters does not affect the primary meters and is intended as a service aid.

To Reset Secondary Meters to Zero

1. Turn on the Jackpot keyswitch.
2. Press the "Memory Reset" button with the door open on power up.

METER DISPLAY

Third Audit Display

In the event of a "RAM failure", the dot matrix will display "Metering Error".

The 3-way memory system is used to collect relevant metered information, including players credits.

To obtain this information proceed as follows:

1. Turn on the Audit keyswitch.
2. Step display forward through Audit sequence with the "Collect" button.
3. Press the "Reserve" button to step the display backwards. Meter Set 1 will be displayed followed by Meter Set 2 and 3.

Machine Meters Displayed (Third Audit)

T/Over

T/wins

C/Box

C/Crs

Stroke

Refill

Coins In

Coins Out

Credit

5CG

5CW

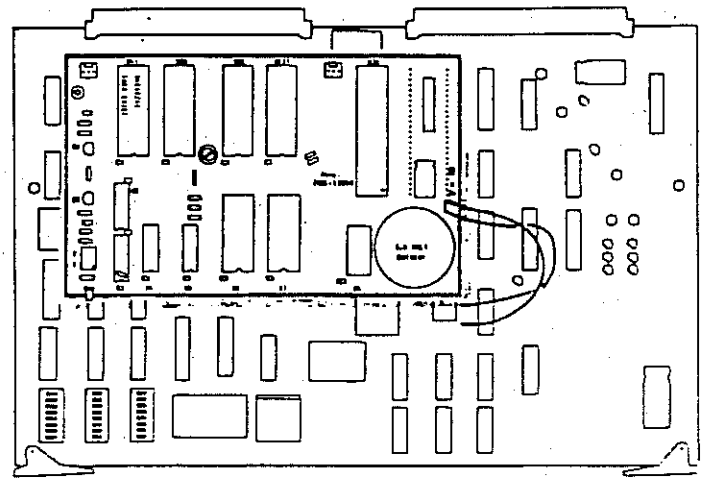
After the relevant information has been recorded, proceed as follows:

1. Open the main door.
2. Press buttons "Robot Hop Reset", "Show Data" and "Mem. Reset" simultaneously while turning on the Jackpot keyswitch.This will zero the meters.
3. Turn off the Jackpot keyswitch. Close the door.
4. Turn off and remove the Audit key. The machine is now in play mode.
5. Machine should be fully checked to ascertain the cause of the "Metering Error" occurrence. In particular, the Controller Board battery condition should be checked.

SERVICING GUIDETO THE STEPPER MECHANISM

INSTALLATION OF CONTROLLER BOARD

1. A Controller Board with an MCU module is a direct replacement for any controller board used in Microstar slot machines.
2. On installation, all existing program EPROMs must be inserted in the sockets on the module as shown below. Double check for the correct orientation of the EPROM in its socket.



Controller Board with MCU module

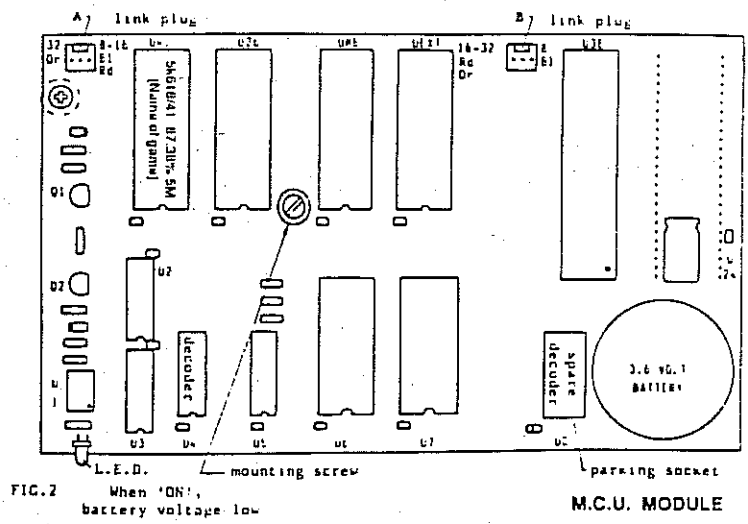


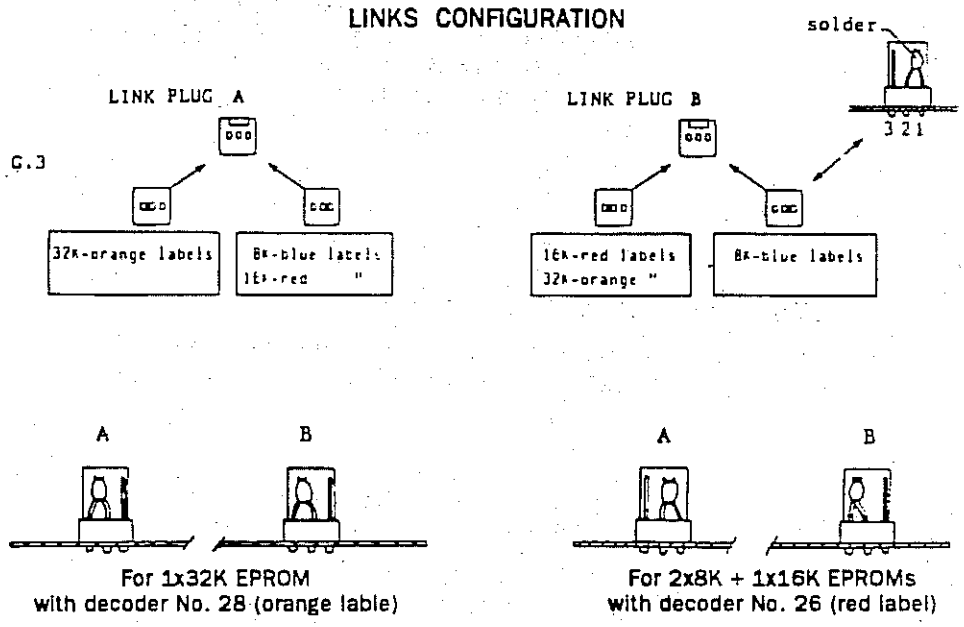
FIG.2

MCU Module

SERVICING GUIDETO THE STEPPER MECHANISM

INSTALLATION

3. The decoder matching the program must be located in socket U4. Socket U0 is for "parking" a spare decoder and normally vacant.
4. Check that pins of link plugs A and B are linked correctly, as shown below.



For 1x32K EPROM
with decoder No. 28 (orange lable)

For 2x8K + 1x16K EPROMs
with decoder No. 26 (red label)

SERVICING GUIDETO THE STEPPER MECHANISM

AFTER INSTALLATION OF REPLACEMENT CONTROLLER

Upon power-up after installation of a replacement controller, the dot matrix display may show "Metering Error"

Metering Error

This only applies to ZE or XA programs.
(1 x 32K or 2 x 8K and I x 16K)

As a result of a memory mismatch, a memory reset must be carried out. Before doing so, you must step through the three sets of audit readouts. Take meter readings for audit purposes, as one of the three readouts can be expected to contain the valid audit data. This procedure is as follows:

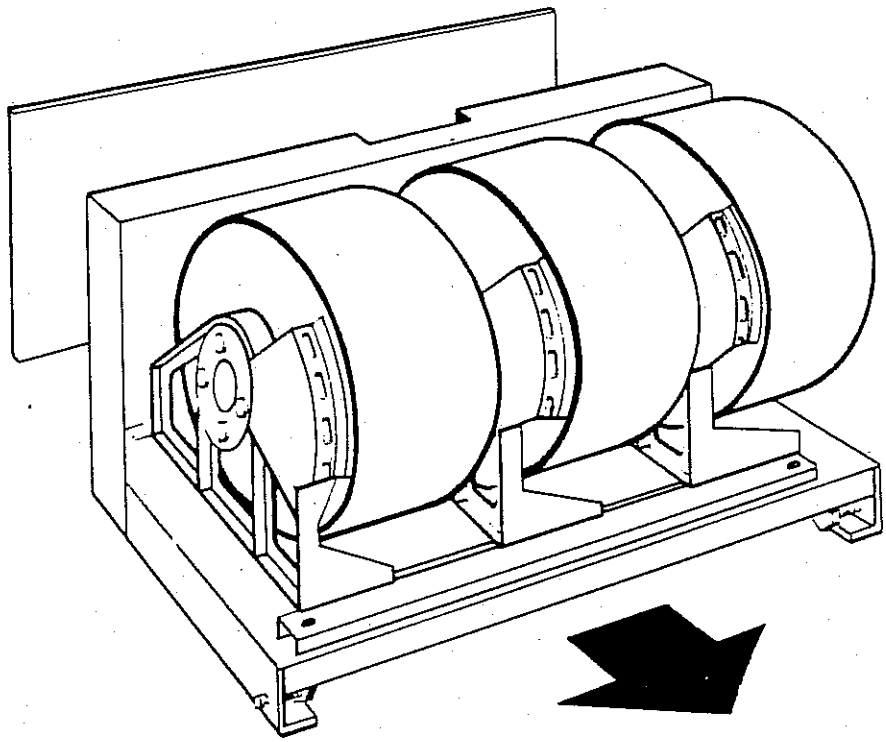
NOTE

During normal audit display, where back-up data is identical (no mis-match), only one set of metering data is displayed, without player's credit.

1. Turn the "Show data" keyswitch on. The dot matrix shows "METER SET #1".
2. Step through all audit displays by pressing the "Collect" button. Players credit (if any) will be listed in addition to the normal audit information.
3. At the end of the readout, the display shows "METER SET #2". Proceed as in step 2.
4. When "METER SET #3" appears, proceed again as in step 2.
5. To reset memory, turn the Jackpot keyswitch on, then press simultaneously three buttons on the Credit meter panel – "HOPPER RESET", "OPTO AUDIT", "MEM. RESET".
6. Turn Jackpot keyswitch off to go into Service mode, or Play mode on closing the door. All metering is now reset to zero.
7. Switch the machine off, depress the memory rest button, apply power and hold memory reset until the reels spin.

SERVICING GUIDETO THE STEPPER MECHANISM

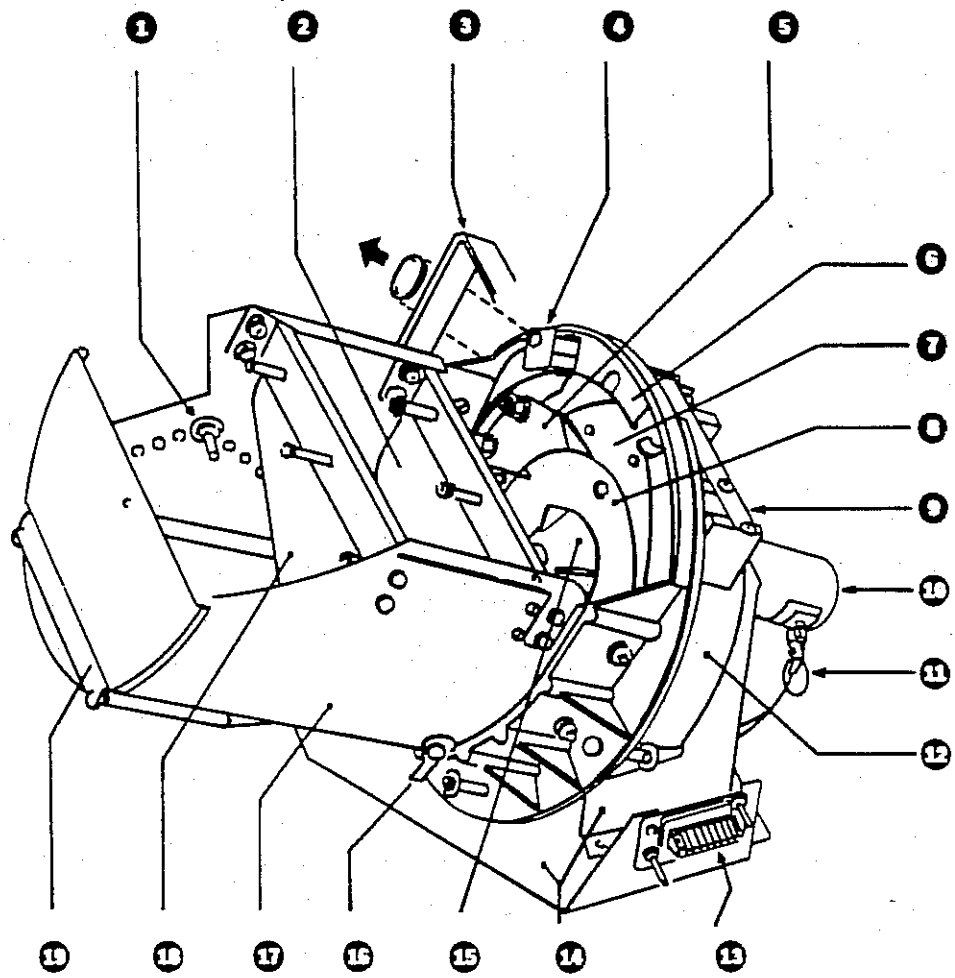
(ii) MAIN PARTS AND THEIR PART NUMBERS



Part	Qty	Part Number
Mechanism 5 Reel Assembly		4301-51425
5 Reel Module	5	0735-51435
Lamp 24V 3W	15	5507-03447
PCB Assembly	1	2501-40067
Mechanism 4 Reel Assembly		4301-52159
4 Reel Module	4	0735-52160
Lamp 24V 3W	12	5507-03447
PCB Assembly	1	2501-40067
Mechanism 3 Reel Assembly		4001-51779
3 Reel	3	0735-51777
Lamp 24V 3W	9	5507-03447
PCB Assembly	1	2501-40067
Stepper Mechanism Reel Mask:		
5 Reel	1	0728-51557
4 Reel	1	0728-51558
3 Reel	1	0728-51559
Stepper Mech. Shelf Assembly	1	2340-51385
Retaining Strap	1	0954-51438

3B. HOPPER UNIT

(i) HOPPER UNIT IN DETAIL



1. Upper Coin Probe
2. Lower Baffie
3. Carrying Handle
4. Photo-optic PCB Emitter
5. Coin Runner
6. Coin Wiper
7. Disc
8. Spigot (Coin Shelf)
9. Coin Wiper Spring
10. 24 V DC Motor
11. Motor Loom
12. ADH Housing
13. ADH Input Plug
14. Mounting Bracket Assembly
15. Coin Stirrer
16. Connector Lower Probe
17. Bowl Assembly
18. Upper Baffle
19. Coin Slider

SERVICING GUIDE TO THE HOPPER UNIT

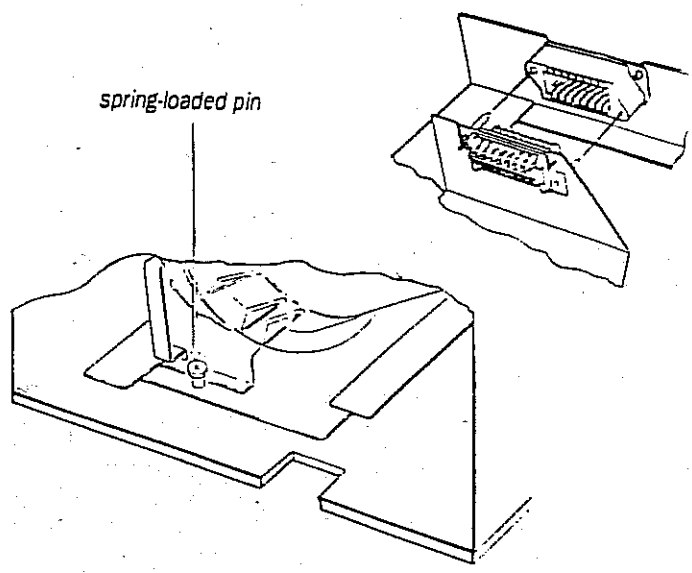
Removing the Hopper from cabinet

The Hopper is mounted on a quick release bracket assembly between two guides and is secured in position by a spring loaded pin. It has a mating electrical connection at the rear.

WARNING

Never lift, remove or replace the Hopper by the motor and the end of the bowl - it may bend the motor spindle. Use the handle provided.

The Hopper level is controlled by a probe fitted into the wall of the bowl. Once the coin level reaches the probe an electrical path to ground is formed and incoming coins are diverted (by means of the coin chute deflector) to the cash box.

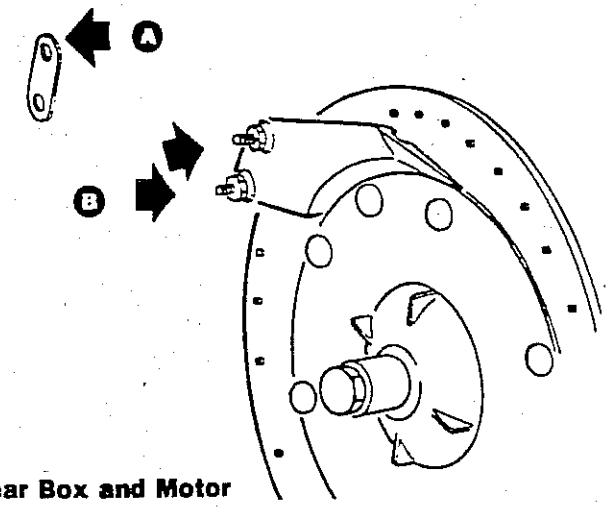


Coin Runner Adjustment

Locate the Coin Runner as close to the curb as possible (as shown above) without rubbing against the disc or the Spigot Plate. Use shims (A) as required, tighten nuts (B) and check for free movement by turning the disc clockwise by hand.

WARNING

The moving parts in the Hopper can cause serious injury. Hoppers must not be operated with the cover removed.



Gear Box and Motor

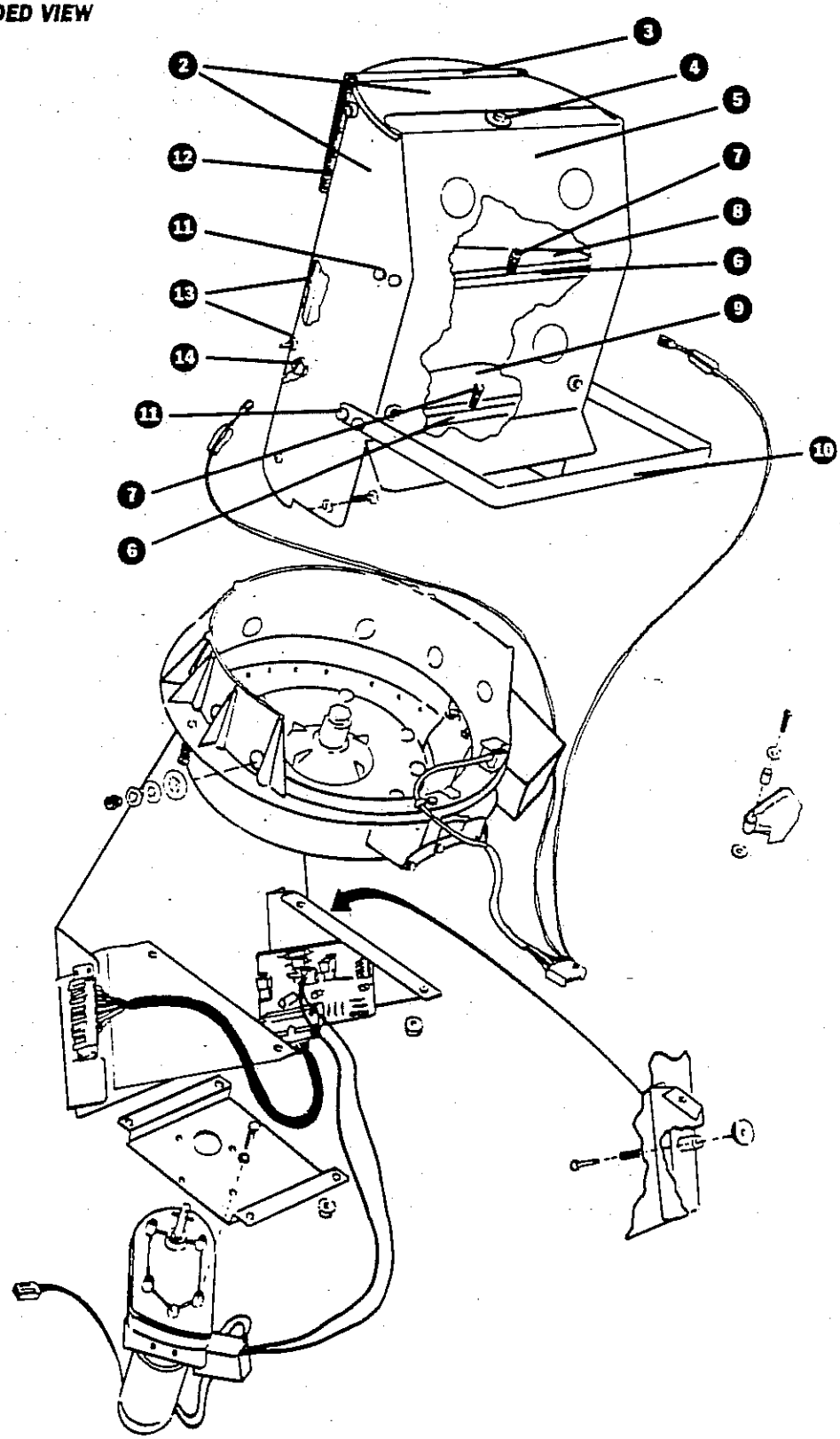
There are no individual parts available for the gear box or motor. Generally wear is virtually nil and a long trouble-free service may be anticipated. The motor and gear box should be replaced as a complete whole unit.

(ii) HOPPER PARTS AND THEIR PART NUMBERS

The Disc Hopper assembly and part numbers differ depending on the denomination or coin dimensions used. Likewise, some of the parts and part numbers within the disc hopper can change to achieve the same denomination conversion. Refer to the denomination parts list at the end of this section.

SERVICING GUIDE TO THE HOPPER UNIT

EXPLODED VIEW

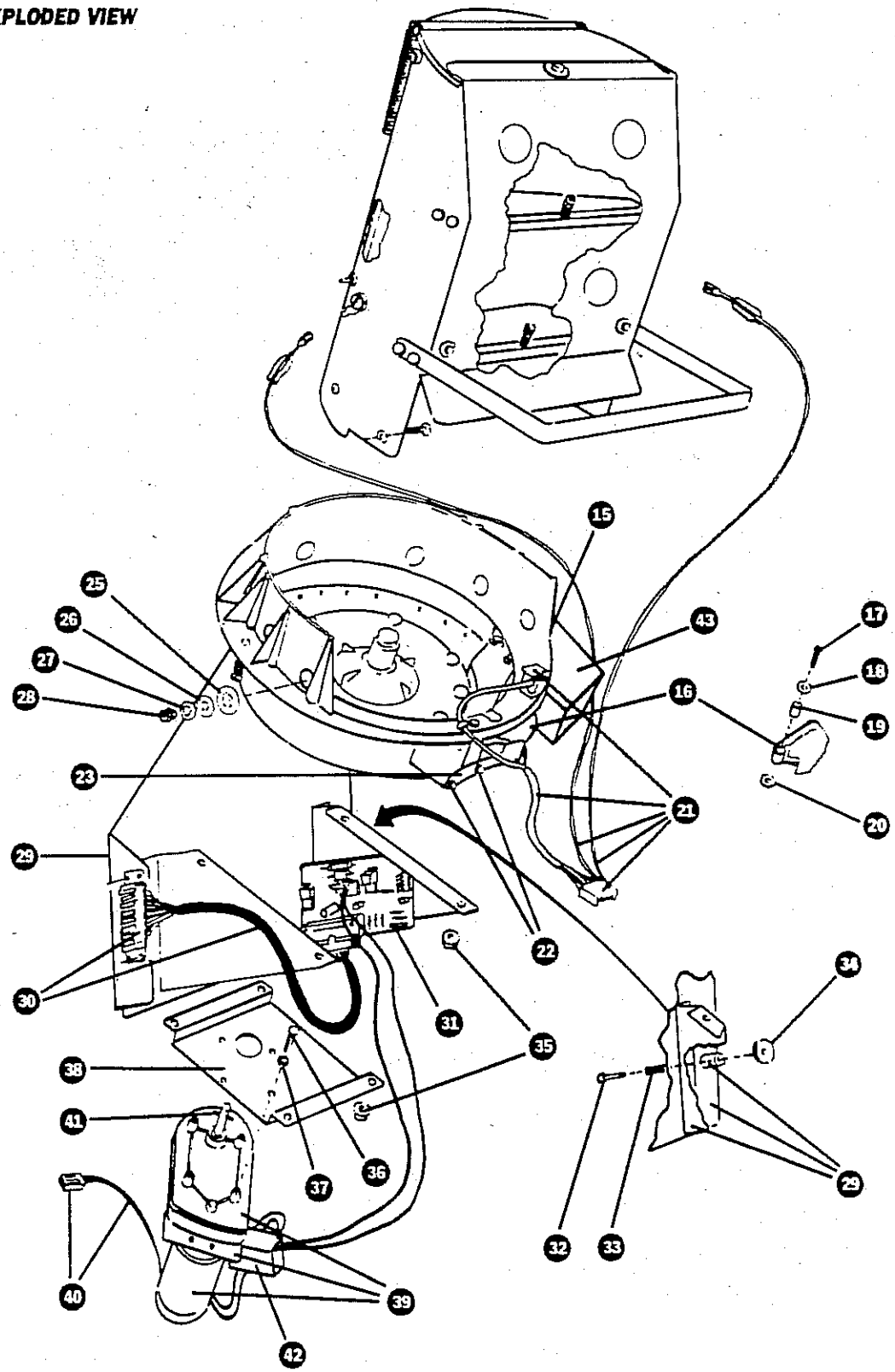


SERVICING GUIDE TO THE HOPPER UNIT

Ref.	Description	Required	Part Number
1	ARISTOCRAT DISC HOPPER ASSEMBLY, REFER TO DENOMINATIONAL LISTING OF ASSEMBLIES AND PARTS IN SECTION 9		
2	BOWL ASSEMBLY, ADH	1	2208-06312
3	PANEL ASSEMBLY, COIN SLIDE COMPRISING:	1	3316-06316
	– PANEL ASSEMBLY, COIN SLIDE, SPOT WELDED	1	2230-06315
	– WASHER, FLAT, ZNC, M6.48 x 11.9 x 1	12	6626-04010
	– NUT, NYLOC, ZNC, M6	4	6612-03263
	– CLIP, CANOE, 33-096-0002, EQ	4	0743-03811
	– BALL BEARING, 6x19x6 626ZZ	4	5601-02491
	– SCREW, HEX HEAD, ZNC, M6 x 16	4	5757-02673
4	SCREW, PH/BD, NICKEL PLATED, 3/8"	3	5741-02632
4	WASHER, FLAT, M5.16 x 11.1 x 1	3	6626-04009
5	COVER, BOWL	1	0920-06906
6	BRACKET, BAFFLE MOUNTING	2	0913-06082
7	BOLT, BAFFLE MOUNTING, COACH, CHROME, 3/16 "BSW x 1"	6	5773-03906
7	SPRING,COMPRESSION	6	1001-01118
7	NUT, NYLOC, 3/16" BSW	6	6603-03230
8	BAFFLE, UPPER, (HOPPER BOWL)	1	0905-06100
9	BAFFLE, LOWER, (HOPPER BOWL)	1	0905-06099
10	HANDLE, PLUG-IN ADH	1	0931-09514
11	SCREW, BAFFLE BRACKET & HANDLE MOUNTING, HEX HD, M5 x 12	8	5753-02660
11	KEPS NUT, BAFFLE BRACKET & HANDLE MOUNTING, M5	8	6604-51713
12	SPRING, HOPPER BOWL RETAINING	2	1004-01009
13	PANEL - HOPPER BOWL PLATFORM	1	0944-06050
13	SCREW, PAN HEAD, ZINC M3 x 10	4	5746-02641
13	WASHER, FLAT, 1/8" x 3/8" OD	4	6622-03855
13	NUT, HEX, M3	4	6610-03252
14	SCREW, COIN PROBE, RND HD, 3/16" BSW x 1 1/4"	1	5712-02564
14	TAB,QUICK-CONNECT, H1168-150	1	6120-03672
14	WASHER, SHAKEPROOF, 3/16"	1	6623-03880
14	BUSH, INSULATING	1	0612-00115
14	WASHER, INSULATING	1	0648-00116
14	NUT, HEX, 3/16", BSW	1	6602-03224

SERVICING GUIDE TO THE HOPPER UNIT

EXPLODED VIEW



SERVICING GUIDE TO THE HOPPER UNIT

Ref.	Description	Required	Part Number
15	BOWL HOLDER & HOPPER HOUSING REFER SECTION 8 FOR PARTS BREAKDOWN		
16	PAWL, SECOND COIN WIPE-OFF, REFER DENOMINATIONAL LIST IN SECTION 9		
17	SCREW, HEX HEAD M4 x 20	1	5749-07022
18	WASHER, FLAT, $^{5}/_{32}$" x $^{7}/_{16}$" x 20 BG	1	6622-03857
19	BUSH, 2ND COIN WIPER	1	0612-07021
20	REFER NOTE 1 IN DENOMINATIONAL LISTING OF ASSEMBLIES AND PARTS IN SECTION 9		
21	LOOM, PHOTO-OPTIC, DUAL PROBE COMMON ALL DENOMINATIONS	1	3119-07304
REF	PCB ASSEMBLY, EMITTER 8 BOARD (PART OF ITEM 21)	1	250107676
REF	INFRA-RED DETECTOR (PART OF ITEM 21)	1	6313-03202
22	SCREW, TAPTITE, M3 x 10	2	5762-07251
22	WASHER, SHAKEPROOF, $^{1}/_{8}$" INT	2	6623-03878
23	LEAF-SPRING, 2ND COIN WIPE OFF	1	1003-07371
24	SCREW, C'SUNK HEAD, M4 x 12	6	5748-02648
25	WASHER, FLAT, OBA x $^{5}/_{8}$" x 18BG	6	6622-03863
26	WASHER, FLAT, $^{5}/_{32}$" x $^{7}/_{16}$" x 20 BG	6	6622-03857
27	WASHER, SHAKEPROOF, $^{5}/_{32}$"	6	6623-03879
28	NUT, M4	6	6610-03253
29	PLATE ASSEMBLY, BASE HOPPER MOUNTING	1	2329-08683
30	HOPPER LOOM, PLUG TO PCE3	1	3106-08780
31	PCB ASSEMBLY, DC ADH	1	2501-07100
32	PIN, QUICK RELEASE PIN	1	0633-07524
33	SPRING, QUICK RELEASE PIN	1	6501-07525
34	NUT, QUICK RELEASE PIN	1	0630-07522
35	M5 KEPS NUT Z/P	8	6604-51713
36	SCREW, MOTOR MOUNTING, M4 X 10	4	5749-02652
37	WASHER, SHAKEPROOF, $^{5}/_{32}$"	4	6623-03879
38	BRACKET, MOTOR MOUNTING	1	0913-10921

SERVICING GUIDE TO THE HOPPER UNIT

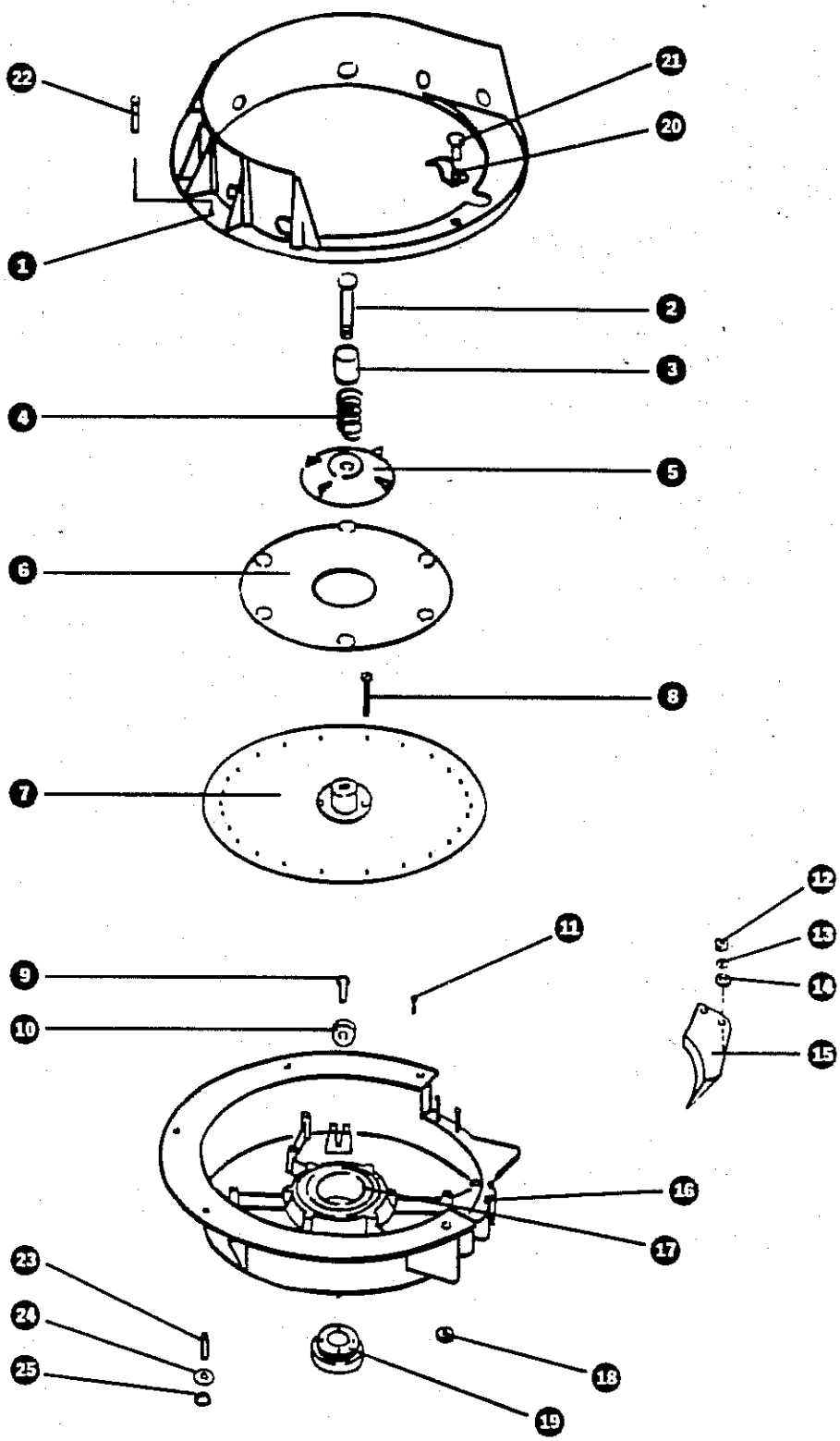
Ref.	Description	Required	Part Number
39	DC DRIVE MOTOR & GEARBOX ASSEMBLY, 24 DC, S4023TG "SHINKO"	1	6420-10871
40	PCB/LOOM ASSEMBLY, HOPPER MOTOR, CAPACITOR	1	2501-15285
41	PIN, $^{3}/_{16}$" x 1" LG SPIROL ALLOY 302	1	6633-03312
42	CHUTE ASSEMBLY HOPPER	1	2214-17469

DISC HOPPER DENOMINATIONAL ASSEMBLIES AND PARTS

COUNTRY	DENOM.	HOPPER ASSEMBLY	PAWL 2ND COIN WIPE-OFF	SPIGOT PLATE ASSEMBLY	DISC ASSEMBLY	COIN RUNNER
Australia	5¢	3802-08800	2001-14623	2130-06701	2001-06705	0639-06334
220V 50Hz	10¢	3802-08795	2001-50635	2130-06700	2001-07428	0639-17980
	20¢	3802-08798	2001-14601	2130-06618	2001-06522	0639-06336
	$1	3802-10494	2001-14600	2130-06700	2001-07428	0639-17980
	$2	3802-17445	2001-14601	2130-06700	2001-17441	0639-17980

SERVICING GUIDE TO THE HOPPER UNIT

EXPLODED VIEW



SERVICING GUIDE TO THE HOPPER UNIT

Ref.	Description	Required	Part Number
1	HOLDER, BOWL MOUNTING	1	0320-07102
2	BOLT, SHOULDER	1	0609-06076
3	COVER, SPRING	1	0713-06075
4	SPRING, COMPRESSION	1	6501-06325
5	COIN-STIRRER	1	0743-06074
6	SPIGOT PLATE ASSEMBLY REFER TO DENOMINATIONAL LIST IN SECTION 9 FOR PART NUMBERS		
7	DISC ASSEMBLY REFER TO DENOMINATIONAL LIST IN SECTION 9 FOR PART NUMBERS		
8	SCREW, CHEESE HD, ZINC PLATED, M4 x 35	4	5750-14631
9	PIN, BEARING AXLE	3	0633-07368
10	BALL-BEARING, 6 x 19 x 6, 626ZZ	3	5601-02491
11	SPRING, BEARING AXLE	6	6501-07369
12	NUT, HEX M6	2	6610 03255
13	WASHER, SHAKEPROOF, 1/4"	2	6623-03882
14	WASHER, FLAT, M6.48 x 11.9 x 1	2	6626-04010
15	COIN-RUNNER REFER TO DENOMINATIONAL LIST IN SECTION 9 FOR PART NUMBERS		
16	HOUSING, HOPPER	1	0313-07103
17	BALL BEARING, 6007 2ZZ	1	5601-02490
18	NUT, NYLOC, ZINC PLATED, M6	1	6612-03263
19	BUSH-DRIVE BOSS BEARING CLAMP	1	0612-06072
20	CLAMP, CABLE, H902/150	1	5819-03591
21	SCREW, HEX HEAD, M6 x 12	1	5757-02672
22	SCREW, PN HD ZNC M5 x 32	4	5754-10653
23	SPRING,COMPRESSION	4	1001-01118
24	WASHER, FLAT, 3/16" x 1/2" x 20BG	4	6622-03860
25	NUT NYLOC, ZNK M5	4	6612-07719
	SHIM/SPACER FOR COIN RUNNER PACKING – 0.010" thickness – 0.050" thickness		6625-03891 6625-03892

SERVICING GUIDE TO THE HOPPER UNIT

(iii) POSSIBLE PROBLEMS AND THEIR CORRECTION PROCEDURE

Hopper Fault Finding

PROBLEM	PROBABLE CAUSE/SOLUTION
"Call Attendant – Out of Coins" Hopper will not turn and times out	– Faulty motor – Jammed or seized disc drive – Broken wires or terminals on motor – Bent coin runner jamming disc
Hopper motor turns but not disc drive	– Broken tooth in gearbox
Hopper operates but no coins being issued causing coins to be deposited in hopper	– Blocked coin chute in Hopper – Coin runner bent, worn or out of adjustment
Coins short **payed** to chip tray	– Coins are passing Hopper optic and being counted before dropping back to the hopper – Misaligned coin chute – Faulty Hopper board – Faulty or dirty optics
Coins **over-payed** from Hopper	– Faulty Hopper board – Faulty or dirty optics

IMPORTANT

Never lift the Hopper by the motor and end of bowl. This can bend the motor spindle. ***Always use the handle.*** *To remove the Hopper, first switch the power* ***off****, lift the quick release pin, and slide the Hopper forward* ***using the handle****.*

SERVICING GUIDE TO THE COIN SELECTOR AND CHUTE

3C. COIN SELECTOR AND CHUTE

Because of different coin/token sizes used world-wide, the Mk 2.5 Video machines incorporate one of three different types of coin selector.

MECHANICAL SELECTORS
Mechanically measure size, mass and magnetic quality of coins.

COIN COMPARITORS (CC-16)
Compare size and metallic consistency of coins to a standard fitted coin.

ASAHI-SEIKO COIN SELECTORS (AD-86E)
Compare metallic characteristics of coins to electronically programmed parameters.

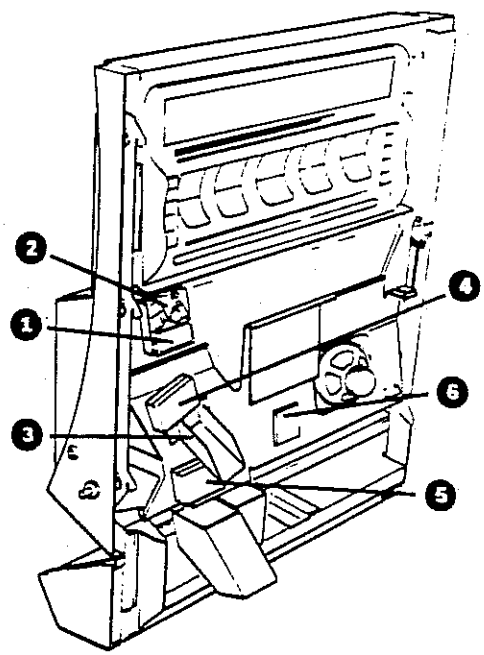
For parts configurations for Mechanical Selectors, CC-16 Coin Comparitors and AD-86E Asahi-Seiko Coin Selectors see SECTION 4 under "3. Cash Box Photo-optic Module".

Coin Entry

The coin acceptor assembly is held in place by a retaining clip. the coin acceptor is located inside the door directly under the coin entry.

Faulty coins trapped in a Mechanical Selector or Asahi-Seiko Selector can be returned to the chip tray by pressing the coin reject button. This function is not available with CC-16 Coin Comparitors.

1. Coin Selector
2. Coin Selector retaining clip
3. Coin Chute
4. Coin-in PCB Assembly
5. Cash Box Detector Assembly
6. Volume Control PCB



SERVICING GUIDE TO THE COIN SELECTOR AND CHUTE

Offset Coin Entry Fitting Instructions

The Offset Coin Entry is a direct replacement for the coin entry used on Microstar and Video Machines in $1 and $2 Aust. models.

Fitting is simple and can be done without removing the Mid Trim panel (which in some cases can be difficult).

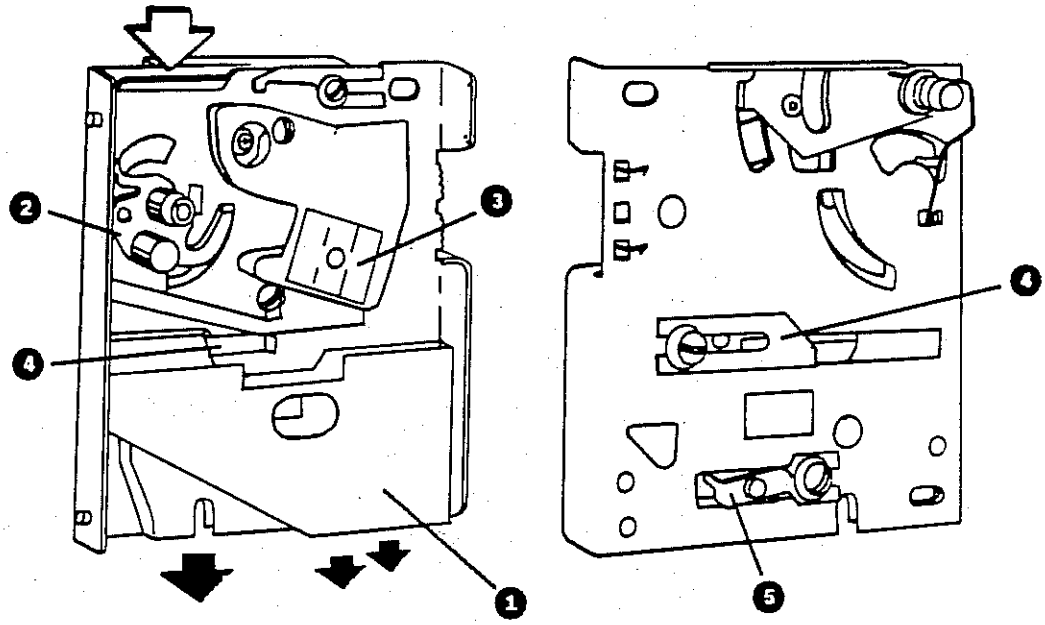
The procedure for refitting is as follows:

1. Remove the comparitor
2. Remove the two screwssecuring the coin entry and lift out.
3. Assemble new coin entry leaving the nuts loose.
4. Fit the coin entry into the Mid Trim with a right to left morion and tighten the nut nearest the latch bar while pushing the coin entry towards the hinge as far as the free movement will allow. Tighten the other nut and recheck both nuts for tightness.
5. Coin test and adjust the comparitor mounting if rquired.

SERVICING GUIDE TO THE COIN SELECTOR AND CHUTE

MECHANICAL COIN SELECTOR

(i) MAIN PARTS AND THEIR PART NUMBERS



1. Gate Assembly
2. Cradle Assembly
3. Magnet
4. Kicker
5. Separator

Main Parts	Denom.	Part Number
Coin Acceptor Unit	5 cent	6205-07185
Coin Acceptor Unit	10 cent	6205-03080
Coin Acceptor Unit	20 cent	6205-03081
Gate Assembly	5 cent	6207-14268
Gate Assembly	10 cent	6207-14269
Gate Assembly	20 cent	6207-14270
Cradle Assembly	5 cent	6207-14267
Cradle Assembly	10 cent	6207-03113
Cradle Assembly	20 cent	6207-03114

SERVICING GUIDE TO THE COIN SELECTOR AND CHUTE

(ii) POSSIBLE PROBLEMS AND THEIR CORRECTION PROCEDURE

This coin selector is factory adjusted for a specific coin denomination and normally needs no resetting, other than that required during routine servicing to accommodate normal wear.

Inserted coins are checked for oversize diameter by the gauge and housing at the mouth of the selector.

They are checked for correct diameter and weight by the selector cradle. An accepted coin tilts the cradle which toggles to tip the coin onto the rail.

They are checked for undersize thickness by the gap between the rail and the housing. Thin coins drop through to reject.

They are checked for magnetic content by the selector magnet. This magnet also checks the coin travel. Steel clings, copper slows down and rolls off into reject, brass and zinc overshoot the opening and drop into reject. The gap between the magnet and the housing is screw adjusted to allow a 'new' coin to pass.

Coins are also checked for bouncability by the selector anvil. Valid coins are bounced into the selector chute. Softer metal falls short and harder metal hits the kicker, falls into the chute separator and drops back into reject.

A coin lockout solenoid is fitted to reject coins during payout, cancel credit, fault condition or when the machine is turned off. Its finger inserts through holes between the kicker and separator.

Maintenance and Adjustments

Spilled drinks and dirty coins can create problems, so it is important to keep the coin selectors clean.

To remove the selector unit from the machine, spring open the retaining clip wide enough to clear the top locating pin. Tilt the unit forward, then pull it upwards and outwards from its seating slots.

Selector Body

1. Clean with methylated spirits and keep it dry. Do not oil or grease. Check for free movement of the cradle assembly and undersize lever (if fitted).
2. Use a pipe cleaner to clean the cradle bearings and lubricate with graphite or lead pencil.
3. Check the magnet for filings

SERVICING GUIDE TO THE COIN SELECTOR AND CHUTE

Magnet

Turn the screw on the magnet housing counter-clockwise until a new coin jams at the magnet (when dropped in the selector vertical). Turn the screw clockwise until the coin just passes, then turn 1/8 to 1/4 more.

Separator (not used on some coins)

Start the separator on the right. Test with coins while moving the separator to the left until all desired coins are accepted.

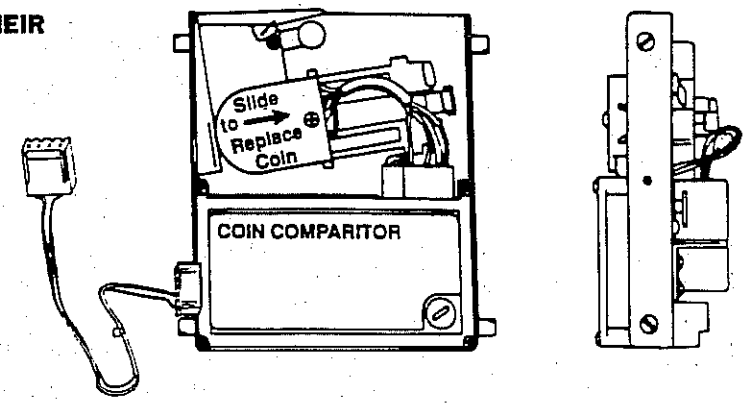
Kicker

Start the kicker on the left. Test with coins while moving it to the right until all desired coins are accepted. There is no fixed setting for this and adjustments are made by trial and error.

SERVICING GUIDE TO THE COIN SELECTOR AND CHUTE

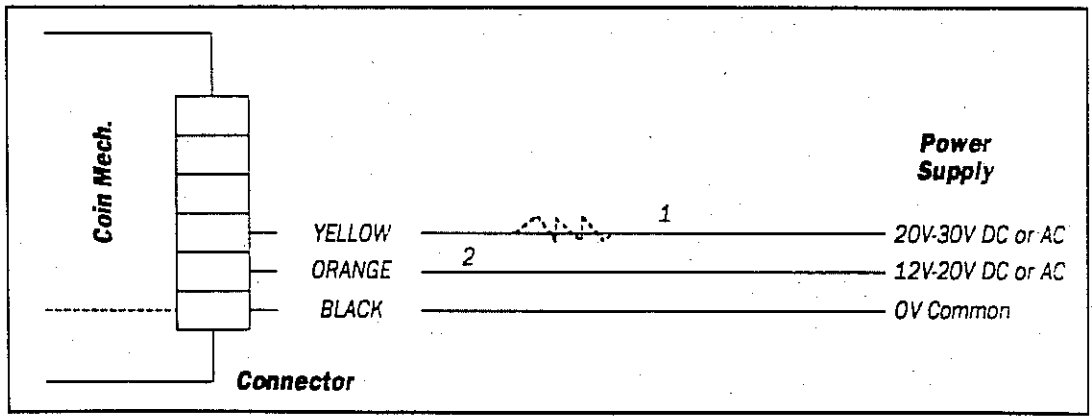
COIN COMPARITOR (CC-16)

(i) MAIN PARTS AND THEIR PART NUMBERS



Main Parts	Part Number
CC16 Coin Comparitor Includes connecting loom.	3109 - 12312

The Coin Comparitor is multi-denominational and is replaced as a unit on an exchange basis.



CC-16 Power Cord Connection

1. Optional 470 ohm resistor for 50V DC or AC operation.
2. Power cord is supplied with yellow or orange wire, depending on voltage specification of cord.

SERVICING GUIDE TO THE COIN SELECTOR AND CHUTE

(ii) POSSIBLE PROBLEMS AND THEIR CORRECTION PROCEDURE

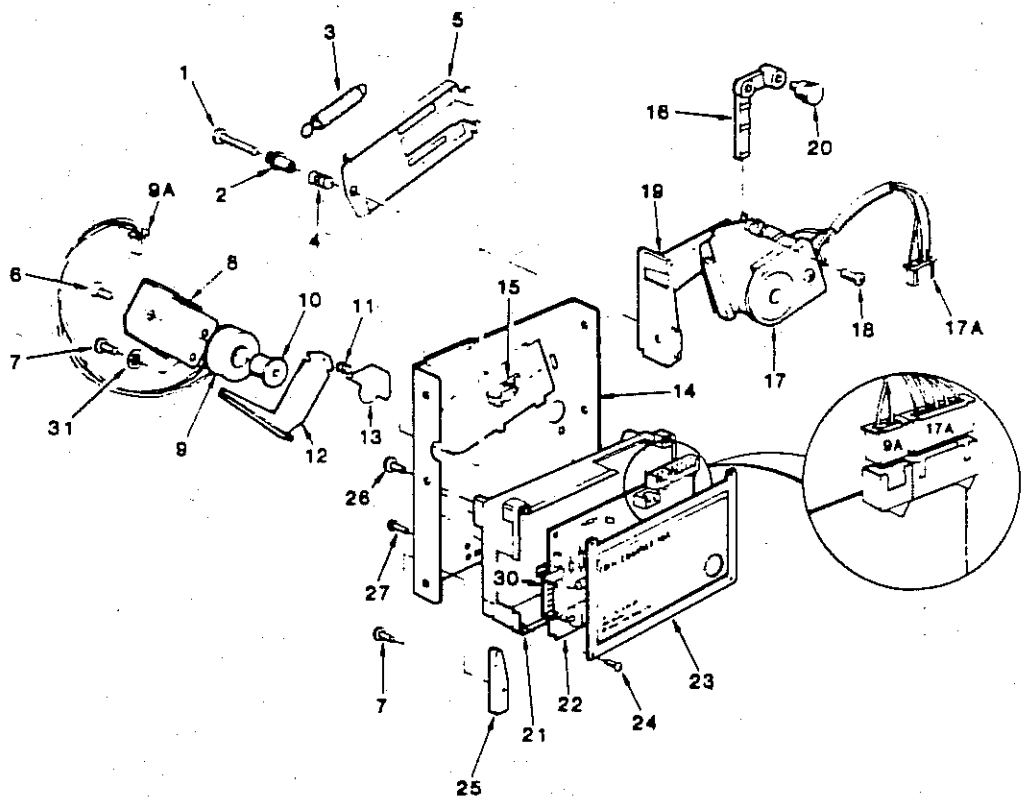
Potentiometer Adjustment

Each Coin Comparitor is factory adjusted to give excellent discrimination against slugs. However, some slugs may need a finer adjustment:

1. Adjust potentiometer CW until the slug is rejected.
2. Insert proper coin to ensure accurate acceptance.
3. Repeat steps 1 and 2 if necessary.

If a mechanism is rejecting small portion of coins

1. Rotate front trim pot anti-clockwise to improve acceptance rate.
2. Check for contamination inside mechanism that is causing 12 or 16 to stick.
3. Check that 12 moves freely and is not rubbing on 14.
4. Tune circuit by placing a CRO probe on the free pin of a 17A and, with sample coin removed from mechanism, adjust two allen key screws on 17 for minimum AC signal on CRO. (A good quality digital multimeter may also be used using the 200mV AC range.) See below for details.



SERVICING GUIDE TO THE COIN SELECTOR AND CHUTE

When using a Multimeter to adjust CC-16 Coin Comparitor

NOTE

Minimum mV AC only required – this may vary between units.

1. Remove sample coin from coin comparitor.
2. Using the digital meter, select AC millivolt range.
3. Locate test pin (pin 4 on the 5-way connector in centre/right of comparitor.
4. Position probe in pin 4 and other probe to ground.
5. Adjust two allen screws to give minimum voltage reading (somewhere in the vicinity of .005 volts AC).

NOTE

It is advisable to use a new coin as old coins may be distorted and/or undersized, thereby affecting the diameter gauging facility.

Installing the sample coin – turn power off

Looking at the front of the Comparitor, slide (without lifting) the sensor coil assembly to the right. Replace the sample coin blank with the desired coin, and then carefully release. In most cases, the coin will automatically seat itself. When properly seated, the coin will rest firmly between the sensor coin assembly and the ribs on the rail insert.

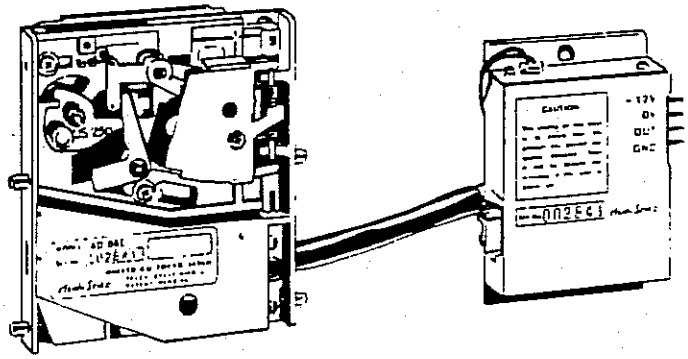
ASAHI-SEIKO COIN SELECTOR (AD-86E)

(i) MAIN PARTS AND THEIR PARTNUMBERS

Main Parts	Decom.	Part Number
Asahi-Seiko Coin Selector (complete unit)	$1	6206-51775
Asahi-Seiko Coin Selector (complete unit) (Australian $1 and $2 coins)	$2	6206-51776

NOTE

The selector and control box (illustrated) are individually matched and come as one unit.



Electronic Coin Selector AD-86E

(ii) POSSIBLE PROBLEMS AND THEIR CORRECTION PROCEDURE

This coin selector is factory set for a specific coin denomination and needs no resetting.

Removal from the machine

To remove the Asahi-Seiko AD-86E coin selector from the machine:

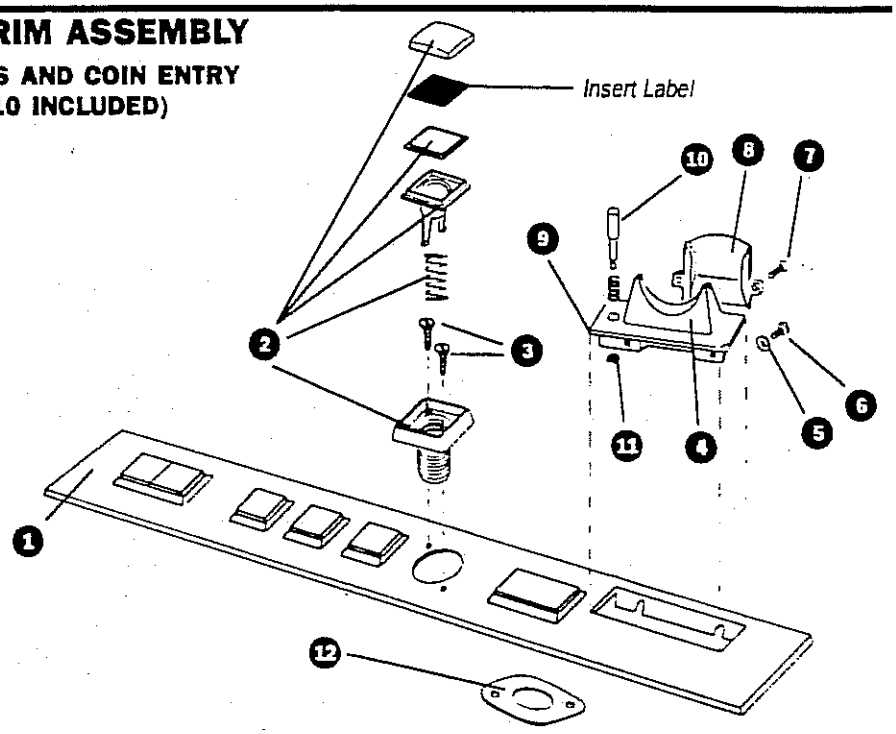
1. Spring open the retaining clip wide enough to clear the top locating pin.
2. Tilt the unit forwards.
3. Lift it upwards and outwards from its seating slots far enough to be able to reach the control box connectors.
4. Unplug the 2-way and the 6-way connectors from the control box and remove the selector.

General Specifications

Power voltage:	11V DC - 13V DC
Power consumption:	100mA
Positioning use:	Upright or within 2 degrees in any direction
Required interval of insertion:	0.5 seconds
Operating temperature:	0° C - 60° C.
Storing temperature:	-20° C. - +80° C.
Humidity range:	80% (however, prevent condensation)
Weight:	320 g (including control board)

3D. MID TRIM ASSEMBLY

PUSHBUTTONS AND COIN ENTRY (ITEMS 2 TO 10 INCLUDED)



PUSHBUTTONS MID TRIM COMPONENTS (Note: shown is only one of a range available)

Part		Quantity	Part Number
1.	PANEL – MID TRIM NO. 7	1	0319-52352
2.	P/Button RCT2	1	6416-51086
2.	P/Button –Small SQ CP Lamp 24V 2W W	2	6416-19498
2.	P/Button Rectangular WHITE	1	6416-51087
2.	Retainer P/Button	1	0948-52700
3.	#4 x 10 CSNK S/T SCREW	12	5775-51821
12.	Retainer	1	0948-52700

DIE-CAST COIN ENTRY COMPONENTS (Note: shown is only one of a range available)

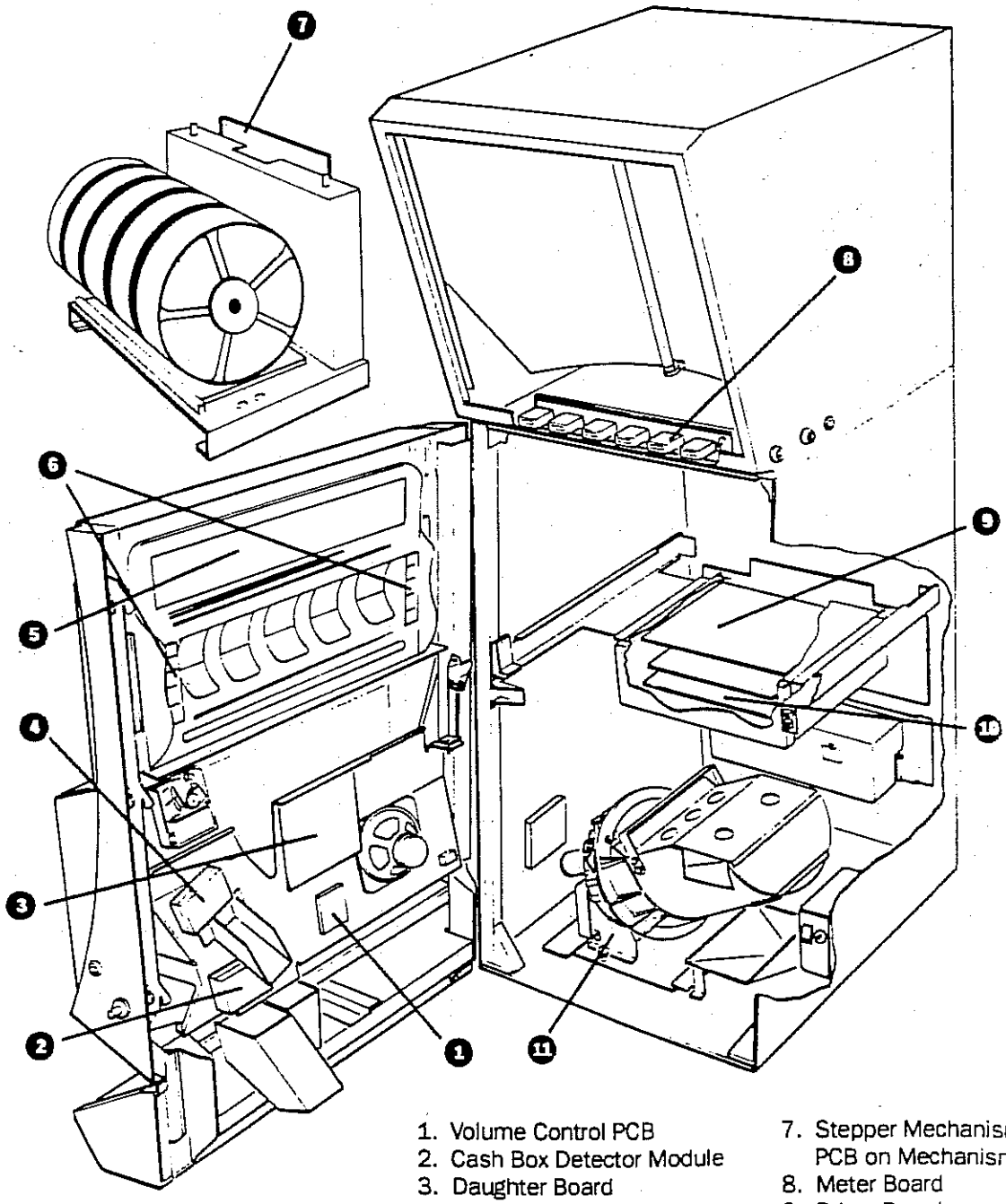
Part		Quantity	Part Number
4.	BODY, Coin Entry	1	0616-02412
5.	WASHER, 3/16" Shakeproof	2	6623-03880
6.	SCREW, M5 x 10 CH Hd.	2	5751-02657
7.	SCREW, M4 x 12 C/Sk.	2	5748-02648
8.	BACKPLATE, Denomination Variable — see Section 3B under "DISC HOPPER DENOMINATIONAL ASSEMBLIES AND PARTS"		
9.	SPRING, Reject Button	1	1001-01106
10.	REJECT PIN	1	0633-00868
11.	CIRCLIP, A/SC0-8208 (5/16")	1	6627-03978

PLASTIC COIN ENTRY COMPONENTS (Not shown)

Part		Quantity	Part Number
4.	BODY, Coin Entry	1	0711-50317
5.	WASHER, 3/16" Shakeproof	2	6623-03880
6.	SCREW, M5 x 10 CH Hd.	2	5751-02657
7.	SCREW, M4 x 12 C/Sk.	2	5748-02648
8.	BACKPLATE, Denomination Variable — see Section 3B under "DISC HOPPER DENOMINATIONAL ASSEMBLIES AND PARTS"		
9.	SPRING, Reject Button	1	1001-01106
10.	REJECT PIN	1	0708-50318
11.	CIRCLIP, A/SC0-8208 (5/16")	1	0627-03978

4. PRINTED CIRCUIT BOARDS

In the event of any circuit board problem, replace the PCB in question and return the apparently malfunctioning PCB to the Aristocrat Service Centre.



1. Volume Control PCB
2. Cash Box Detector Module
3. Daughter Board
4. Coin-in Detector Module
5. Credit Meter PCB
6. Reel Window PCB
7. Stepper Mechanism PCB on Mechanism
8. Meter Board
9. Driver Board
10. Controller Board/MCU
11. Hopper Drive PCB

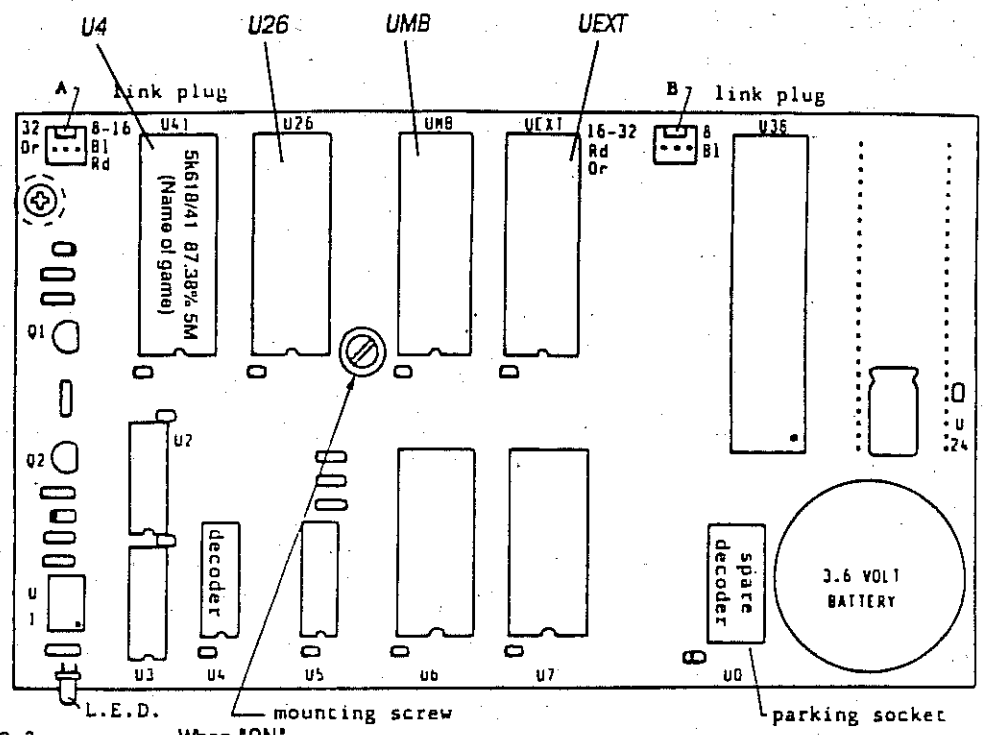


FIG.2 M.C.U. MODULE

NOTE

Some programs require up to 4 EPROMs.

1. Stepper Controller Board

The Controller Board receives input information via driver board from the various devices such as play buttons, door security optics, coin-in optics, coin-out optics, hopper probe, etc. The controller then acts on the information with respect to the game's program characteristics and produces the appropriate output response. For example – drive animation lights, drive hopper (collect), operate coin divert solenoid. These outputs are actioned by the driver board.

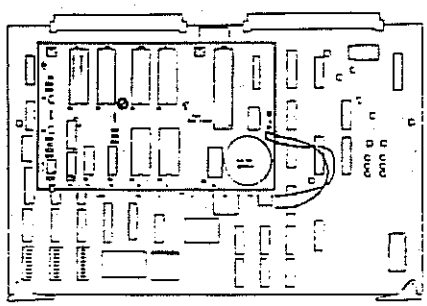
The Controller contains the three sets of electronic meters in battery backed RAMs U6 and U7. The RAMs also hold information such as credits and last game played reel positions.

The controller has provision for 4 EPROMs. They are:

- U41
- U26
- UMB
- UEXT

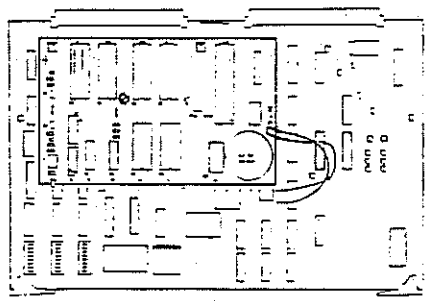
The version of the decoder depends on the program. The table below shows the correct decoder for the program and configuration of the machine

PROGRAM SERIES



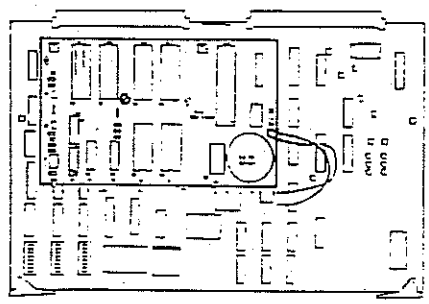
Program Code	No. of PROMs	Label Colour	Socket
"ZB"	2 x 16K	Red	U41, U26
Decoder	No. 25	Red	

Part Number: 1202-14236



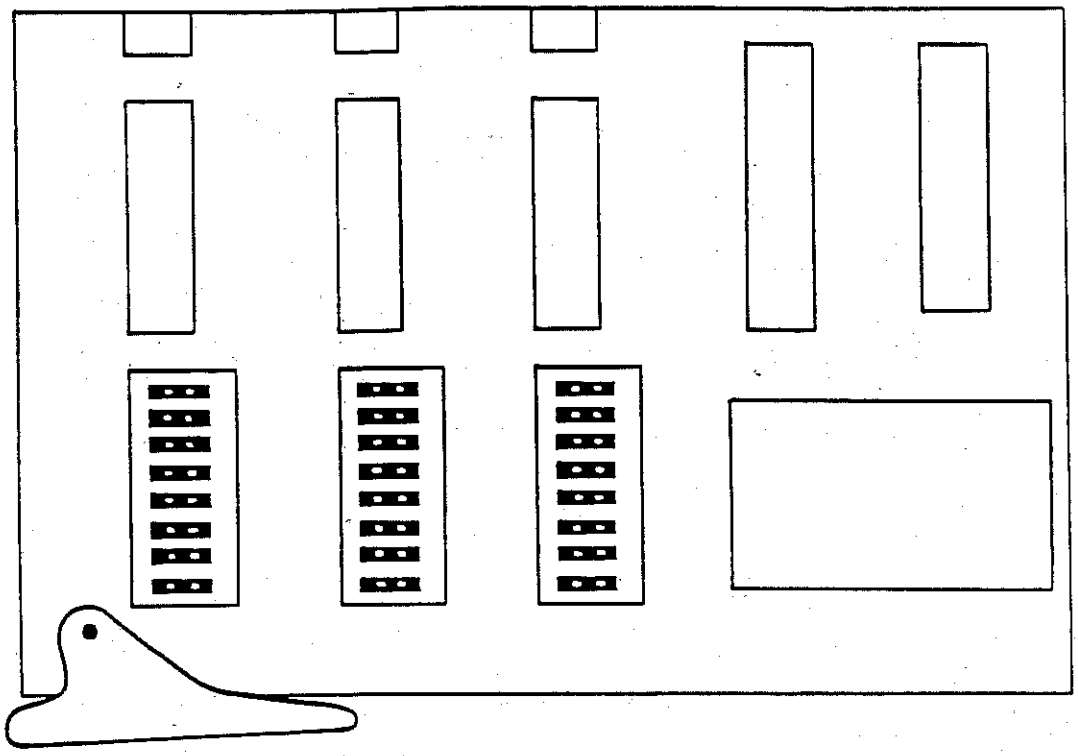
Program Code	No. of PROMs	Label Colour	Socket
"ZE"	2 x 16K	Red	U41, U26
	1x 8K	Blue	UMB
Decoder	No. 26	Red	

Part Number: 1202-15204



Program Code	No. of PROMs	Label Colour	Socket
"XA"	1 x 32K	Oraange	U41
Decoder	No. 28	Orange	

Part Number: 1202-17458

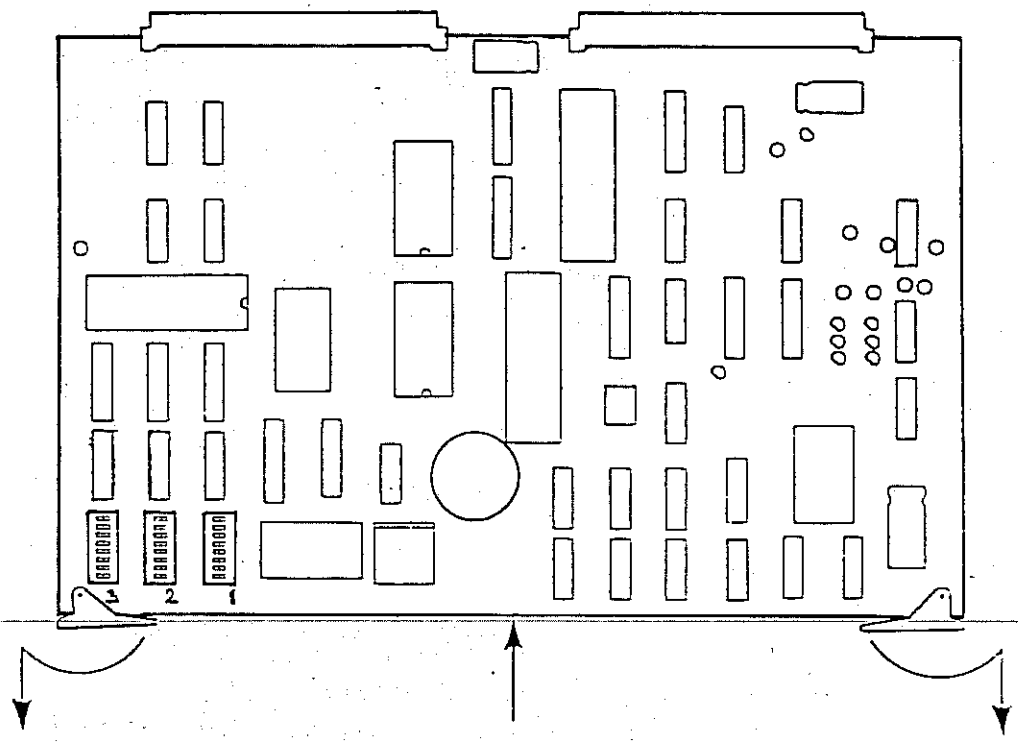


Switch Bank Two

Switch No. (On/Off)	*Refill*	*Cancel Credit*
7 Off 8 Off	400	300
7 On 8 Off	200	150
7 Off 8 On	200	100
7 On 8 On	100	50

Switch Bank Three

Switch No. (On/Off)	*Result*
5 Off 5 On	Reel spin sound Reel attract sound
6 On 7 On	Attract music Disable
6 Off 7 On	2 minute intervals
6 On 7 Off	10 minute intervals
6 Off 7 Off	30 minute intervals



Controller Board

PROM Identification – Reel Mechanism

1. Earlier model Controller Boards used chips 1 x 16K, U41, 1 x 8K, U26 and 1 x 8K, UMB with No. 26 decoder in U4.
2. Current models used a 1 x 32K chip, U41 with No. 28 decoder in U4.
3. Coloured labels are used to identify the programmed chips, the label denotes the size of the EPROM thus;

L/blue	8K
Red	16K
Orange	32K
L/green	64K

4. Information is typed on the label thus:

Version	Capacity	Program	IC socket	(Payout %
No. 1	XA	No. 1161	No./41	/81.95

Combination	Sound PROM	Sound PROM	Mech. ID
Name Bumper Catch	Version 5	No. /003	SM

NOTE

On the Mechanism ID – SM = Stepper Mechanism
& – AM = Atlas Mechanism

2. Coin-in Photo-optic Module

A quick-release optic module is standard for all denominations and is interchangeable between coin in and cash box counting positions. In use as a coin-in optic, the infra-red module detects the passing of a validated coin into the machine. Any movement of the coin in the opposite direction through the optic will cause the machine to enter a 'coin-in' alarm (yo-yo alarm).

3. Cash Box Photo-optic Module

The same photo-optic module as above but when used in the cash box counting position detects validated coins entering cash box.

Parts configurations for Mechanical Selectors, Coin Comparitors and Asahi-Seiko Electronic Coin Selectors

MK 2.5 STEPPER COIN-IN AND CASH BOX SELECTOR ASSEMBLIES

There are two types of coin-in cash box detector assemblies used. Part No. 3109-51433 is for use with CC-16 Coin Comparitors and Mechanical Selectors.

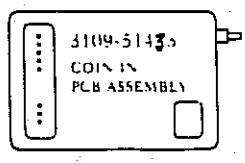
Part No. 3109-52684 is for use with Asahi Seiko Electronic Selectors, Coin Comparitors and Mechanical Selectors. Refer to the list for appropriate looms and note positions of shunt connectors which vary according to type and usage.

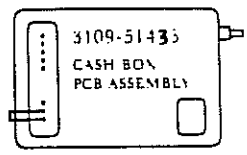
MK 2.5 STEPPER COINS IN AND CASH BOX DETECTOR PARTS
Configuration fitted with Coin Comparitor: (3109-12312)

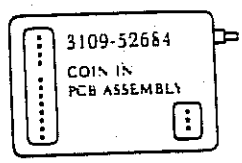
C/Entry and C/Box Detector	2	3109-52684
Loom C/Entry Detector	1	3109-51687
Loom C/Box Detector	1	3109-52132
Shunt Connector	1	6112-09640

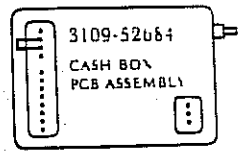
Fitted with Mechanical Selector:
(5c 6205-07185), (10c 6205-03080), (20c 6205-03081)

C/Entry and C/Box Detector	2	3109-52684
Loom C/Entry Detector	1	3109-51687
Loom C/Box Detector	1	3109-52132
Shunt Connector	1	6112-09640
Coin Block Solenoid Assy.	1	3114-50783



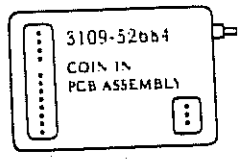


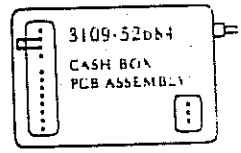




Fitted with Mechanical Selector/Coin Comparitor:

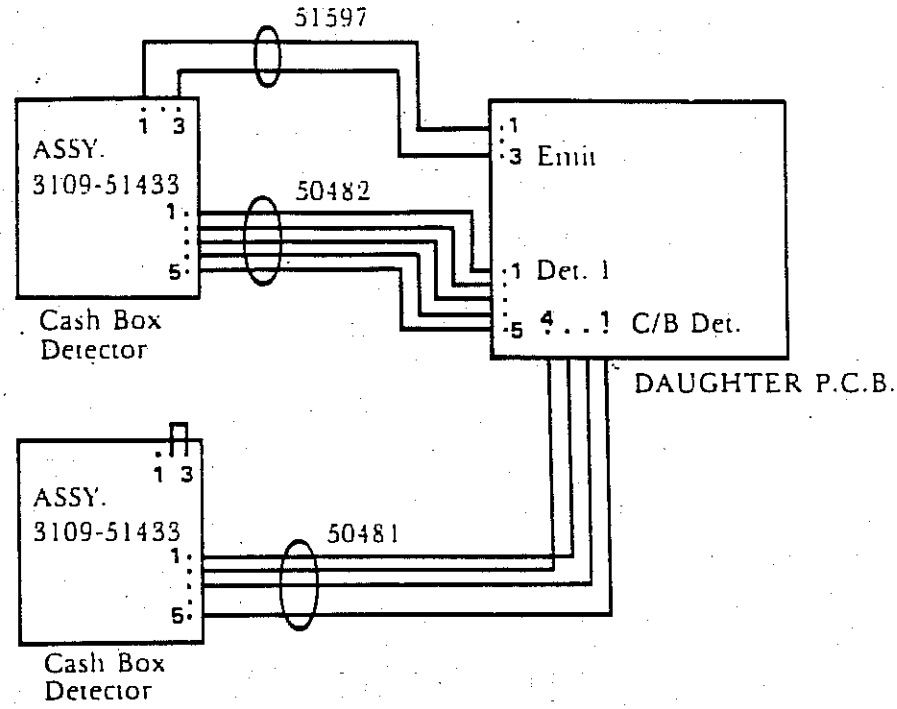
C/Entry and C/Box Detector	2	3109-52684
Loom C/Entry Detect/Emit PCB Assy	1	3109-51687
Loom C/Box Detector	1	3109-52132
Shunt Connectors (jumper)	1	6112-09640
Coin Block Solenoid Assy (Mechanical Selector Only)	1	3114-50783
Coin Comparitor	1	3109-12312

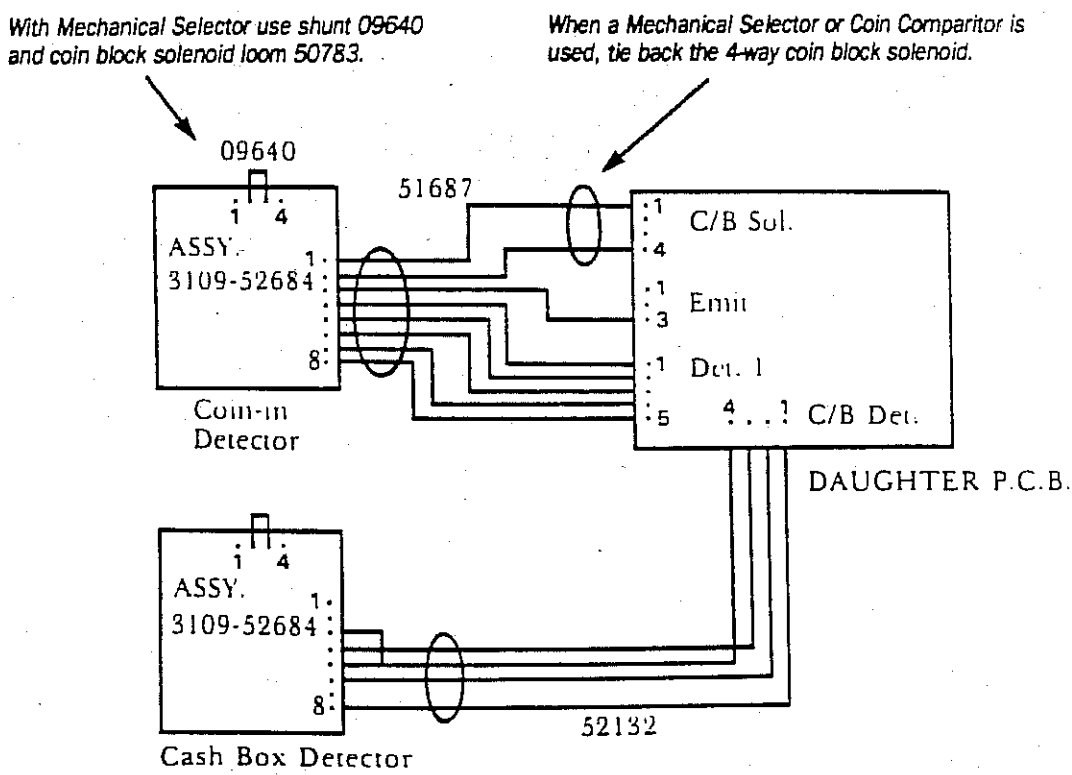




MK 2.5 COIN-IN AND CASH BOX DETECTION
PARTS CONFIGURATION when fitted with Asahi-Seiko Electronic Selector:

Asahi-Seiko Electronic Australian $1 Selector		6206-51775
Asahi-Seiko Electronic Australian $2 Selector		6206-51776
Loom		3109-51688
C/Entry and C/Box Detector	2	3109-52684
Loom C/Entry Detect/Emit PCB Assy.	1	3109-51687
Loom C/Box Detector	2	3109-52132
Shunt Connectors (jumper)	1	6112-09640
Loom Coin Ass/PCB	1	3109-51688


51597
ASSY.
3109-51433
1 3
1
5
50482
Cash Box
Detector
1
3 Emit
1 Det. 1
5 4 . . 1 C/B Det.
DAUGHTER P.C.B.
ASSY.
3109-51433
1 3
1
5
50481
Cash Box
Detector


With Mechanical Selector use shunt 09640 and coin block solenoid loom 50783.
When a Mechanical Selector or Coin Comparitor is used, tie back the 4-way coin block solenoid.
09640
1 4
ASSY.
3109-52684
1
8
51687
Coin-in
Detector
1
4 C/B Sol.
1
3 Emit
1 Det. 1
5 4 . . 1 C/B Det.
DAUGHTER P.C.B.
ASSY.
3109-52684
1 4
1
8
52132
Cash Box Detector

4. Hopper Drive Board

Mounted on the hopper, the Hopper Drive PCB controls the operation of the 24V DC hopper motor while acting as an interface between Coin-out Photo-optic Count information, hopper level and the driver/controller board.

5. Stepper Mechanism PCB

The Stepper Mechanism PCB performs the following functions:

- Acts on messages from machine controller.
- Spins and stops the reels in the positions indicated to it by the machine controller.
- If winning combinations are displayed, it will flash lights behind the symbols.
- Determines the reel stopping position using the flag as a reference point on each revolution as it interrupts the photo-optic detector.
- If the reel detector fails or is tampered with, the controller sends the appropriate messages to be displayed on the credit meter.
- Generates the "reel stop" and"reel spin" sounds.

6. Driver Board

Operates all lamps, solenoids and motors with the exception of the Stepper Mechanism motors and lamps.(Also most inputs go through the Driver PCB.)

7. Daughter Board

Situated on the reflector panel of the door, this acts as an interface between input devices, output devices and the driver/controller boards to which it is connected by two ribbon cables via the mother board.

8. Memory Board

Mounted underneath the microprocessor box, it may contain a number of different configurations depending on the requirements of the customer.

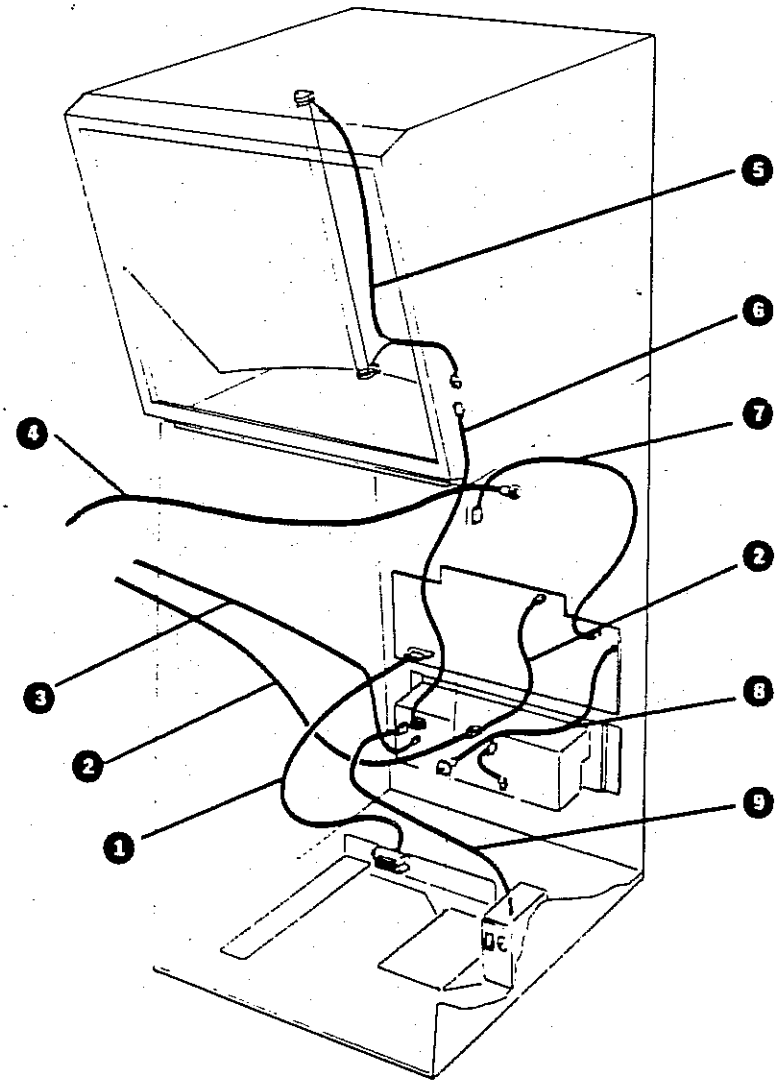
1. DACOM Serial Communications
2. Logic Serial Communications
3. Machine Number Rotary Switches
4. Provide extra memory for microprocessor (export versions)

9. PCB Part Numbers

Controller Board	2501-14426
– Coin-in Photo-optic Module	3109-52684
– Cash Box Photo-optic Module	3109-52684
Hopper Drive PCB	2501-07100
Daughter Board	2501-06829
Stepper Mechanism PCB	2501-40067
Credit Meter PCB	2501-40061
Volume Control PCB	2501-07784
PCBA – Reel Window Lamps	2501-40002
Mother PCB	2501-16337
Driver Board	2501-05933

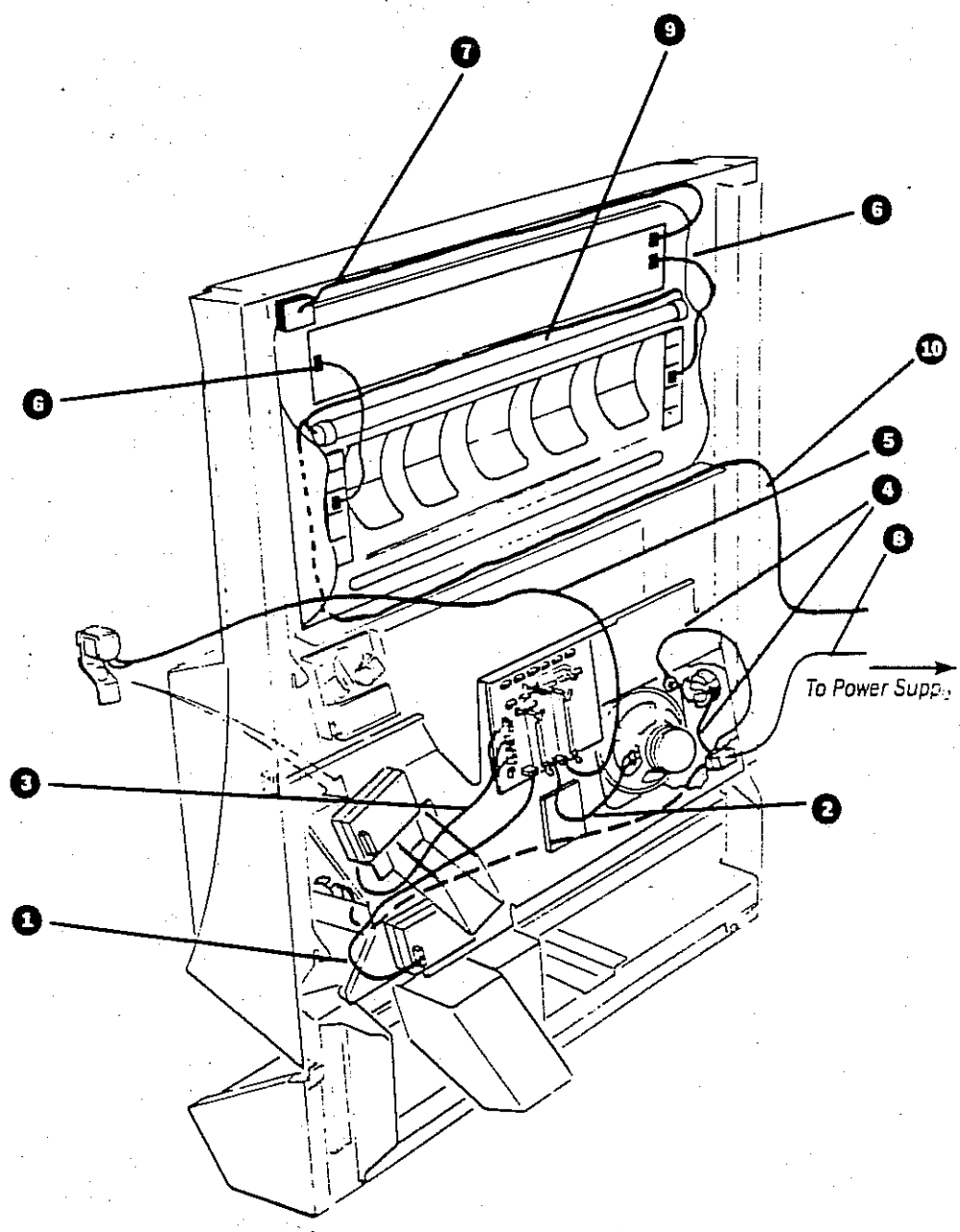
5. WIRING

CABLES



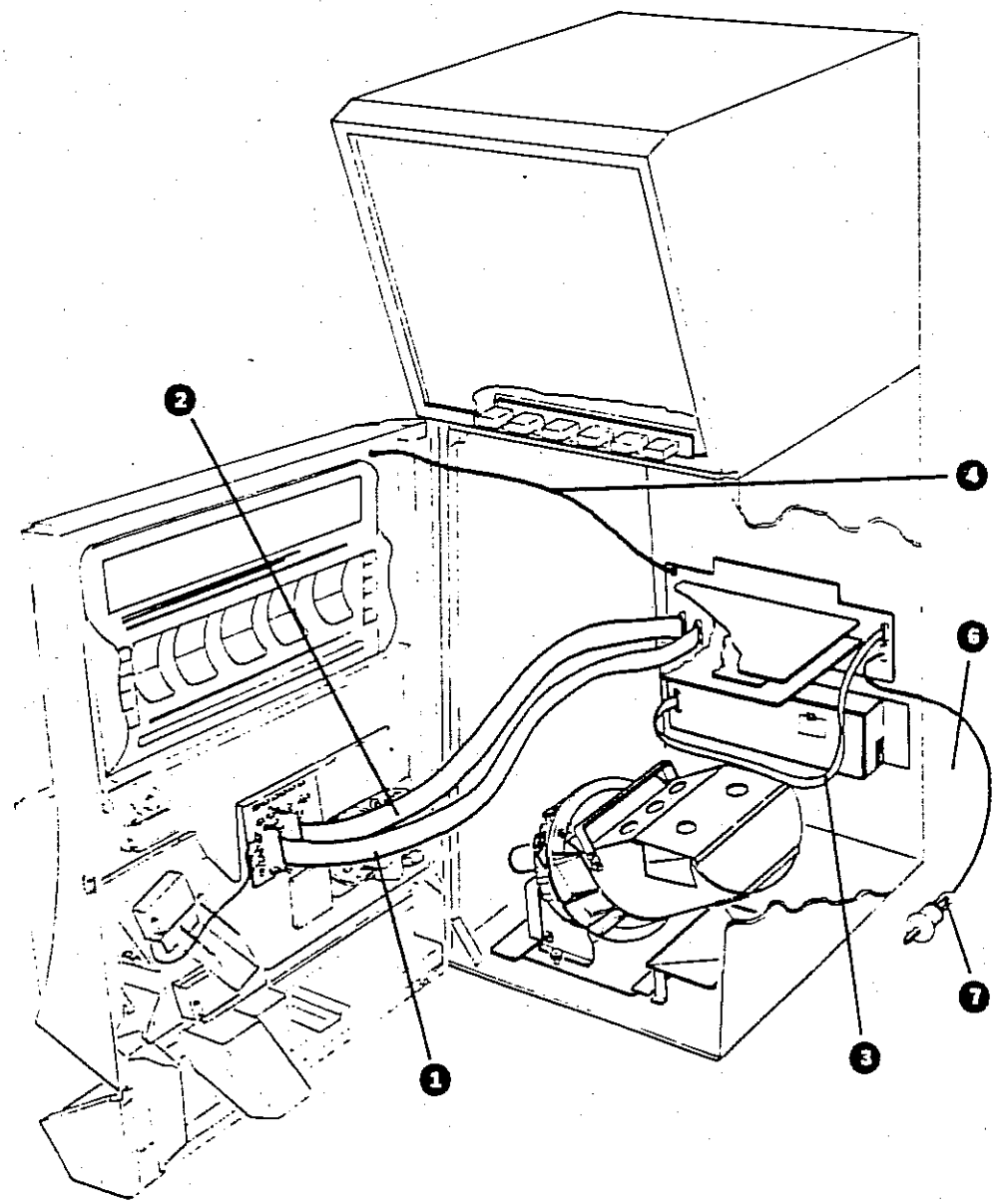
Part	Quantity	Part Number
1. Loom, Mother to ADH M/ST V	1	3109-10018
2. Loom, Mother PCB to Mechanism	1	3118-51500
3. Loom. 14W Flouro Extension - Door panel to reflector	1	3109-51522
4. Loom, K/SW Loom Meter Lamps D/D	1	3109-07074
5. Loom, Fluoro Reflector Loom Assembly CSN T/Box	1	3105-51599
Floro Reflector Assembly MK 2.5 H/TB	1	3105-50271
6. Loom, 14W Flouro Extension - T/Box reflector	1	3109-50478
7. Loom, Key Switch Jackpot D/D	1	3109-07078
8. Loom. R/C Loom Mother to Credit Meter	1	3118-16070
9. Loom, Mains to Power Supply	1	3109-50499

LOOMS



Part	Quantity	Part Number
Loom, Coin Block Solenoid (Mechanical Selector only, not shown)	1	3114-50783
1. Loom, Cash Box Detector Loom Assembly	1	3109-52132
2. Loom, Assembly Speaker M/S Video	1	3120-09687
3. Loom, Photo-optic Coin Entry Emiter	1	3119-07269
4. Loom Door Panel Fluoro	1	3105-50479
5. Sol. Cash Box Deflector and Loom Assembly	1	3114-50736
6. Loom, Reel Window PCB Loom	2	3109-50486
7. Loom, Door Security Detector	1	3119-51495
8. 14 Watt Fluro Extension - DR PNL Reflector	1	310951522
9. Tube - Fluoro F14T8/CW 15"	1	5506-18601
10. Loom, Door Top Flouro	1	3105-50480

CABLE LOOMS



Part	Quantity	Part Number
1. R/C Loom, Mother to Door BTM 34W	1	3118-07197
2. R/C Loom, Mother to Door BTM 40W	1	3118-07198
3. R/C Loom, Mother to Power Supply	1	3118-14664
4. R/C Loom, Mother to Credit Meter	1	3118-16070
5. P/OPT Door Switch Assembly EmitterS/M (not shown on diagram)	1	3109-51549
6. Loom Assembly Door Switch – Mother PCB	1	3109-52002
7. Switch D/B – H772200	1	6416-03633

6. PREVENTIVE MAINTENANCE

THE ROUTINE TO FOLLOW

COIN SELECTOR *(see Coin Selector Section 3C of this manual)*

1. Remove, clean and check all adjustments.
2. Refit Coin Selector.
3. Coin test.

COIN BLOCK SOLENOID

1. Check operation on power up and power down, check adjustment of blade.
2. Tighten securing screws.

DOOR PHOTO-OPTICS AND MECHANICAL DOOR SWITCH

1. Inspect optics for damage and alignment.
2. Inspect loom connections on mechanical switch for possible bad joint.

INSIDE DOOR

1. Connections of all plugs/sockets for looms, switches, etc.
2. Routing of wiring (not shorted or trapped).
3. Check the setting and operation of the coin divert solenoid. Adjust if necessary.
4. Check adjustments on door locking bar, and re-adjust if necessary (security).
5. Clean and align optics.

STEPPER MECHANISM

1. Check plug connections.
2. Enter robot test and check reel spin. Re-adjust, if necessary.

HOPPER

1. Remove Hopper.
2. Check condition of 16 way 'Honda' plug and socket.
3. Inspect coin exit runner, adjust and tighten if necessary.
4. Check second coin wiper pawl.
5. Ensure that Hopper PCB is secured firmly.
6. Check Photo-optic loom.
7. Check operation of Hopper probe and tighten.
8. Clean optics.

With Hopper unit out, check securing of all ribbon cables and looms, and inspect for damage. Check PSU mounting nuts and earth strap. Check memory/meter drive board is secured firmly, and ribbon cable connections secure, clean shelf. Replace Hopper unit and carry out Hopper test with door open.

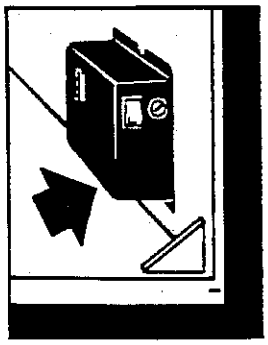
LIGHTS

1. Place machine in robot mode (Refer to SECTION 3A for robot mode sequence) and inspect all animation bulbs, coins played bulbs, etc.
2. Replace any burnt out globes

PUSH BUTTONS

1. In robot mode, enter the push button test.
2. Check button description with that displayed on the Display Panel.

Figure D

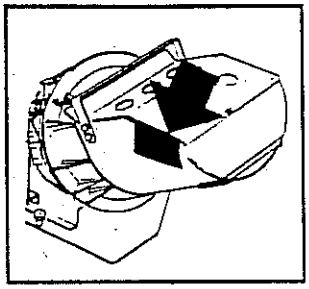


CHANGING MAIN POWER FUSE

The fuse is located on the front of the Main Switch box (on the inside lower right-hand wall of the cabinet, next to the Cash Box chute – Figure D).

To change fuse, unplug the machine from its main power source. Unscrew fuse cap and replace the fuse (6A AC rating quick action).

Figure E



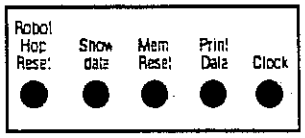
CORRECT COIN-FILLING PROCEDURE

When the Hopper is empty, the machine will go into a 'Lock-up' and display a 'OUT OF COINS' message.

Correct refill procedure:

1. OPEN DOOR.
2. REFILL HOPPER with the appropriate number* of coins (Figure E).
3. PRESS 'CLOCK INITIATE' BUTTON (Figure F) and wait until you hear the chimes sound and the message 'REFILL RECORDED' appears on the Credit Meter dispaly.
4. CLOSE and LOCK DOOR.
5. The coins (credits) still owing to the player are now dispensed into the coin tray, and the Credit Meter and Pay Out meters register accordingly.
6. The machine is now ready for play.

Figure F



* For appropriate coin fill amount check jurisdictions variations folder.

7. DAY-TO-DAY MAINTENANCE

If necessary, house staff can replace a fluorescent tube, clean the cabinet exterior and check and clean the Hopper Photo-optics.

However, it is the responsibility of the service technician to regularly check and clean the other photo-optics and replace the mains fuse when this becomes necessary.

Ongoing maintenance involves the following activities:

Figure A

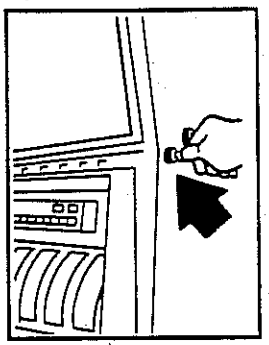


Figure B

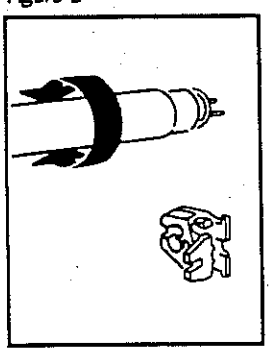
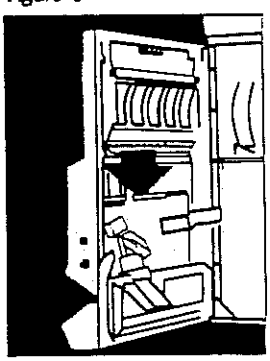


Figure C



CABINET CARE

To clean cabinet and Top Box exterior use a non-abrasive household cleaning solution or spray.

PHOTO-OPTICS

Hopper optics should be checked periodically for cleanliness.

TOP BOX

1. Visual inspection of all secondary lamps.
2. 14 W fluoros.

STEPPER MECHANISM WINDOW

To access window interior, release the retaining clips on the inside of the door.

REPLACING FLUORESCENT TUBES

Top Box Tube:

Open main door and turn power off.

Remove Top Box artwork panel. (To do this, first insert and turn T-key – Figure A. Push up the artwork panel, then lift it forward and pull down.) You can now rotate the tube 90°, then pull it clear of both sockets, Figure B.

To insert the new tube, the procedure is reversed – the tube is pushed into the sockets and locked into place by rotating tube 90° in either direction.

Bottom panel tubes:

After ensuring that the power is switched OFF, access the tube by reaching down behind the reflector panel – Figure C. Rotate the tube 90°, till it can lift clear of its end sockets.

Reverse the process to insert a new tube.

8. QUICK FAULT-FINDING GUIDE

FAULTS CHART WITH POSSIBLE CAUSES AND THE APPROPRIATE SERVICING PROCEDURE

FAULT	DISPLAY	POSSIBLE SOLUTION
Coin Fault	COIN FAULT	1. Coin jammed in coin chute 2. Alarm for 30 seconds if no obstruction "Memory" reset
Coin Fault	COIN FAULT	1. 30 seconds alarm "Memory" reset 2. Caused by switching the secondary coin in emitter/detector off first. 3. Check for coin bounce at coin divert solenoid location
Coin-Fault on power up	COIN FAULT	1. Coin-in emitter/detector PCB 2. The above looms loose 3. Ribbon cable not plugged in firmly
Coin-out on power up	ILLEGAL COIN PAID	1. Hopper not plugged in 2. Cable from hopper to mother board 3. Coin across photo-optics
Door switch	CALL ATTENDANT "MAIN DOOR SWITCH FAULT"	1. Mechanical door switch/loom 2. Photo-optics door switch alignment 3. Loom connections.
During Collect	ILLEGAL COIN PAID	1. Hopper photo-optic loom connections, Hopper PCB faulty 2. Reset by clearing jam or obstruction and closing the door
During Collect	"OUT OF COIN"	1. Refill needed or Hopper jammed (clear jam) 2. Reset by closing the door
During Collect	CALL ATTENDANT "ILLEGAL COIN PAID"	1. Coin blocking counting head optic (remove) 2. Reset as above by closing the door
No Credit Meter Display	(no display)	Check that PROMs, boards and driver board are insertred correctly. Check PCB connections
No fluorescent Lighting (no display) – Failure of machine's power supply – "Blowing" of machine's power supply		1. Check and replace fluorescent tubes 2. Check fluorescent tube drivers for "open" or "short" circuit. Replace, if necessary
Metering Error		1. Controller PCB failure 2. 3-way memory meters inconsistent
Reel(s) not spinning		1. Reel photo-optics failure 2. Reel fouling mounting, mask, etc.

9. PART NUMBER INDEX

MK 2.5 STEPPER MACHINE MAIN COMPONENTS

Part	Qty	Part Number
Hi-Boy Top Box Assembly		3302-51377
Casino Top Box Assembly		3302-51378
Tongue Cabinet Body Assembly (No handle) BLK		2212-52513
Mechanism 5 Reel Assembly	1	4301-51425
5 Reel Module Assembly 50W SM MK3	5	0735-51435
Lamp 24V 3W Wedge	15	5507-03447
PCB Assembly	1	2501-40067
Mechanism 4 Reel Assembly	1	4301-52159
4 Reel Module	4	0735-52160
Lamp 24V 3W	12	5507-03447
PCB Assembly	1	2501-40067
Mechanism 3 Reel Assembly	1	4001-51779
3 Reel Module	3	0735-51777
Lamp 24V 3W	9	5507-03447
PCB Assembly	1	2501-40067
Stepper Mechanism Reel Mask:		
5 Reel		0728-51557
4 Reel		0728-51558
3 Reel		0728-51559
Stepper Mech. Shelf Assembly		2340-51385
Retaining Strap		0961-51438
PGC Assembly		2209-15835
PSU Assembly		3112-51421
SETEC PSU		2501-50224
SETEC Fluoro tube drive – 14 watt		2501-17616
Main Switch Box		3109-50474
Hopper ADH (See Hopper ADH Parts):		
Australian 5 cent		3802-08800
Australian 10 cent		3802-08799
Australian 20 cent		3802-08798
Australian 50 cent		3802-14145
Australian 1 dollar		3802-10494
Australian 2 dollar		3802-17449
Reflector Assembly for coins 23mm to 38mm diameter		3310-51374
Chip Tray Assembly Coins up to 38mm diameter		2001-50693
Die-cast Door Assembly		3317-09441
Reflector Panel		3310-51372
Divert Solenoid		3114-50736
Reject Solenoid		3114-50783
Fluoro Tubes		5506-18601

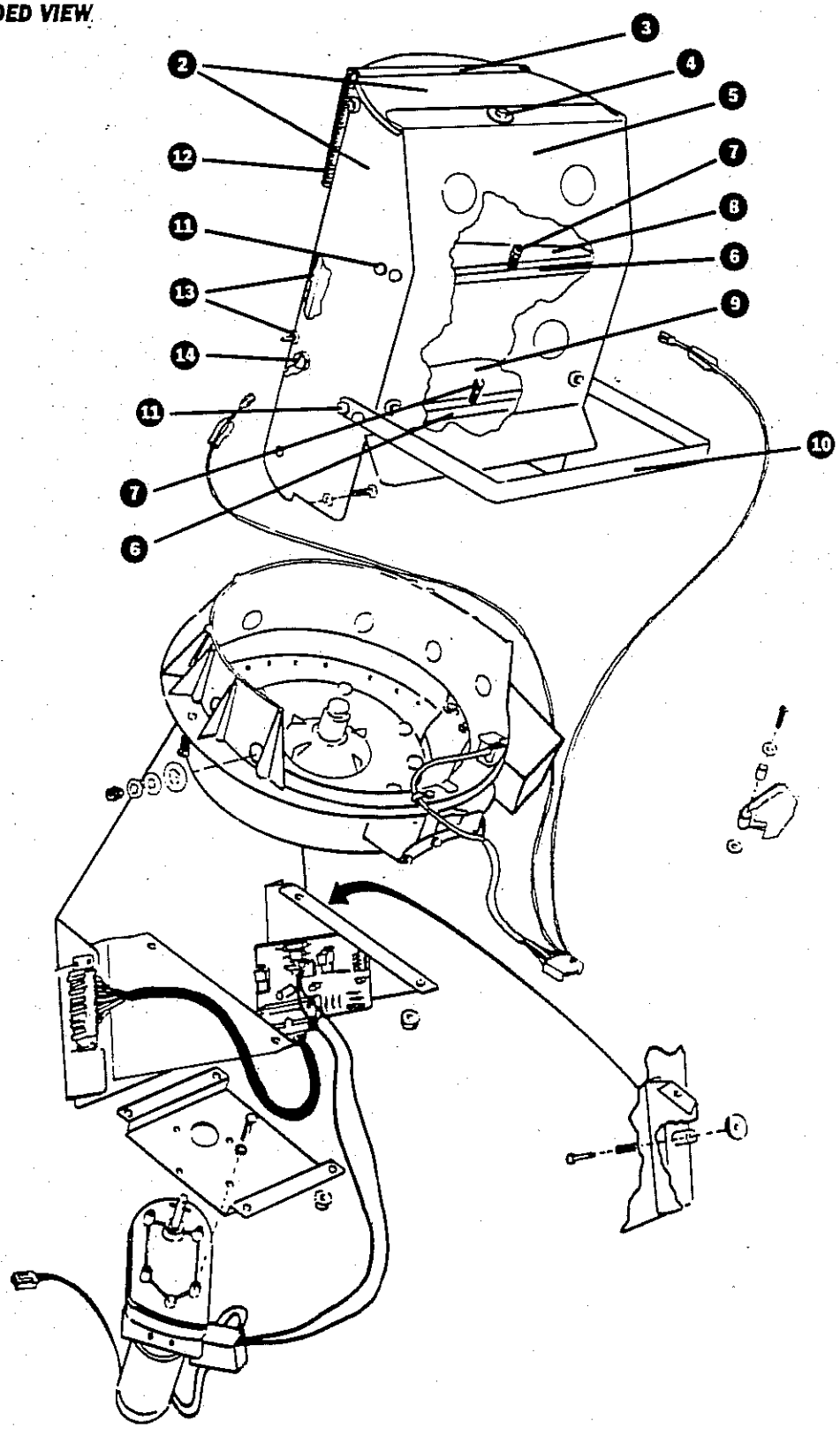
STEPPER MAIN PARTS

Part	Part Number
ARTWORK	
Top Art Panel 3mm Hi-Boy	0507-19777
Top Art Panel 3mm Casino	0507-18038
Top Art Panel 2mm Hi-Boy	0507-51565
Top Art Panel 2mm Casino	0507-51566
Belly Art Panel 3mm Hi-Boy	0501-51036
Belly Art Panel 2mm Hi-Boy	0501-51037
Top Art Panel 3mm Hi-Boy	0507-19777
Top Art Panel 3mm Casino	0507-18038
Top Art Panel 2mm Hi-Boy	0507-51565
Top Art Panel 2mm Casino	0507-51566
Belly Art Panel 3mm Hi-Boy	0501-51036
Belly Art Panel 2mm Hi-Boy	0501-51037

KEYS

Audit Meter Key
T-Key: Cabinet Door and Top Box
J-Key: Cancel Credit
B-Key: Cash Box Door

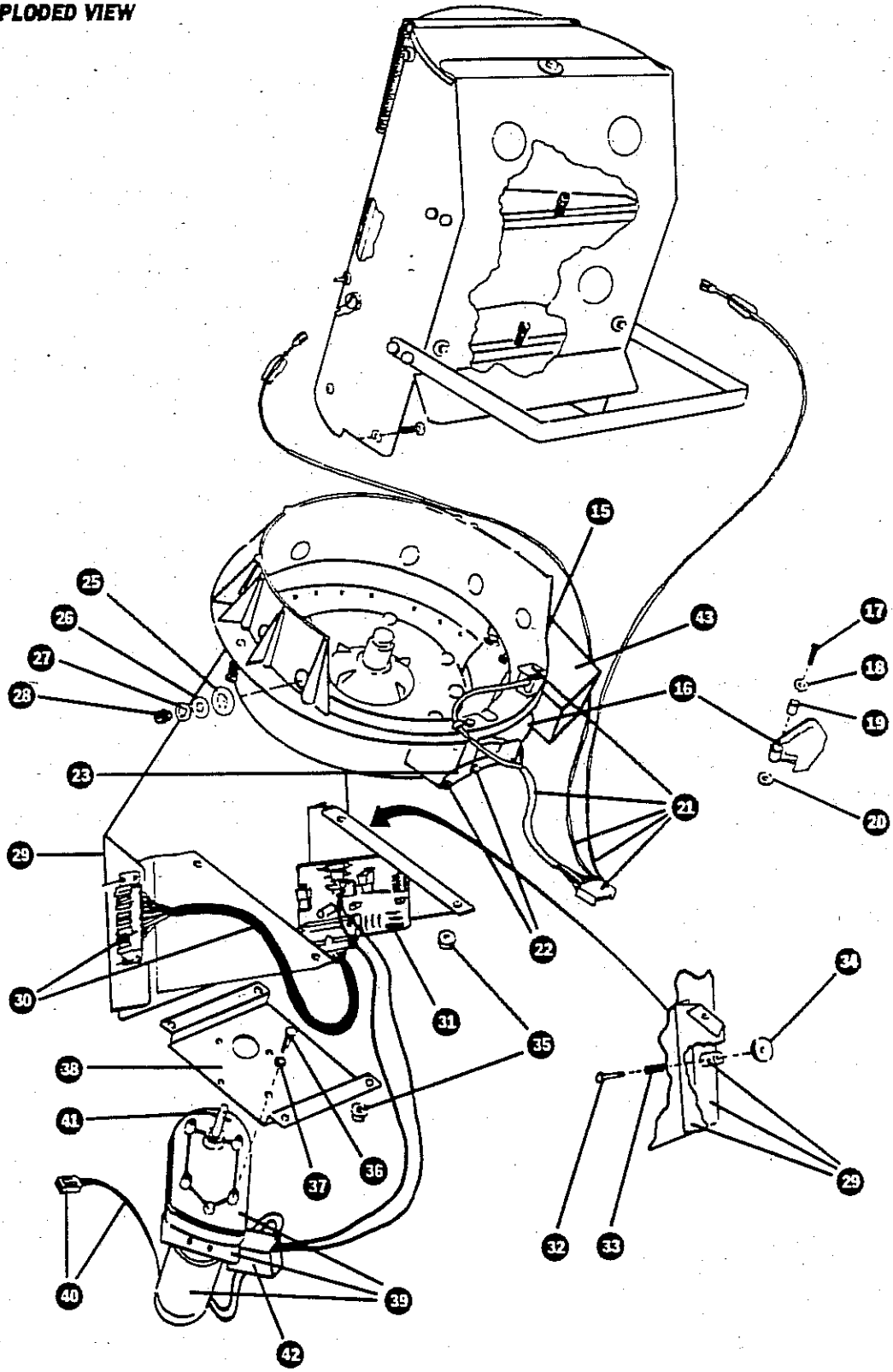
EXPLODED VIEW



HOPPER PARTS

Ref.	Description	Required	Part Number
1	ARISTOCRAT DISC HOPPER ASSEMBLY, REFER TO DENOMINATIONAL LISTING OF ASSEMBLIES AND PARTS IN SECTION 9		
2	BOWL ASSEMBLY, ADH	1	2208-06312
3	PANEL ASSEMBLY, COIN SLIDE COMPRISING:	1	3316-06316
	– PANEL ASSEMBLY, COIN SLIDE, SPOT WELDED	1	2230-06315
	– WASHER, FLAT, ZNC, M6.48 x 11.9 x 1	12	6626-04010
	– NUT, NYLOC, ZNC, M6	4	6612-03263
	– CLIP, CANOE, 33-096-0002, EQ	4	0743-03811
	– BALL BEARING, 6x19x6 626ZZ	4	5601-02491
	– SCREW, HEX HEAD, ZNC, M6 x 16	4	5757-02673
4	SCREW, PH/BD, NICKEL PLATED, 3/8"	3	5741-02632
4	WASHER, FLAT, M5.16 x 11.1 x 1	3	6626-04009
5	COVER, BOWL	1	0920-06906
6	BRACKET, BAFFLE MOUNTING	2	0913-06062
7	BOLT, BAFFLE MOUNTING, COACH, CHROME, 3/8 "BSW x 1"	6	5773-03906
7	SPRING,COMPRESSION	6	1001-01118
7	NUT, NYLOC, 3/8" BSW	6	6603-03230
8	BAFFLE, UPPER, (HOPPER BOWL)	1	0905-0610[illegible]
9	BAFFLE, LOWER, (HOPPER BOWL)	1	0905-0609[illegible]
10	HANDLE, PLUG-IN ADH		0931-0951[illegible]
11	SCREW, BAFFLE BRACKET & HANDLE MOUNTING, HEX HD, M5 x 12	8	5753-0265[illegible]
11	KEPS NUT, BAFFLE BRACKET & HANDLE MOUNTING, M5	8	6604-51713
12	SPRING, HOPPER BOWL RETAINING	2	1004-01009
13	PANEL - HOPPER BOWL PLATFORM	1	0944-06050
13	SCREW, PAN HEAD, ZINC M3 x 10	4	5746-02641
13	WASHER, FLAT, 1/8" x 3/8" OD	4	6622-03855
13	NUT, HEX, M3	4	6610-03252
14	SCREW, COIN PROBE, RND HD, 3/8" BSW x 1 1/4"	1	5712-02564
14	TAB,QUICK-CONNECT, H1168-150	1	6120-03672
14	WASHER, SHAKEPROOF, 3/8"	1	6623-03880
14	BUSH, INSULATING	1	0612-00115
14	WASHER, INSULATING	1	0648-00116
14	NUT, HEX, 3/8", BSW	1	6602-03224

EXPLODED VIEW



HOPPER PARTS

Ref.	Description	Required	Part Number
15	BOWL HOLDER & HOPPER HOUSING REFER SECTION 8 FOR PARTS BREAKDOWN		
16	PAWL, SECOND COIN WIPE-OFF, REFER DENOMINATIONAL LIST IN SECTION 9		
17	SCREW, HEX HEAD M4 x 20	1	5749-07022
18	WASHER, FLAT, 5/32" x 7/16" x 20 BG	1	6622-03857
19	BUSH, 2ND COIN WIPER	1	0612-07021
20	REFER NOTE 1 IN DENOMINATIONAL LISTING OF ASSEMBLIES AND PARTS IN SECTION 9		
21	LOOM, PHOTO-OPTIC, DUAL PROBE COMMON ALL DENOMINATIONS	1	3119-07304
REF	PCB ASSEMBLY, EMITTER 8 BOARD (PART OF ITEM 21)	1	250107676
REF	INFRA-RED DETECTOR (PART OF ITEM 21)	1	6313-03202
22	SCREW, TAPTITE, M3 x 10	2	5762-07251
22	WASHER, SHAKEPROOF, 1/8" INT	2	6623-03878
23	LEAF-SPRING, 2ND COIN WIPE OFF	1	1003-07371
24	SCREW, C'SUNK HEAD, M4 x 12	6	5748-02648
25	WASHER, FLAT, OBA x 5/8" x 18BG	6	6622-03863
26	WASHER, FLAT, 5/32" x 7/16" x 20 BG	6	6622-03857
27	WASHER, SHAKEPROOF, 5/32"	6	6623-03879
28	NUT, M4	6	6610-03253
29	PLATE ASSEMBLY, BASE HOPPER MOUNTING	1	2329-08683
30	HOPPER LOOM, PLUG TO PCE3	1	3106-08780
31	PCB ASSEMBLY, DC ADH	1	2501-07100
32	PIN, QUICK RELEASE PIN	1	0633-07524
33	SPRING, QUICK RELEASE PIN	1	6501-07525
34	NUT, QUICK RELEASE PIN	1	0630-07522
35	M5 KEPS NUT Z/P	8	6604-51713
36	SCREW, MOTOR MOUNTING, M4 X 10	4	5749-02652
37	WASHER, SHAKEPROOF, 5/32"	4	6623-03879
38	BRACKET, MOTOR MOUNTING	1	0913-10921

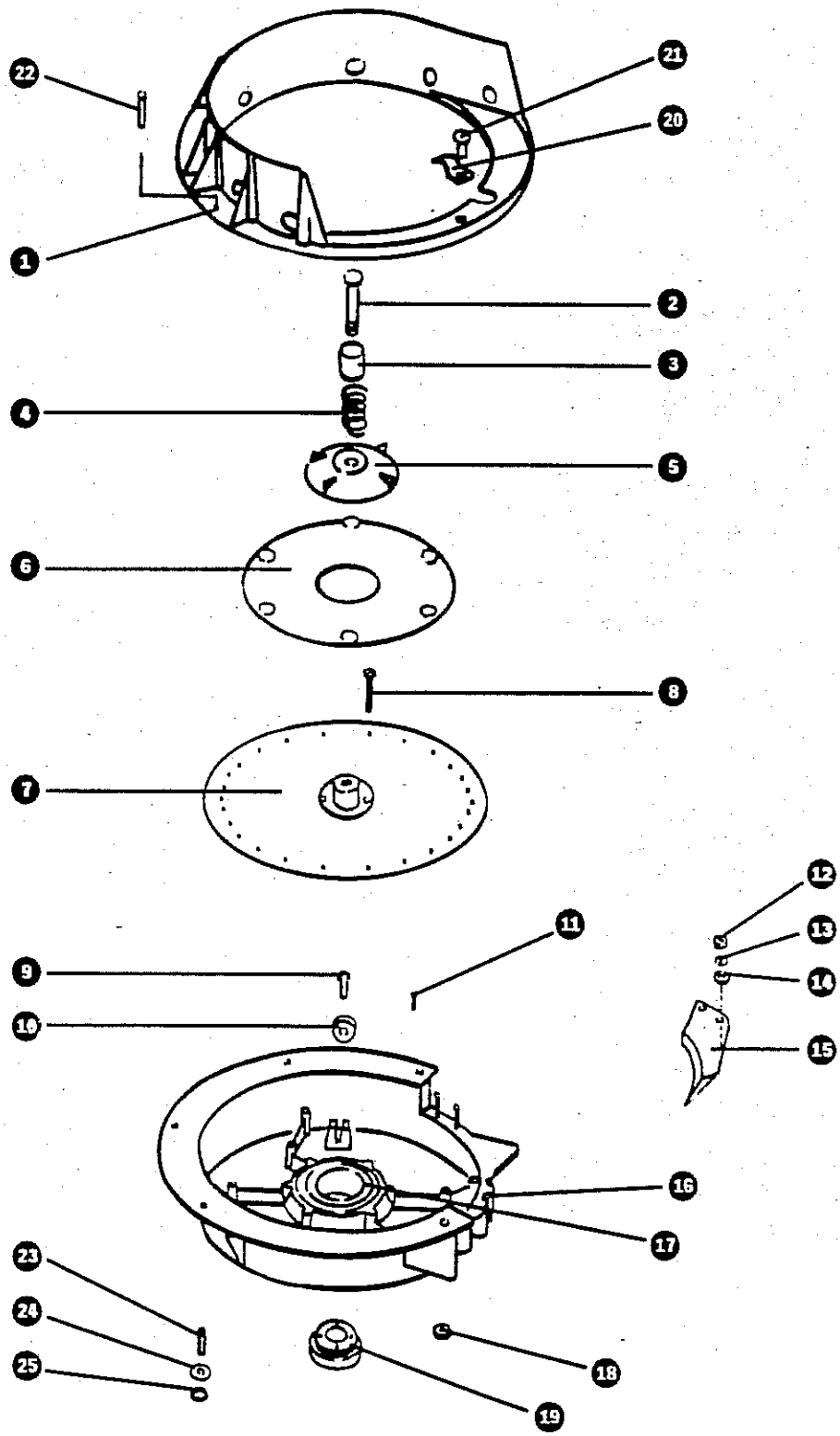
HOPPER PARTS

Ref.	Description	Required	Part Number
39	DC DRIVE MOTOR 8 GEARBOX ASSEMBLY, 24 DC, S4023TG "SHINKO"	1	6420-10871
40	PCB/LOOM ASSEMBLY, HOPPER MOTOR, CAPACITOR	1	2501-15285
41	PIN, 3/16" x 1" LG SPIROL ALLOY 302	1	6633-03312
42	CHUTE ASSEMBLY HOPPER	1	2214-17469

DISC HOPPER DENOMINATIONAL ASSEMBLIES AND PARTS

COUNTRY	DENOM.	HOPPER ASSEMBLY	PAWL 2ND COIN WIPE-OFF	SPIGOT PLATE ASSEMBLY	DISC ASSEMBLY	COIN RUNNER
Australia	5¢	3802-08800	2001-14623	2130-06701	2001-06705	0639-06334
240V 50Hz	10¢	3802-08799	2001-50635	2130-06700	2001-07426	0639-17980
	20¢	3802-08798	2001-14601	2130-06618	2001-06622	0639-06336
	$1	3802-10494	2001-14600	2130-06700	2001-07426	0639-17980
	$2	3802-17449	2001-14601	2130-06700	2001-17441	0639-17980

EXPLODED VIEW



HOPPER PARTS

Ref.	Description	Required	Part Number
1	HOLDER, BOWL MOUNTING	1	0320-07102
2	BOLT, SHOULDER	1	0609-06076
3	COVER, SPRING	1	0713-06075
4	SPRING, COMPRESSION	1	6501-06325
5	COIN-STIRRER	1	0743-06074
6	SPIGOT PLATE ASSEMBLY REFER TO DENOMINATIONAL LIST IN SECTION 9 FOR PART NUMBERS		
7	DISC ASSEMBLY REFER TO DENOMINATIONAL LIST IN SECTION 9 FOR PART NUMBERS		
8	SCREW, CHEESE HD, ZINC PLATED, M4 x 35	4	5750-14631
9	PIN, BEARING AXLE	3	0633-07368
10	BALL-BEARING, 6 x 19 x 6, 626ZZ	3	5601-02491
11	SPRING, BEARING AXLE	6	6501-07369
12	NUT, HEX M6	2	6610 03255
13	WASHER, SHAKEPROOF, ¼"	2	6623-03882
14	WASHER, FLAT, M6.48 x 11.9 x 1	2	6626-04010
15	COIN-RUNNER REFER TO DENOMINATIONAL LIST IN SECTION 9 FOR PART NUMBERS		
16	HOUSING, HOPPER	1	0313-07103
17	BALL BEARING, 6007 2ZZ	1	5601-02490
18	NUT, NYLOC, ZINC PLATED, M6	1	6612-03263
19	BUSH-DRIVE BOSS BEARING CLAMP	1	0612-06072
20	CLAMP, CABLE, H902/150	1	5819-03591
21	SCREW, HEX HEAD, M6 x 12	1	5757-02672
22	SCREW, PN HD ZNC M5 x 32	4	5754-10653
23	SPRING,COMPRESSION	4	1001-01118
24	WASHER, FLAT, 3/16" x ½" x 20BG	4	6622-03860
25	Nut Nyloc ZNC M5	4	6612-07719
	SHIM/SPACER FOR COIN RUNNER PACKING – 0.010" thickness – 0.050" thickness		6625-03891 6625-03891

MECHANICAL COIN SELECTOR PARTS

Main Part	Denom.	Part Number
Coin Acceptor Unit	5 cent	6205-07185
Coin Acceptor Unit	10 cent	6205-03080
Coin Acceptor Unit	20 cent	6205-03081
Gate Assembly	5 cent	6207-14268
Gate Assembly	10 cent	6207-14269
Gate Assembly	20 cent	6207-14270
Cradle Assembly	5 cent	6207-14267
Cradle Assembly	10 cent	6207-03113
Cradle Assembly	20 cent	6207-03114

COIN COMPARITOR PARTS

Main Part	Part Number
Coin Comparitor (CC-16) Includes connecting loom.	3109-12312

ASAHI-SEIKO COIN SELECTOR PARTS

Main Part	Denom.	Part Number
Asahi-Seiko Coin Selector (complete unit)	$1	6206-51775
Asahi-Seiko Coin Selector (complete unit)	$2	6206-51776

MID TRIM ASSEMBLY PARTS

Push-buttons and Mid Trim Components

Part	Quantity	Part Number
PANEL – Mid Trim No. 7	1	0319-52352
P/Button RCT2	1	6416-51086
P/Button –Small SQ CP Lamp 24V 2W W	2	6416-19498
P/Button Rectangular WHITE	1	6416-51087
Retainer P/Button	1	0948-52700
#4 x 10 CSNK S/T SCREW	12	5772-51821
Retainer	1	0948-52700

Die-Cast Coin Entry Components

Part	Quantity	Part Number
BODY, Coin Entry	1	0616-02412
WASHER, 3/16" Shakeproof	2	6623-03880
SCREW, M5 x 10 CH Hd.	2	5751-02657
SCREW, M4 x 12 C/Sk.	2	5748-02648
BACKPLATE, Denomination Variable — see Section 3B under "DISC HOPPER DENOMINATIONAL ASSEMBLIES AND PARTS"		
SPRING, Reject Button	1	1001-01106
REJECT PIN	1	0633-00868
CIRCLIP, A/SCO-8208 (5/16")	1	6627-03978

Plastic Coin Entry Components

Part	Quantity	Part Number
BODY, Coin Entry (Unplated)	1	0711-50317
WASHER, 3/16" Shakeproof	2	6623-03880
SCREW, M5 x 10 CH Hd.	2	5751-02657
SCREW, ST5 BDHD Type A. ZN. 8 x 5/8"	2	5775-04869
BACKPLATE, Denomination Variable — see Section 3B under "DISC HOPPER DENOMINATIONAL ASSEMBLIES AND PARTS"		
SPRING, Reject Button	1	1001-01106
REJECT PIN	1	0708-50318
CIRCLIP, A/SCO-8208 (5/16")	1	6627-03978

PRINTED CIRCUIT PARTS

Part	Quantity	Part Number
MK 2.5 STEPPER COINS IN AND CASH BOX DETECTOR PARTS		
Configuration fitted with Coin Comparitor: (3109-12312)		
C/Entry and C/Box Detector	2	3109-52684
Loom C/Entry Detector	1	3109-51687
Loom C/Box Detector	1	3109-52132
Shunt Connector	1	6112-09640

Fitted with Mechanical Selector:
(5c 6205-07185), (10c 6205-03080), (20c 6205-03081)

Part	Quantity	Part Number
C/Entry and C/Box Detector	2	3109-52684
Loom C/Entry Detector	1	3109-51687
Loom C/Box Detector	1	3109-52132
Shunt Connector	1	6112-09640
Coin Block Solenoid Assy.	1	3114-50783

Fitted with Mechanical Selector/Coin Comparitor

Part	Quantity	Part Number
C/Entry and C/Box Detector	2	3109-52684
Loom C/Entry Detect/Emit PCB Assy	1	3109-51687
Loom C/Box Detector	1	3109-52132
Shunt Connectors (jumper)	1	6112-09640
Coin Block Solenoid Assy (Mechanical Selector Only)	1	3114-50783
Coin Comparitor	1	3109-12312

MK 2.5 COIN IN AND CASH BOX DETECTION PARTS CONFIGURATION
Fitted with Asahi-Seiko Electronic Selector: ($1 6206-51775)– [LOOM 3109-51688],
($2 6206-51776)

Part	Quantity	Part Number
C/Entry and C/Box Detector	2	3109-52684
Loom C/Entry Detect/Emit PCB Assy.	1	3109-51687
Loom C/Box Detector	2	3109-52132
Shunt Connectors (jumper)	1	6112-09640
Loom Coin Ass/PCB	1	3109-51688

PCB ASSEMBLY PARTS

Part	Part Number
Stepper Mechanism Controller Board	2501-16075
– Coin-in Photo-optic Module	3109-52684
– Cash Box Photo-optic Module	3109-52684
Hopper Drive PCB	2501-07100
Daughter Board	2501-06829
Stepper Mechanism PCB	2501-40067
Credit Meter PCB	2501-40061
Volume Control PCB	2501-07784
L & R Hand Reel Window PCB	2501-40002
Mother PCB	2501-16337
Driver Board	2501-05933

WIRING PARTS

Cables

Part	Quantity	Part Number
Loom, Mother to ADH M/ST V	1	3109-10018
Loom, Mother PCB to Mechanism	1	3118-51500
Loom. 14W Flouro Extension - Door panel to reflector	1	3109-51522
Loom, K/SW Loom Meter Lamps D/D	1	3109-07074
Loom, Fluoro Reflector Loom Assembly CSN T/Box	1	3105-51599
Floro Reflector Assembly MK 2.5 H/TB	1	3105-50271
Loom, 14W Flouro Extension - T/Box reflector	1	3109-50478
Loom, Key Switch Jackpot D/D	1	3109-07078
Loom. R/C Loom Mother to Credit Meter	1	3118-16070
Loom, Mains to Power Supply	1	3109-50499

Looms

Part	Quantity	Part Number
Loom, Coin Block Solenoid (Mechanical Selector only, not shown)	1	3114-50783
Loom, Cash Box Detector Loom Assembly	1	3109-52132
Loom, Assembly Speaker M/S Video	1	3120-09687
Loom, Photo-optic Coin Entry Emiter	1	3119-07269
Loom Door Panel Fluoro	1	3105-50479
Sol. Cash Box Deflector and Loom Assembly	1	3114-50736
Loom, Reel Window PCB Loom	2	3109-50486
Loom, Door Security Detector	1	3119-51495
14 Watt Fluro Extension - DR PNL Reflector	1	310951522
Tube - Fluoro F14T8/CW 15"	1	5506-18601
Loom, Door Top Flouro	1	3105-50480

Cable Looms and Fluoros

Part	Quantity	Part Number
R/C Loom, Mother to Door BTM 34W	1	3118-07197
R/C Loom, Mother to Door BTM 40W	1	3118-07198
R/C Loom, Mother to Power Supply	1	3118-14664
P/OPT Door Switch Assembly EmitterS/M (not shown on diagram)	1	3109-51549
Loom Assembly Door Switch – Mother PCB	1	3109-52002
Switch D/B – H772200	1	6416-03633

10. CONVERSION OF MACHINE

CONVERSION OF COMBINATION

1. GAMES PROM AND DECODER
2. ARTWORK

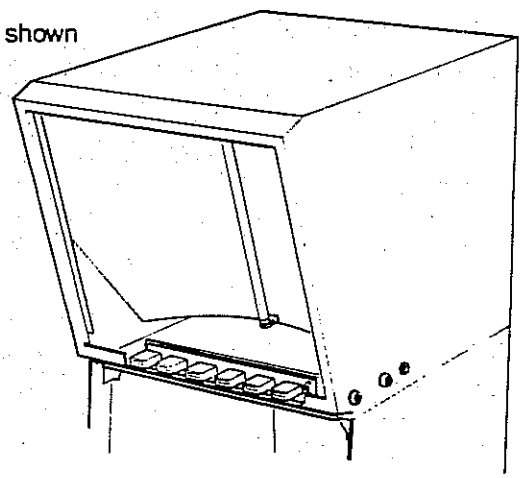
CONVERSION OF DENOMINATION

1. COIN ENTRY
2. COIN CHUTES INSERTS
3. ASAHI-SEIKO SELECTOR/COIN COMPARITOR/ MECHANICAL SELECTORS
4. DISMANTLING HOPPER AND REPLACEMENT OF DENOMINATION PARTS
5. DECAL

Conversion of Combination

Prior to starting the conversion, procedures to retrieve and record electronic meter readings and any pertinent data required must be followed. Step through and record meters by using Collect/Reserve button.

Hiboy shown



1. Before proceeding with the conversion, the parts supplied must be checked for any omissions. Any omissions must be reported to the Aristocrat Technical Services Spare Parts Department. Game PROM supplied must be checked for correct combination, operating percentage, denomination (if applicable), meter security (mechanical meter option).

2. Cut seal on microprocessor box and record number. Remove the Controller.
4. Remove Game PROM U41 and fit replacement. Replace Controller and power machine up with memory reset. Machine should operate normally except that incorrect reel symbols will be displayed. If all is okay, procede to change reel strips and artwork.

Replacing Artwork

Procedure:

1. Insert key in top box lock and turn. Slide up artwork and pull out from lower edge.
2. Remove retaining edges to artwork and insert new artwork supplied.

Door (Belly Panel) Artwork

1. Remove coin selector and reflector panel retaining nuts situated behind it. Lift up and swing away panel.
2. Remove nuts holding artwork (retain). Remove brackets and artwork.
3. Replace artwork insert and reassemble.
4. Denominational sticker – replace if required.

Reel Strip Changes

1. Remove old reel strips
2. Select approprate reel strip and fit to reel ensuring that the notch in the edge of the reel strip engages with the dimple on the reel, then secure with double-sided adhesive tape
3. Put machine into reel test mode and confirm reel stop positions agree with credit meter display.

Animation Lights

Procedure:

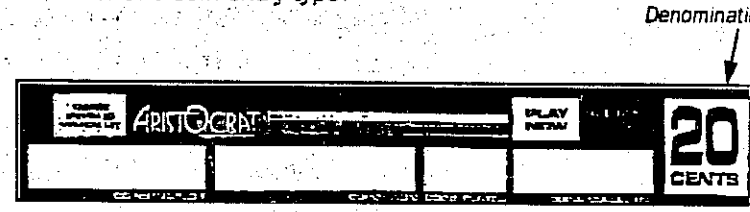
1. Remove mechanism from machine.
2. Install animation board in machine top box (use self-adhesive nylon supports). Run ribbon cable down the rear of the machine and plug into animation socket of mother board (behind mechanism).
3. Install bulbs and holders into the approximate position required in perspex support panel. Plug bulbs into appropriate ports of animation board.
4. Mount perspex panel to top box side rails and align bulbs correctly to suit artwork.
5. Replace mechanism.

Reel Mask

Lower reel mask and replace denomination decal.

Denomination Change (Door)

This may include a change of coin selector type, coin chute inserts and coin entry type.



Selector	Coin Entry	Denomination	Chute Insert	Coin Size
Mechanical Selector	Straight Drop	Aust. 5 cent	BOTTOM 50454 TOP 50455	17-22mm
		Aust. 10 cent	—	up to 39mm
		Aust. 20 cent	—	up to 39mm
Coin Comparitor (CC-16)	Straight Drop Offset Entry	Aust. 20 cent	—	up to 39mm
		Aust. $1	—	up to 39mm
		Aust. $2	BOTTOM 50454 TOP 50455	17-22mm
Asahi Seiko Selector (AD-86E)	Straight Drop	Aust. $1	—	up to 39mm
		Aust. $2	BOTTOM 50454 TOP 50455	17-22mm

Refer also to sections 3B – Hopper Unit and 3C– Coin Selector and Chute for parts affected by denomination change.

Coin Entry (Straight Drop)

1. Remove the two mounting screws and pull entry out through front of mid trim panel.
2. If reusing this kind of entry only the back plate is replaced to accommodate the new denomination.
3. If installing offset entry reverse procedure below.

Coin Entry (Offset)

1. Loosen retaining clamp plate, nuts and slide coin entry to one side. Lift entry and remove as a unit.

Coin Chute Inserts

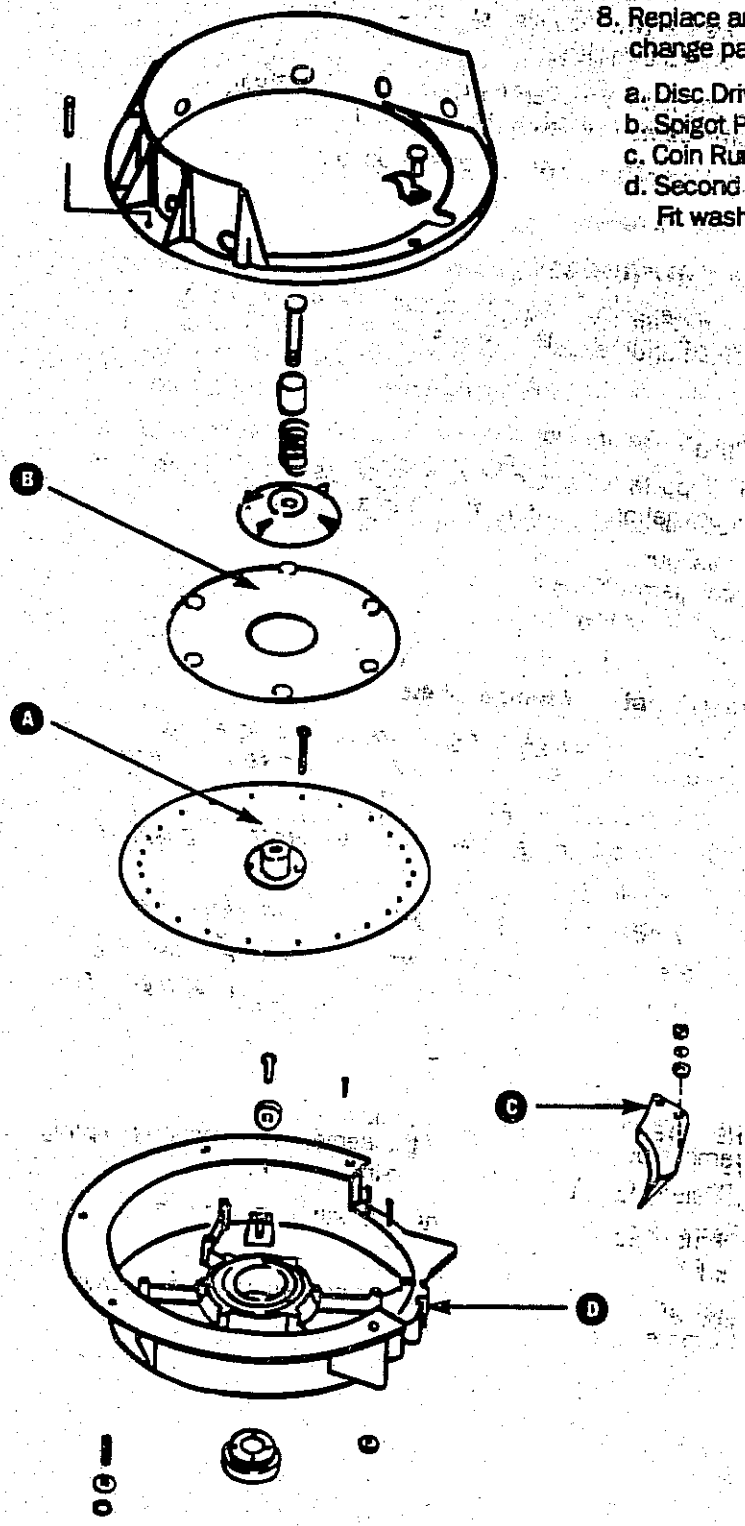
It is important that the correct chute inserts are used for the denomination required – failure to do so may cause:

a. miscounting of coins
b. coin jams
c. coin in (or yo-yo) alarms

Denomination Change of Hopper

Correct procedure should be followed for dismantling and reassembly of hopper so as to ensure further trouble-free operation of hopper after conversion.

1. Remove hopper cover (3 phillips head self-tapping screws with washers).
2. Remove clamp bolt and "Nyloc" lock nut with loom retainer.
3. Remove both photo-optics (from body and bowl), disconnect loom from hopper level probe. Remove second coin pawl and space washer if fitted.
4. Loosen the two coin chute retaining nuts and slide chute out.
5. Remove the four spring-loaded bowl retaining screws and remove bowl. Take notice of the degree of deflection of spring (position of nut on screw) for re-installation.
6. Remove coin stirrer retaining bolt, stirrer, spigot plate and coin runner.
7. Loosen and remove four retaining screws on the disc drive. Remove drive disc.



8. Replace and adjust denomination change parts.

a. Disc Drive
b. Spigot Plate
c. Coin Runner
d. Second Coin Pawl (not shown). Fit washer if required.

Fitting Disc Drive

Before fitting disc into centre bearing to locate on gear box drive pins, align the drive boss collar (at rear of bearing) so as the four tapped hole are in the same position in relation to the drive pins – as those in the disc. This will allow the screws to align with the holes when installing the disc.

Coin Runner

When adjusting the coin runner a slight gap between it and the spigot plate must be allowed. If the coin runner touches and/or binds on the drive disc when it's retaining nuts are tightened (rotate the disc to test this), it must be packed up using spacers and shims. Reassemble the hopper.

When positioning photo-optics care must be taken to ensure that the optics are positioned correctly for the coin size. For smaller coins position closest to the chute. For larger coins position closest to the second coin pawl.

IMPORTANT

When conversion is completed machine must be coin tested for coins in and coins out. Put a number of coins into the machine (20-30) through coin entry and collect them to test for jamming, etc. in coin chuting and correct payout from hopper.