

CD SERIES CARD DISPENSERS



Warning: This product contains unprotected moving parts and is intended for inclusion within a host machine. Manufacturers are responsible for incorporating this sub-assembly within a host machine and must observe the installation and safety instructions as detailed in Section 2.8.

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1. INTRODUCTION

The CD card dispenser series cover a diverse range of applications from plastic telephone cards and paper debit cards to pull-tab and break-open style tickets.

These dispensers are widely used throughout the world in a variety of applications including transportation, gaming and the telephone industry, where they have gained a reputation for high quality and reliability.

Compact construction, easy control and an innovative mechanism make these products ideal for any application that demands error-free dispensing.

A selection of standard cartridge sizes ensure options are available to suit all customer requirements.

Please note: Some of the information contained herein, refers to early CD models.

2. OPERATION

The mechanism dispenses cards from a cartridge using an electronically-controlled DC motor to drive rollers via a gearbox and toothed belts.

Cards are taken on demand from the bottom of the stack by a clutch-driven roller assembly and offered forward via the card guide to a feeder roller.

The card continues its passage forward through the mechanism aided by feeding and discharge rollers that present it to the delivery point to await removal by the customer.

Proximity sensors detect cards in the discharge path and the empty state, inhibiting further demands while these conditions persist.

Accurate single dispensing is achieved by means of a reverse roller, adjusted in relation to the thickness of the card to be dispensed.

In the event of a payout failure (monitored by the payout sensor) or card jam, the mechanism enters a “joggle” routine with reverse and forward movements in an attempt to successfully dispense a card.

The number of reversals can be preset by means of dip switches mounted on the circuit board to a maximum of 8 on the 9603 circuit board and 15 on the 9102 circuit board.

2.1 Card Size Range

The card dispenser most suitable for your application can be selected from our product range using a metric vernier calliper to take accurate measurements of card length, width and thickness:

See the data charts in Section 2.2 for specific applications.

2.2 Cartridge Sizes

A range of cartridge sizes are available to extend the capacity of the standard CD-1000 dispenser. For details of options and card capacities, see product data tables 2.2.2 to 2.2.4.

CD-200	
Applicable Cards	Paper or Polyester Credit Card Size
Card Width (mm)	53 - 58
Card Length (mm)	76 - 86
Card Thickness (mm)	0.2 - 1.0
Card Capacity *	90 - 450
Overall Height (mm)	180
Effective Height (mm)	90
Overall Width (mm)	93.2
Overall Length (mm)	155
Weight Empty (Kg)	1.8

Table 2.2.1

CD-1000			
Applicable Cards	Paper or Polyester credit card size		
Cassette options	1000-230	1000-300	1000-445
Card Width (mm)	52 - 56	52 - 56	52 - 56
Card Length (mm)	79 - 89	79 - 89	79 - 89
Card Thickness (mm)	0.2-1.0	0.2-1.0	0.35-1.0
Card Capacity *	140-700	200-1000	350-1000
Overall Height (mm)	230	300	445
Effective Height (mm)	140	210	355
Overall Width (mm)	93.2	93.2	93.2
Overall Length (mm)	155	155	155
Weight Empty (Kg)	2.1	2.2	2.4

Table 2.2.2

* An approximate card capacity can be obtained by dividing the effective height by the card thickness.

Please note that difficulties have been experienced with card separation when using the taller cartridges to dispense thin cards. Full evaluation of each customer card must be carried out by Asahi Seiko prior to sale, to allow us to guarantee suitability for any application.

CD-1100	
Applicable Cards	Pull Tab cards
Cassette options	CD-1100/445
Card Width (mm)	46 - 49
Card Length (mm)	100 - 112
Card Thickness (mm)	0.35 - 1.0
Card Capacity *	350 - 1000
Overall Height	445.4
Effective Height (mm)	355
Overall Width (mm)	93.2
Overall Length (mm)	177
Weight Empty (Kg)	2.5

Table 2.2.3

CD-1300	
Applicable cards	Large paper or polyester
Cassette options	CD1300/340
Card width (mm)	62 - 65
Card Length (mm)	82 - 92
Card Thickness (mm)	0.2 – 1.0
Card Capacity *	250 - 1200
Overall Height (mm)	340
Effective Height (mm)	250
Overall Width (mm)	102.2
Overall Length (mm)	157
Weight Empty (Kg)	2.3

Table 2.2.4

* An approximate card capacity can be obtained by dividing the effective height by the card thickness

Please note that difficulties have been experienced with card separation when using the taller cartridges to dispense thin cards. Full evaluation of each customer card must be carried out by Asahi Seiko prior to sale, to allow us to guarantee suitability for any application.

2.3 Accessories

Asahi Seiko can develop accessories specifically to suit the needs of the customer, providing that the quantity makes this a viable proposition. Past developments have included low level warning sensors and special height cartridges.

2.4 Dispensing Time

The standard dispense time is 2.0 seconds approximately but a 1.2 second option is available for the CD-200. However it is recommended that thin cards are dispensed at the slower speed of 2.0 seconds per card.

2.5 Environmental conditions

Temperature: -10°C to + 40°C
Humidity: 30 - 90% RH avoiding condensation
Location: Within a suitable cabinet

2.6 Installation

The card dispenser is designed to be incorporated within a suitable cabinet mounted within 2° of vertical. Details of electrical connections are given in Section 3.0.

2.7 Removing and replacing the cartridge

Release the spring-loaded catch located on the main chassis at the front right-hand side of the dispenser and pull the cartridge back approximately 12mm to clear the locating lugs before lifting clear of the mechanism.

Replacing is a reversal of removal but take care to ensure that the guides on the side of the cartridge are correctly located over the mechanism side plates and the lugs are situated inside the recesses of the main chassis **before** sliding it into the fitted position.

2.8 Safety and Maintenance

2.8.1 Control circuitry must be arranged to disconnect power to the mechanism when the host machine/cabinet is opened for servicing.

2.8.2 Over current protection to the mechanism must be provided by the host machine.

- 2.8.3 Servicing and maintenance staff must be adequately trained and aware of the hazards presented by the rollers and drive belts. The motor creates sufficient torque through its reduction gear to trap fingers, hair and clothing of the unwary.
- 2.8.4 Never hold the dispenser by the cartridge alone as it could become detached, allowing the mechanism to fall causing possible injury or damage.
- 2.8.5 Avoid the inclusion of foreign objects such as tape, rubber bands and wire as these could cause the machine to jam.
- 2.8.6 Keep mechanism clear of contaminants. Oily or adhesive substances will seriously affect the performance of the dispenser.
- 2.8.7 Ensure the dispenser is correctly calibrated for the cards to be dispensed as persistent dispensing problems lead to accelerated wear on the components.

Calibration details are recorded on the side of the dispenser either as a card code consisting of three letters (this code is unique to each customer's cards) or the card thickness in millimetres. **Re-calibration should only be undertaken using the procedure detailed in section 5 of this document.**

- 2.8.8 Ensure electrical interface connections are in accordance with values detailed in section 3 as excess voltage or current will damage the motor or control circuitry.
- 2.8.9 Routine maintenance should be undertaken every 2 months or 10,000 operations whichever is the sooner:
 - Wipe the surface of the clutch roller (at the base of the card stack) with an alcohol-impregnated cloth or pad.
 - Clean dust from the opto-sensor (mounted at the front of the mechanism below the payout point) with a small brush or suitable aerosol duster.
 - Check the drive belts for wear and adjustment (1-2mm deflection when light pressure is applied to the longest edge).
 - Check for accurate dispensing as incorrect adjustment for card thickness can cause accelerated wear on the mechanism.

3. ELECTRICAL INFORMATION

3.1 Supply Voltage

12 Volts DC $\pm 10\%$
24 Volts DC $\pm 10\%$

3.2 Current Consumption

1.3 Amp at 24 Volts DC (Peak)
1.8 Amp at 12 Volts DC (Peak)
0.1 Amp Idle current

3.3 Connector

A 12 pin connector type ELP-12 is located on a short lead at the rear of the dispenser and connects to type ELR-12V in the customer's unit. These connectors are available from the following supplier:-

JST (UK) Ltd.

Connector: ELR-12V
Pin: SLM-01T-1.3E

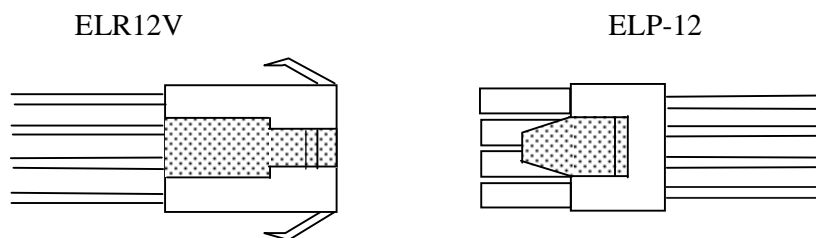


Figure 3.3.1

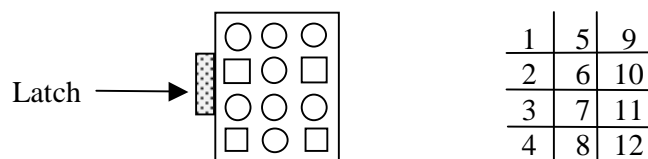
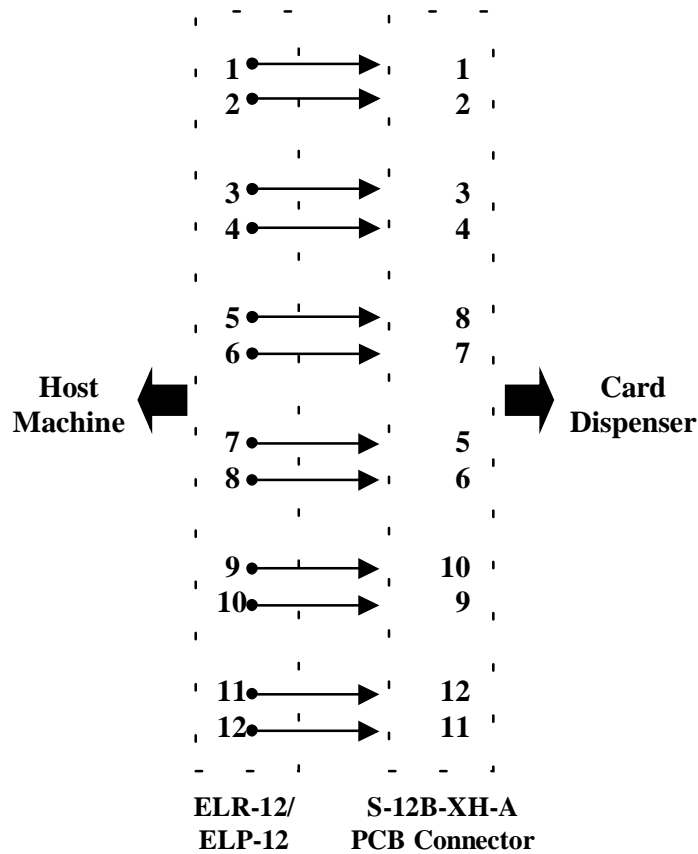


Figure 3.3.2 (Pin layout viewed from front)

3.4 Connector Pin Functions

S-12B-XH-A PCB Connector	ELP-12/ELR-12 Connectors	SIGNAL NAME	SIGNAL TYPE	DESCRIPTION
1	1	0 Volts	Supply	Ground
2	2	12 or 24 Volts DC	Supply	Power ($\pm 10\%$)
3	3	Card Payout Ref.	Input	Ground
4	4	Card Payout Signal	Input	Active Low
8	5	Card Payout OK Signal	Output	Open collector
7	6	Card Payout OK Signal Ref.	Output	Pull-up resistor
5	7	Card Stuck Reset Signal	Input	Active Low
6	8	Card Stuck Reset Signal Ref.	Input	Ground
10	9	Card Stuck Signal	Output	Open collector
9	10	Card stuck Signal Ref.	Output	Pull-up resistor
12	11	Empty Signal	Output	Open collector
11	12	Empty Signal Ref.	Output	Pull-up resistor

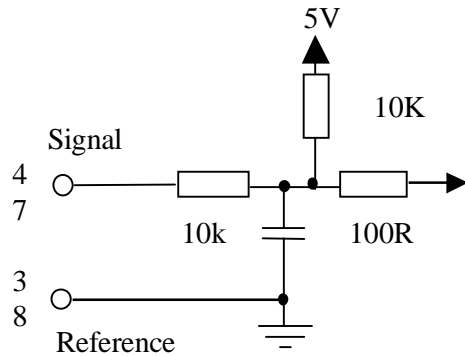
Important: Please note that some of the pin outputs have been transposed from the S12B-XH-A printed circuit board connector to the ELP-12/ELR-12 connectors. This must be observed if the user wishes to remove the ELP-12 connector in order to wire the card dispenser directly into the host machine.



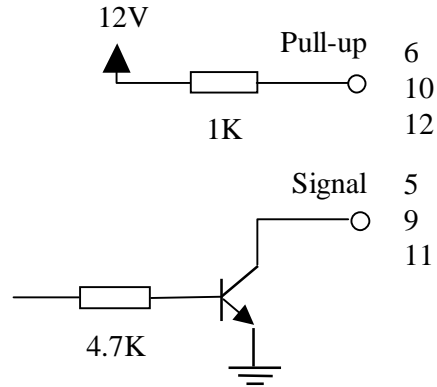
3.5 Input and Output Circuits

Since its introduction, the card dispenser has been fitted with two different circuit boards, the most recent being the CD-9603. It is easy to identify which circuit board is fitted as the model number is printed on the circuit board (either CD-9102 or CD-9603).

3.5.1 Circuit Board CD-9102



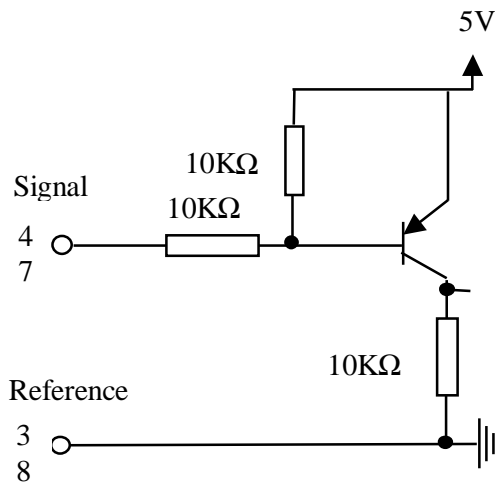
Input Circuit



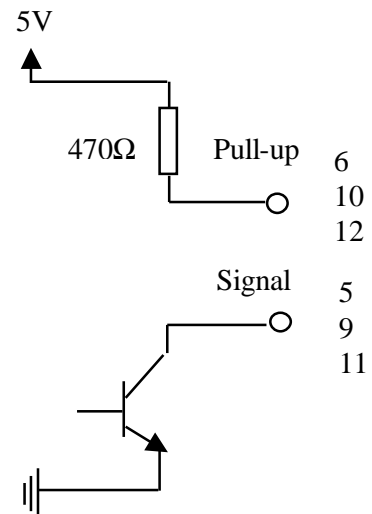
Output Circuit

(Max. Voltage 30V Max. Current 50mA)

3.5.2 Circuit Board CD-9603



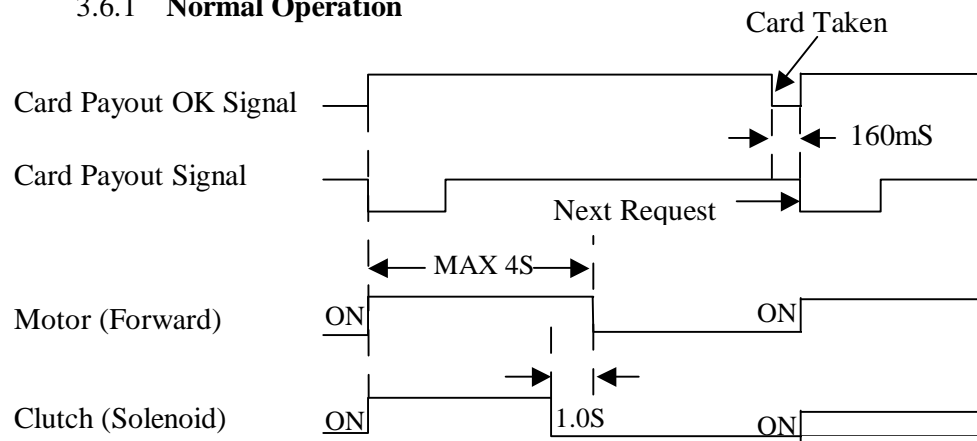
Input Circuit



Output Circuit

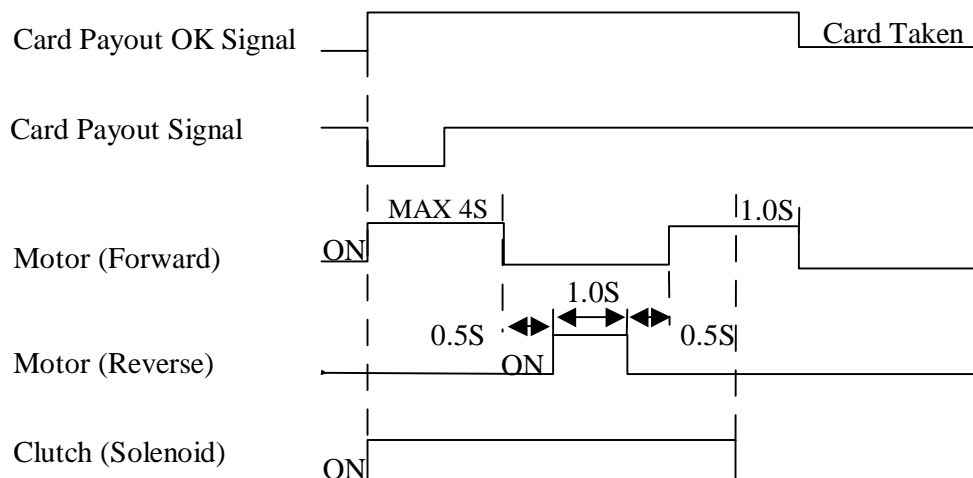
3.6 Timing Sequence Charts Circuit Board 9102 (not to scale)

3.6.1 Normal Operation



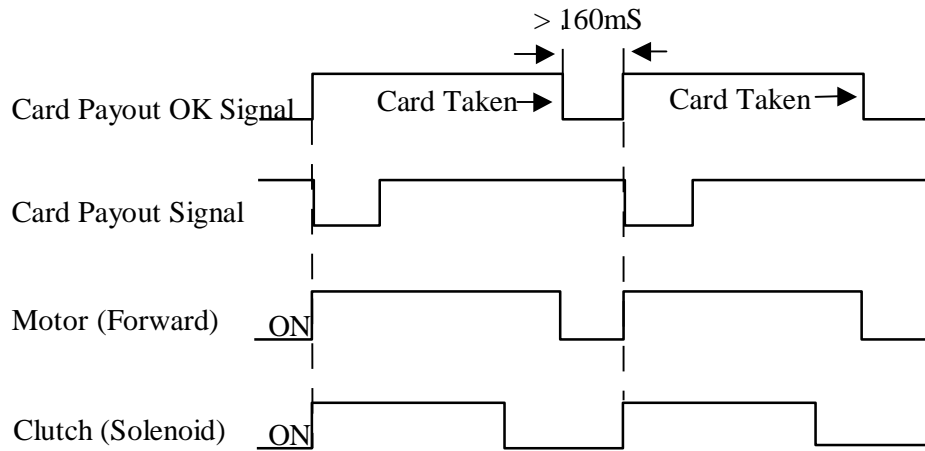
Note: Allow 160mS minimum after “card payout OK” signal before requesting next card.

3.6.2 Failure to dispense within 4 seconds

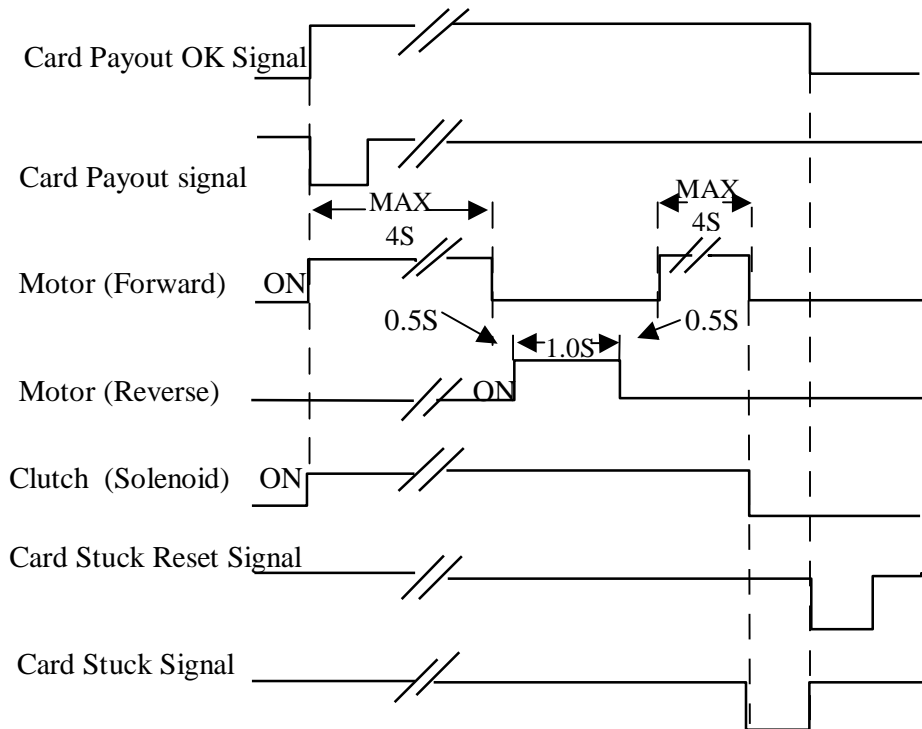


Note: The number of re-tries can be set by dip switches mounted on the circuit board. (See Table 3.8.1 for options available)

3.6.3 Continuous Dispensing



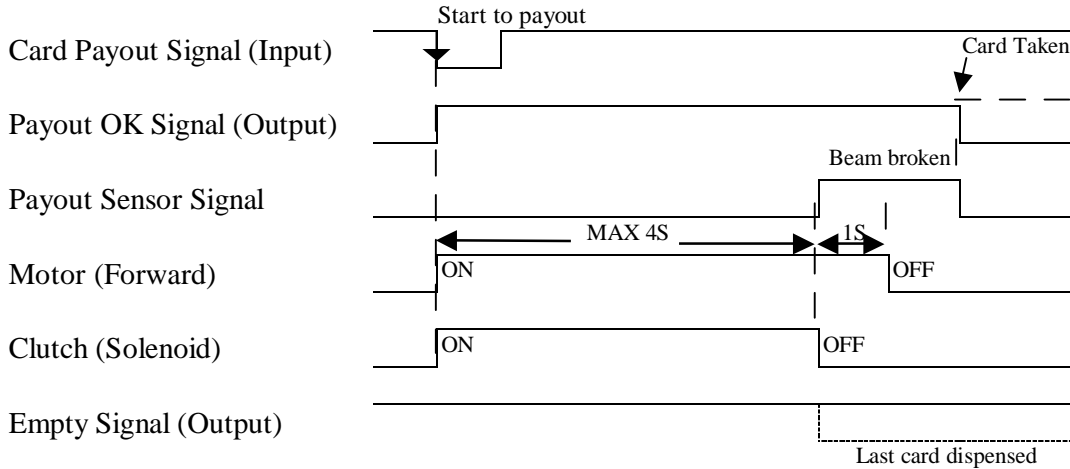
3.6.4 Dispense Failure (Card not dispensed after re-try)



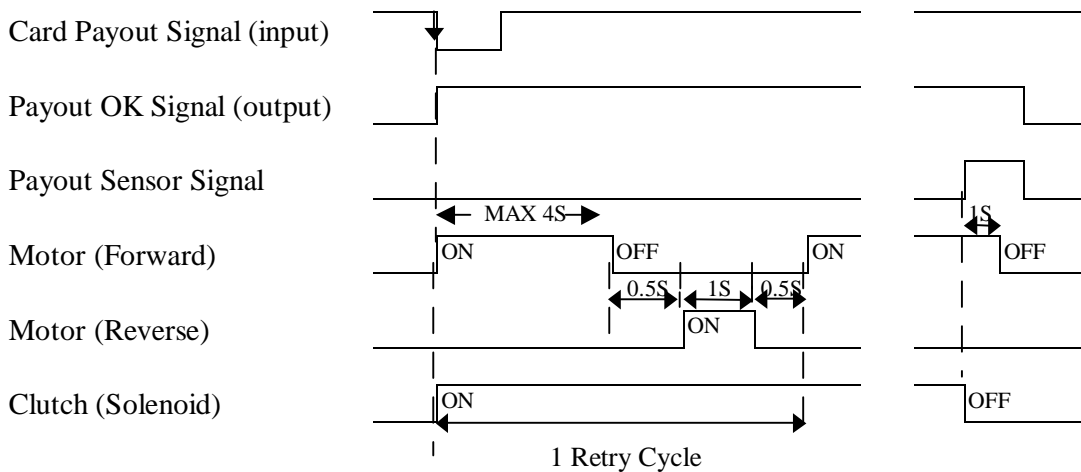
Note: The “card stuck” signal is activated when the preset number of re-tries is exceeded. When the “card stuck” signal is activated, remove the obstruction and provide the “card stuck reset” signal.

3.7 Timing Sequence Charts Circuit Board 9603

3.7.1. Normal Operation

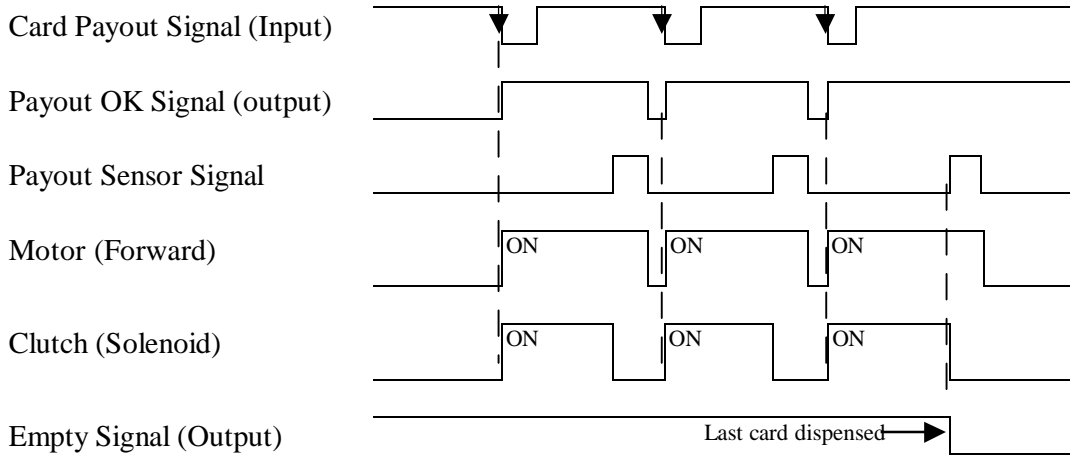


3.7.2. Failure to dispense within four seconds



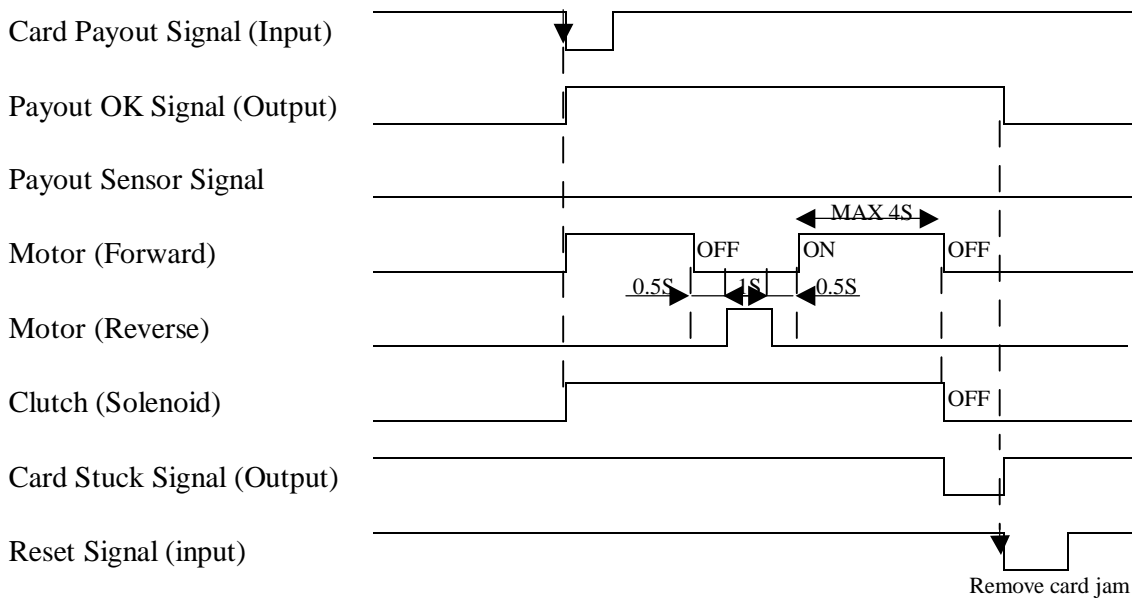
Note: The number of retries can be set to 8 maximum by dip switches.
(See Table 3.8.2)

3.7.3. Continuous dispensing

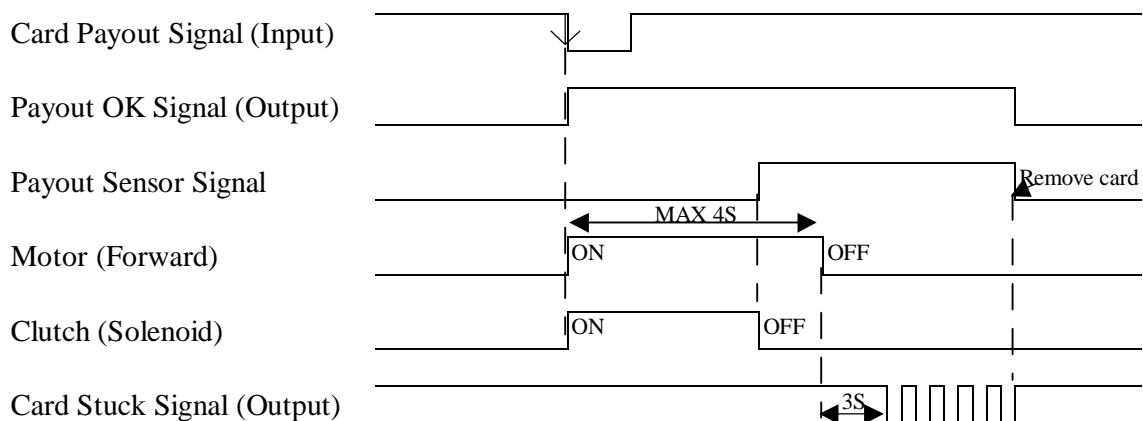


Successive payout demands can be made as soon as the card is removed.

3.7.4. Dispense Failure (Card not operating the payout sensor)



3.7.5. Dispensing Problem or failure to remove card (Payout Sensor operated)



For any sensor problem, jam or failure to remove card, the Card Stuck signal flashes.

3.8 Re-Try Dip Switch Settings

3.8.1 Circuit Board 9102

No of Tries	Dip Switch			
	1	2	3	4
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON
Continuous	OFF	OFF	OFF	OFF

3.8.2 Circuit Board 9603

No. of Tries	Dip Switch	
	1	2
1	OFF	OFF
2	ON	OFF
4	OFF	ON
8	ON	ON

4. ELECTRICAL TEST RESULTS

4.1 General

European directive for Electro-Magnetic Compatibility (EMC) 89/336/EEC.

Our interpretation of the EMC directive is that our products are not intended to be “placed on the market as a single commercial unit for final use”, and the only mandatory provision is to include instructions for use.

However, to demonstrate to our customers that our products will not affect the ability of the host machine to comply, we have carried out testing to the applicable standards.

The 12v & 24v versions of the card dispenser are electrically similar with the exception of an additional voltage regulator on the circuit board of the 24v version (Later models use a dual voltage control board.) and different motor and solenoid windings.

The 24v version was considered to represent the ‘worst case’ situation and selected for testing

4.2 Relevant Standards used as Basis for tests

EN55014:1993
EN55014-2:1997
EN55022:1995
EN61000-4-3:1997

4.3 Products Tested

CD-1000 (24 volt) fitted with Circuit board 9603

4.4 Test Results

All products tested complied with the standards listed in section 4.2.

A certificate of compliance and full test report is held at the company’s European office at: Asahi House, North Farm Road, Tunbridge Wells, Kent TN2 3DR and can be inspected by arrangement.

4.5 Instructions for use

Tests were undertaken with the card dispenser chassis bonded to earth and 6m of unscreened cable connecting signal and control leads.

Manufacturers incorporating card dispensers in their products are strongly advised to follow the test configuration and not exceed the recommended cable length to ensure EMC compliance.

Additional information relating to health and safety is contained in Section 2.8.

5.0 ADJUSTMENT PROCEDURE

5.1 General

The following procedure details the adjustments necessary to calibrate a CD-series card dispenser to dispense a specific card. This procedure may be used in full for change of card thickness or in part as a maintenance aid.

The part numbers referenced in this procedure can be found in Section 6 – Parts Listing.

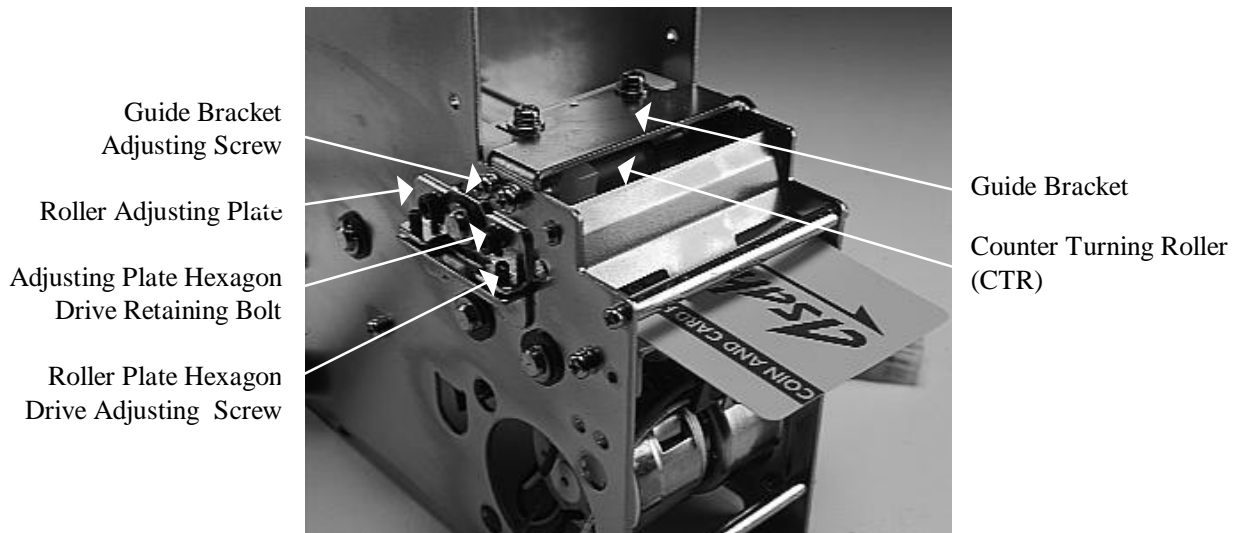
Please Note

There were two different types of card dispenser available, one for plastic cards and one for paper cards. The current model replaces both types and should be calibrated as for paper cards. It is important to be aware of the differences between the two types of dispenser before attempting any adjustment on the early models. The dispenser for plastic cards has a counter turning roller assembly (part no. 30) which consists of two thin rubber rollers on a single shaft and a card guide (part no. 28) specifically for plastic cards. The dispenser for paper cards has a counter turning roller assembly (part no. 70) which consists of a single wide rubber roller and a card guide (part no. 71) specifically for paper cards. The latter configuration is used solely on later models.

Please refer to sections 5.3.8.1 and 5.3.8.2 for further details of how to make adjustments.

Important: Early dispensers with twin rubber counter turning roller (CTR) are only recommended for dispensing plastic cards. Dispensers with single wide CTR rollers can be used for either paper or plastic cards

Figure 5.1



5.2 Tools

When carrying out any adjustments or maintenance, it is recommended that the following tools are used.

Set metric feeler gauges	2.5mm hexagon drive key
No. 1 Philips screwdriver	Small flat blade screwdriver
No. 2 Philips screwdriver	Medium flat blade screwdriver
1.5mm hexagon drive key	Small long nose pliers

5.3 Adjustment Procedure

The following procedure details adjustments to:-

- The gap between the counter turning roller (part no. 30/70) and the feeder roller (part no. 42).
- The plastic card guide (part no. 28/71).
- The tension lever (part no. 49).
- The shutter (part no. 33).

5.3.1 Remove the shutter (part no. 33) by releasing one E ring (part no. 57) and withdrawing the shutter pin (part no. 34).

5.3.2 Release the tension on the main geared belt (part no. 55) by slackening the tensioner adjusting screw (part no. 3) adjacent to the lower gear pulley (part no. 54).

5.3.3 Release the guide bracket (part no. 27) by slackening the four securing screws. See Figure 5.2.

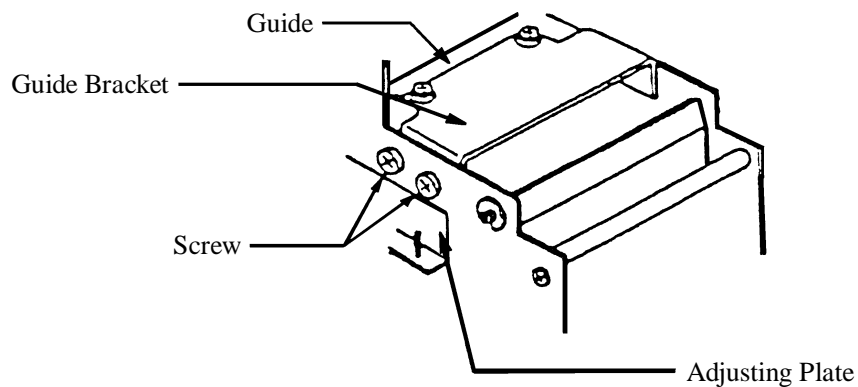


Fig. 5.2

- 5.3.4 Release the counter turning roller (part no. 30/70) by slackening the four hexagon headed bolts (part no. 6) fixing the adjusting plate (part no.7) to the chassis. See Figure 5.3.

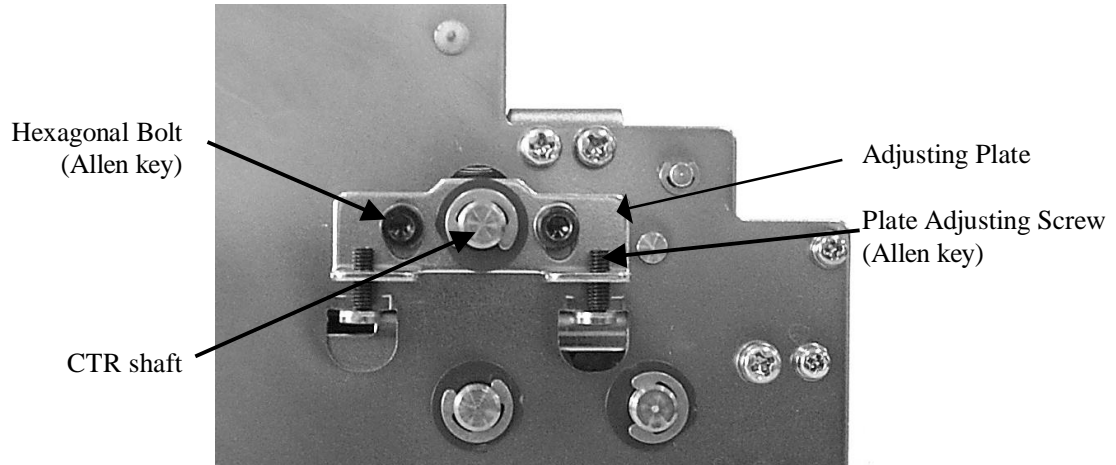


Fig. 5.3

- 5.3.5 If the dispenser is being adjusted for a thinner card, it will be necessary to back off the counter turning roller adjusting grub screws (part no. 8) until they are flush with the adjusting plate (part no. 7). See Figure 5.3.
- 5.3.6 Select the appropriate feeler gauge for the card thickness (see Table 5.4) and evenly adjust the four grub screws (part no. 8) to achieve the desired roller gap, ensuring an even gap between the counter turner roller and feeder roller at either side. See Figure 5.5.

Lightly tighten the fixing bolts (part no. 6) for the adjusting plate (part no. 7).

Card Thickness	Roller Gap
0.2mm	0.25 - 0.3mm
0.25mm	0.35 - 0.4mm
0.5mm	0.6 - 0.7mm
> 0.5mm	Add 0.2mm

Table 5.4

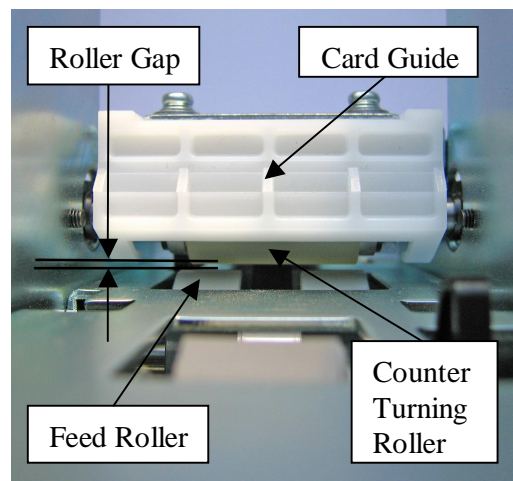


Figure 5.5

- 5.3.7 Recheck the roller gap and fully tighten the bolts (part no. 6) holding the adjusting plate to the chassis.
- 5.3.8 Set the card guide (part no. 28/71), so it sits *just above* a card inserted in the roller gap.

5.3.8.1 *Early models with dual counter turning rollers*

Adjust the card guide (part no. 28) with the appropriate gauges to achieve the required gap as specified in Figure 5.6.

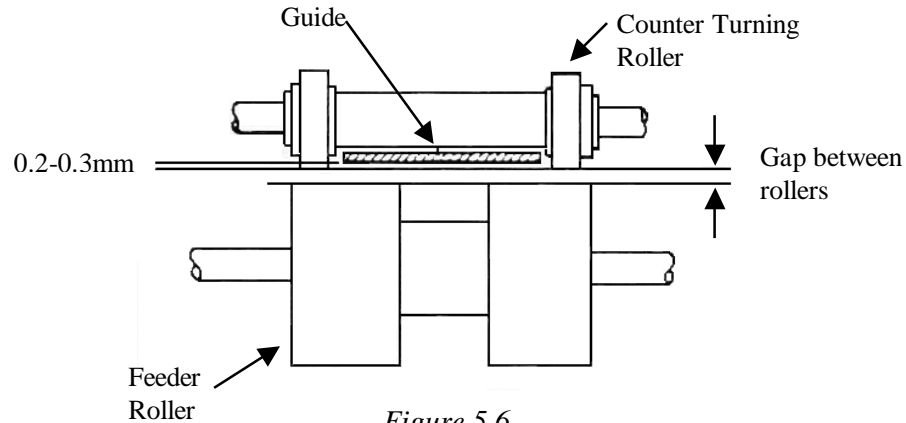


Figure 5.6

5.3.8.2 *Later models with single wide counter turning roller*

Insert a card between the rollers (part nos. 70 and 42) and position the guide (part no. 71) to just touch the top of the card, ensuring that the card remains flat and does not distort.

- 5.3.9 Readjust the belt tension lever (part no. 49) to give a deflection of 1-2mm when moderate pressure is applied with the thumb on the longest section of belt (part no. 55). See Figure 5.7.

As a reference, the belt is approximately 1mm thick.

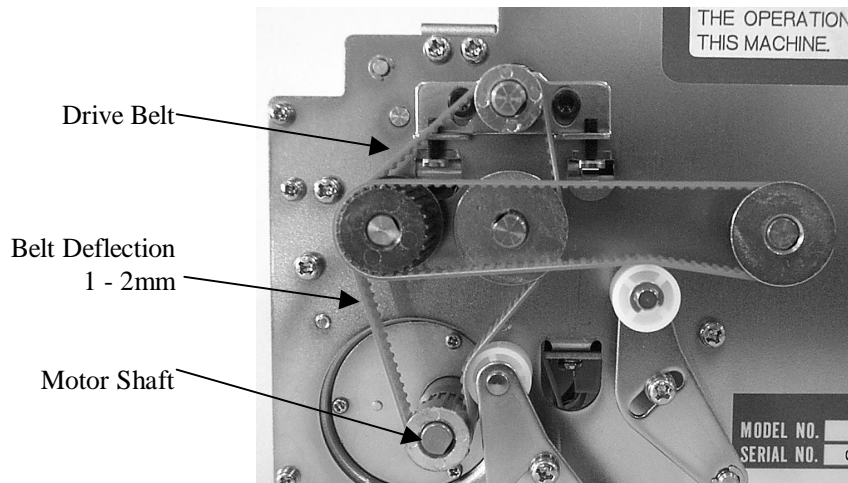
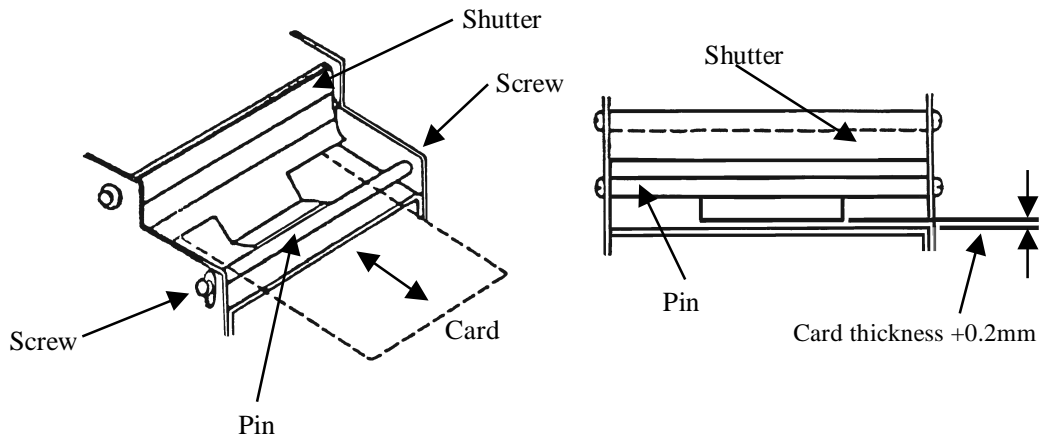


Figure 5.7

5.3.10 Replace and adjust the shutter (part no. 33) to the card thickness plus 0.2 mm. See Figure 5.8.



5.3.11 Test the card dispenser electrically with a quantity of the appropriate cards. It is recommended that a minimum of 50 cards are used to adequately test the dispenser.

5.4 Trouble Shooting

The following fault finding guide is not comprehensive but is intended to help to identify the most common and easily rectified problems.

5.4.1 **Symptom:** No card payout (motor not running)

- Incorrect or missing power supply.
- Connector not fully engaged.
- Card jammed.
- Payout sensor located at the front of the mechanism displaced or mounting bracket bent.
- Payout sensor lever not restored.

5.4.2 **Symptom:** No card payout (motor running)

- Weight missing.
- Drive belt slipping. Incorrect roller adjustment for card.
- Shutter, at front of mechanism, incorrectly adjusted or jammed.
- Solenoid failing to operate and engage clutch roller at base of card stack.
- Clutch roller worn or contaminated.
- Feeder roller, at front of mechanism, slipping on its shaft.
- Incorrect card material for roller configuration.
- Cartridge too full for card type.

5.4.3 **Symptom:** Motor running slowly

- Incorrect power supply.
- Incorrect roller adjustment.
- Drive belts too tight.

5.4.4 **Symptom:** Grinding noise

- Belt slipping either in forward or reverse direction.

5.4.5 **Symptom:** Card damage

- Incorrect roller adjustment for card.
- Incorrect roller configuration for card type.
- Worn or contaminated clutch roller.
- Cartridge too full for card type.

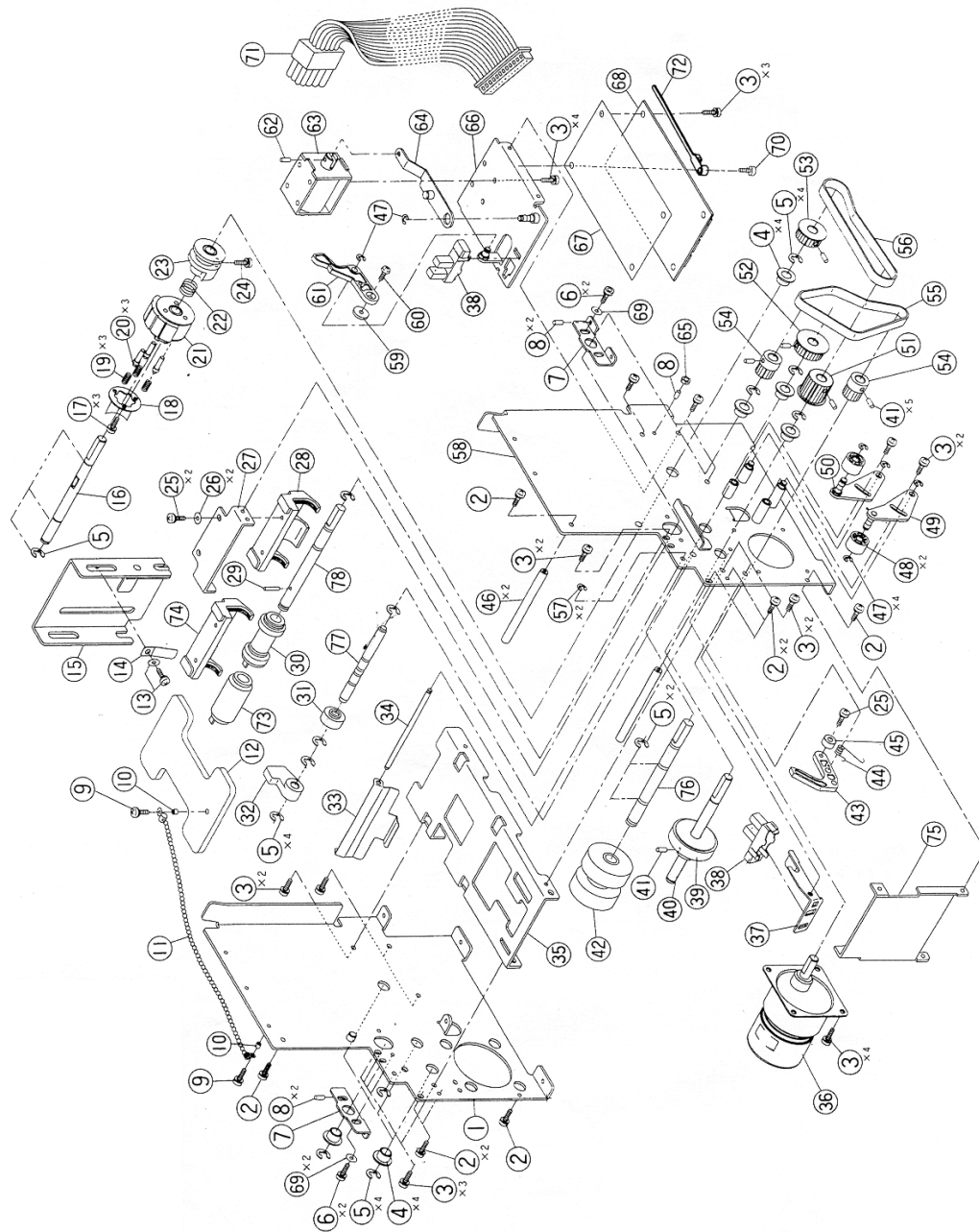
5.4.6 **Symptom:** Multiple card payout

- Incorrect roller adjustment for card type.
- Clutch roller failing to disengage due to solenoid or sensor problem.

6. PARTS LISTINGS AND EXPLODED DIAGRAMS

6.1 CD-200

6.1.1 Parts Assembly



6.1.2 CD-200 Parts List

The following is a list of parts with their descriptions. These correspond to the CD-200 assembly drawing and have been provided to assist with spares ordering.

NOTE: (*) Item not stocked.

ITEM	QTY	DESCRIPTION / SPEC	PART ref.
1	1	Side Plate (L) Assembly	*
2	8	Screw M2x6	80S-WS00-0-48
3	26	Screw M3x5	80S-WS00-0-04
4	10	Flange Bush	CMA-3120
5	16	#4 E Ring	80R-ER00-0-07
6	4	Socket Head Screw M3x5	80B-CB00-0-01
7	2	Adjusting Plate	CMA-3065
8	5	Set Screw M3x6	80S-ST00-0-11
9	2	Screw M3x6	80S-WS00-0-05
10	2	Collar 3x4x2.5	80C-C200-0-04
11	1	Chain Assembly	CMA-6008
12	1	Weight	CMA-2030-0-20
13	1	Screw/FW M3x3	80S-RH00-0-35
14	1	Lock Plate Spring	*
15	1	Stopper Plate	*
16	1	Clutch Shaft	CMA-3023
17	3	Screw M2.6x4	80S-WS00-0-01
18	1	Spring Plate	CMA-3026
19	3	Clutch Spring	CMA-3036
20	3	Clutch Pin	CMA-3025
21	1	Clutch Roller	CMA-3024-A-91
22	1	Return Spring	CMA-3037
23	1	Driving Cam	CMA-3028
24	1	Driving Pin	CMA-3029
25	3	Screw M3x8	80S-RS00-0-09
26	2	Washer 3x8x0.8	80S-FW00-0-37
27	1	Guide Bracket	CMA-3044
28	1	Guide (For use with CMA-2004)	CMA-3045
29	1	Spring Pin 1.5x10	80P-SP00-0-03
30	1	Counter Turner Roller	CMA-2004
31	1	Discharge Idler Roller	CMA-2016
32	1	Discharge Idler Guide	CMA-3062
33	1	Shutter	CMA-3005
34	1	Shutter Pin	CMA-3063
35	1	Base Plate	CMC-3003
36*	1	Geared Motor (24volt)	ZAA-4005
36*	1	Geared Motor (12volt)	ZAA-4054
37	1	Sensor Bracket	CMA-3058
38	2	Photo (Opto) Sensor	CMA-6009
39	1	Discharge Roller	CMA-2015
40	1	Discharge Roller Shaft	CMA-3017

ITEM	QTY	DESCRIPTION / SPEC	PART Ref.
41	6	Set Screw M3x4	80S-ST00-0-09
42	1	Feeder Roller	CMA-2011
43	1	Shut-off Lever	CMA-3039
44	1	Sensor Spring	CMA-3061
45	1	Shut-off Lever Weight	*
46	2	Support Bar	CMA-3008
47	2	#2.5 E Ring	80R-ER00-0-04
48	2	Tension Roller	CMA-3076
49	1	Tension Lever (Left)	*
50	1	Tension Lever (Right)	*
51	1	MXL Gear Pulley (Z=26) (E)	CMA-3071
52	1	MXL Gear Pulley (Z=30) (G)	CMA-3073
53	1	MXL Gear Pulley (Z=26) (F)	CMA-3072
54	2	MXL Gear Pulley (Z=18) (C)	CMA-3051
55	1	MXL Gear Belt (Z=87)	CMA-6006
56	1	MXL Gear Belt (Z=95)	CMA-6007
57	2	#2 E Ring	80R-ER00-0-03
58	1	Side Plate (R) Assembly	*
59	1	Sensor Lever Weight	*
60	1	Counter Sunk Screw M3x5	80S-CS00-0-15
61	1	Empty Sensor Lever	CMA-3068
62	1	Roll Pin 2.5x8	80P-SP00-0-07
63	1	DC Solenoid 12V	CMA-6002-0-10
63	1	DC Solenoid 24V	310-185A
64	1	Clutch Lever Assembly	CMA-2005
65	1	Nut M3	80N-HN00-0-09
66	1	Solenoid Bracket	CMA-2006
67	1	Control Board Insulator	CMA-3059
68	1	Control PC Board (9603 Dual voltage)	CMA-8011
69	3	Washer 3x6x0.5	80W-FW00-0-24
70	1	Screw M3 x 10	80S-WS00-0-07
71	1	Wiring Connector Assembly	ECM-8003
72	1	Restraining Strap	178-462
73	1	Counter Turner Roller (For cardboard cards)	CMA-2026
74	1	Card Guide (for use with CMA-2026)	CMA-3085
75	1	Security Plate	CMA-3040
76	1	Feeder Roller Shaft	CMA-3020
77	1	Discharge Idler Roller Shaft	CMA-3012
78	1	Counter Turner Roller Shaft	CMA-3013

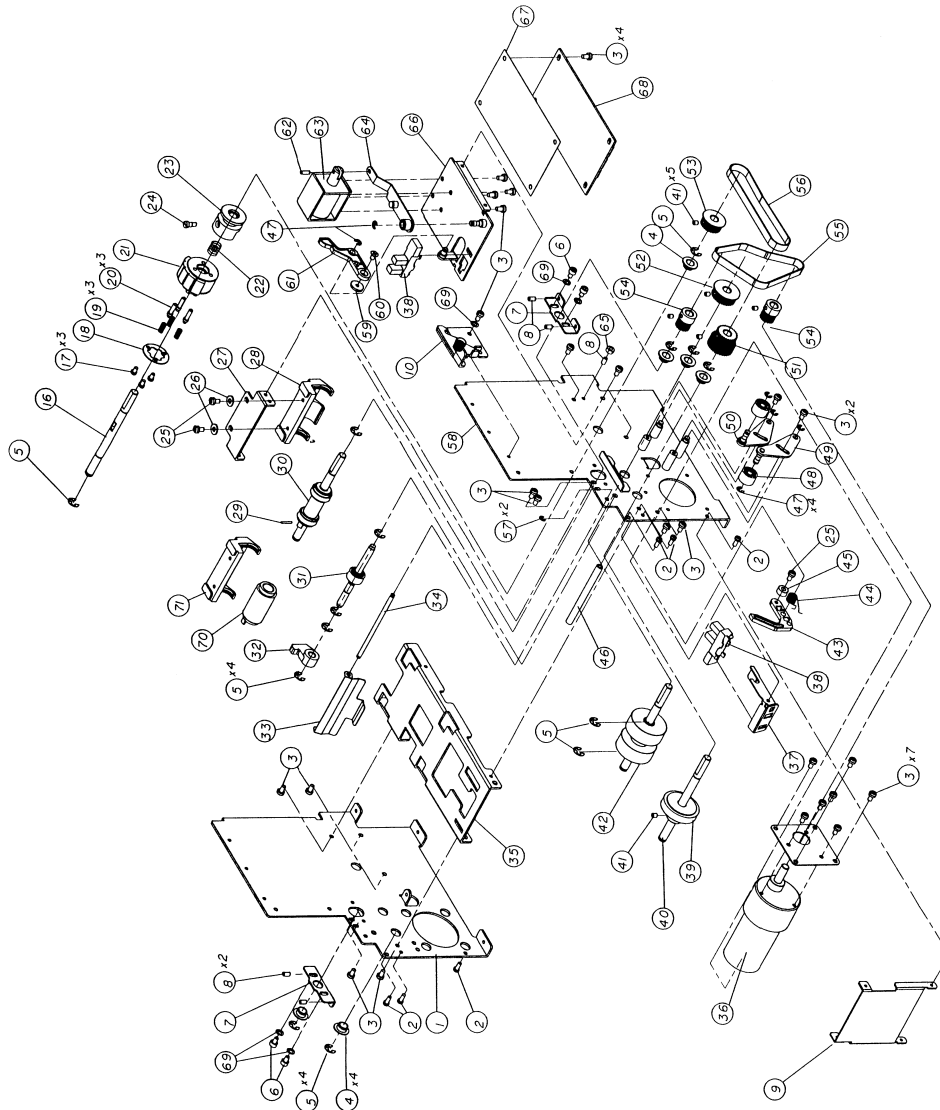
Ordering

Some spare parts are available as individual part numbers or as assemblies. Listed below are the assemblies available and their component parts.

Clutch Roller Assembly including roller shaft but without driving cam	Items 16 – 21	CMA-3024-A-92
Clutch Roller Assembly including roller shaft and driving cam	Items 16 – 24	CMA-2023

6.2 CD-1000

6.2.1 Parts Assembly



6.2.2 CD-1000 Parts List

The following is a list of parts with their descriptions. These correspond to the CD-1000 assembly drawing and have been provided to assist with spares ordering.

NOTE: (*) Item not stocked.

ITEM	QTY	DESCRIPTION / SPEC	PART Ref.
1	1	Side Plate (L) Assembly	*
2	6	Screw M2x6	80S-WS00-0-48
3	26	Screw M3x5	80S-WS00-0-04
4	10	Flange Bushing	CMA-3120
5	16	#4 E Ring	80R-ER00-0-07
6	4	Socket Head Screw M3x5	80B-CB00-0-01
7	2	Adjusting Plate	CMA-3065
8	5	Set Screw M3x6	80S-ST00-0-011
9	1	Security Plate	CMA-3040
10	1	Latch	CMC-2005
16	1	Clutch Shaft	CMA-3023
17	3	Screw M2.6x4	80S-WS00-0-01
18	1	Spring Plate	CMA-3026
19	3	Clutch Spring	CMA-3036
20	3	Clutch Pin	CMA-3025
21	1	Clutch Roller	CMA-3024-A-91
22	1	Return Spring	CMA-3037
23	1	Driving Cam	CMA-3028
24	1	Driving Pin	CMA-3029
25	3	Screw M3x8	80S-RS00-0-09
26	2	Washer 3x8x0.8	80W-FW00-0-37
27	1	Guide Bracket	CMA-3044
28	1	Guide (For use with CMA-2004)	CMA-3045
29	1	Spring Pin 1.5x10	80P-SP00-0-03
30	1	Counter Turning Roller	CMA-2004
31	1	Discharge Idler Roller	CMA-2016
31a	1	Discharge Idler Roller Shaft	CMA-3012
32	1	Discharge Idler Guide	CMA-3062
33	1	Shutter	CMA-3005
34	1	Shutter Pin	CMA-3063
35	1	Base Plate	CMC-3003
36*	1	Geared Motor (24V)	ZAA-4005
36*	1	Geared Motor (12V)	ZAA-4054
37	1	Sensor Bracket	CMA-3058
38	2	Photo (Opto) Sensor	CMA-6009
39	1	Discharge Roller	CMA-2015
40	1	Discharge Roller Shaft	CMA-3017
41	6	Set Screw M3x4	80S-ST00-0-09
42	1	Feeder Roller Assy including bush	CMA-2011-0
42	1	Feeder Roller Shaft	CMA-3020
43	1	Shut-off Lever	CMA-3039
44	1	Sensor Spring	CMA-3061
45	1	Shut-off Lever Weight	*
46	1	Support Bar	CMA-3008
47	2	#2.5 E Ring	80R-ER00-0-04
48	2	Tension Roller	CMA-3076
49	1	Tension Lever (Left)	*
50	1	Tension Lever (Right)	*

ITEM	QTY	DESCRIPTION / SPEC	PART Ref.
51	1	MXL Gear Pulley (Z=26/Z=32)	CMB-3007
52	1	MXL Gear Pulley (Z=30) (G)	CMA-3073
53	1	MXL Gear Pulley (Z=26) (F)	CMA-3072
54	2	MXL Gear Pulley (Z=18) (C)	CMA-3051
55	1	MXL Gear Belt (Z=88)	CMC-6001
56	1	MXL Gear Belt (Z=95)	CMA-6007
57	2	#2 E Ring	80R-ER00-0-03
58	1	Side Plate (R) Assembly	*
59	1	Sensor Lever Weight	*
60	1	Counter Sunk Screw M3x5	80S-CS00-0-15
61	1	Empty Sensor Lever	CMA-3068
62	1	Roll Pin 2.5x8	80P-SP00-0-07
63	1	DC Solenoid 12V	CMA-6002-0-10
63	1	DC Solenoid 24V	310-185A
64	1	Clutch Lever Assembly	CMA-2005
65	1	Nut M3	80N-HN00-0-09
66	1	Solenoid Bracket	CMA-2006
67	1	Control Board Insulator	CMA-3059
68	1	Control PC Board (9603 Dual voltage)	CMA-8014
69	5	Washer 3x6x0.5	80W-FW00-0-24
70	1	Counter Turning Roller	CMA-2026
71	1	Guide (For use with CMA-2026)	CMA-3085
	1	Wiring Connector Assembly	ECM-8003
	1	Screw M3x10	80S-WS00-0-07

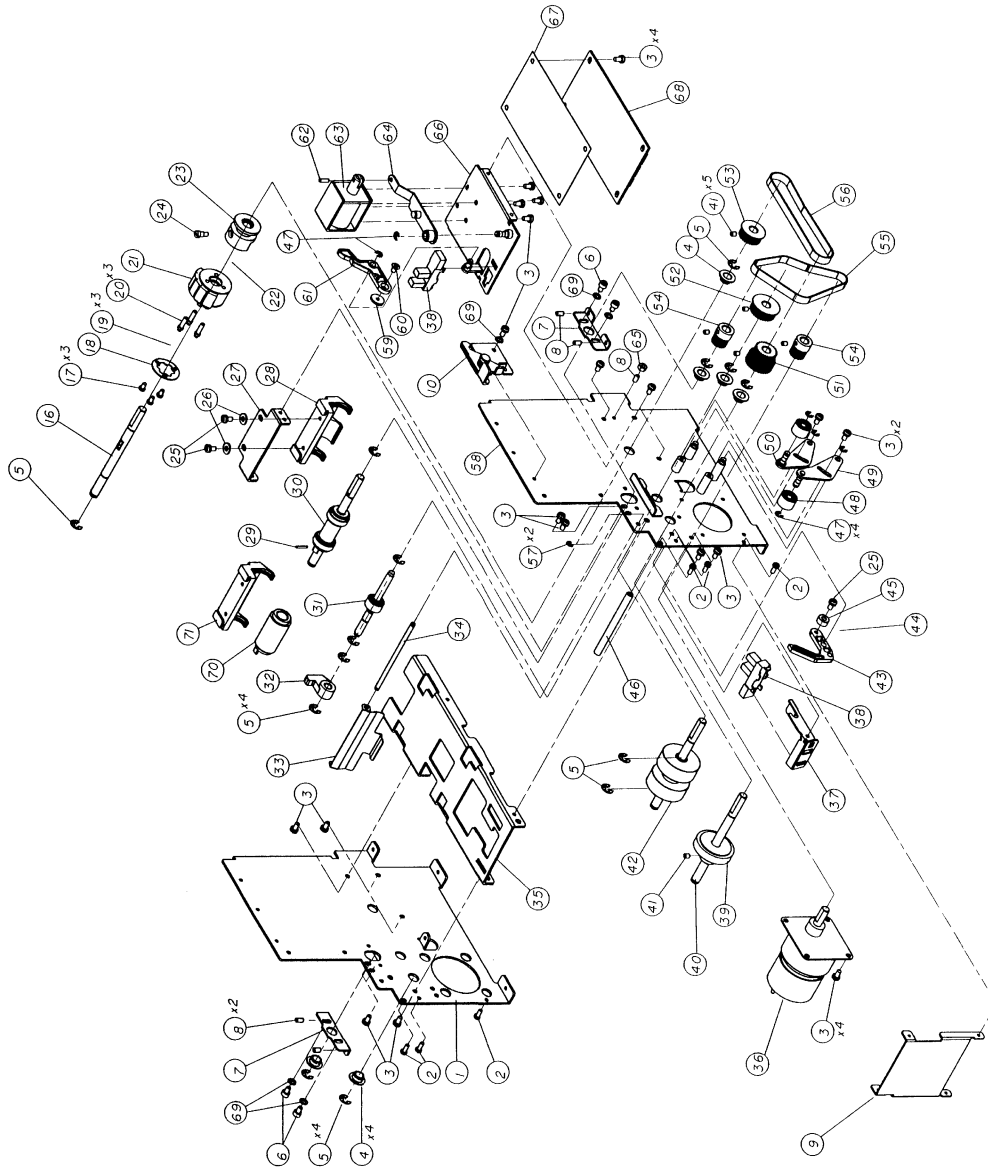
Ordering

Some spare parts are available as individual part numbers or as assemblies. Listed below are the assemblies available and their component parts.

Clutch Roller Assembly including roller shaft but without driving cam	Items 16 – 21	CMA-3024-A-92
Clutch Roller Assembly including roller shaft and driving cam	Items 16 – 24	CMA-2023

6.3 CD-1100

6.3.1 Parts Assembly



6.3.2 CD-1100 Parts list

The following is a list of parts with their descriptions. These correspond to the CD-1100 assembly drawing and have been provided to assist with spares ordering.

NOTE: (*) Item not stocked.

ITEM	QTY	DESCRIPTION / SPEC	PART Ref.
1	1	Side Plate (L) Assembly	*
2	6	Screw M2x6	80S-WS00-0-48
3	26	Screw M3x5	80S-WS00-0-04
4	10	Flange Bushing	CMA-3120
5	16	#4 E Ring	80R-ER00-0-07
6	4	Socket Head Screw M3x5	80B-CB00-0-01
7	2	Adjusting Plate	CMA-3065
8	5	Set Screw M3x6	80S-ST00-0-11
9	1	Security Plate	CMA-3040
10	1	Latch	CMC-2005
16	1	Clutch Shaft	CMA-3023
17	3	Screw M2.6x4	80S-WS00-0-01
18	1	Spring Plate	CMA-3026
19	3	Clutch Spring	CMA-3036
20	3	Clutch Pin	CMA-3025
21	1	Clutch Roller	CMA-3024-A-91
22	1	Return Spring	CMA-3037
23	1	Driving Cam	CMA-3028
24	1	Driving Pin	CMA-3029
25	3	Screw M3x8	80S-RS00-0-09
26	2	Washer 3x8x0.8	80W-FW00-0-37
27	1	Guide Bracket	CMA-3044
28	1	Guide (For use with CMA-2004)	CMA-3045
29	1	Spring Pin 1.5x10	80P-SP00-0-03
30	1	Counter Turning Roller	CMA-2004
31	1	Discharge Idler Roller	CMA-2016
31A	1	Discharge Idler Roller Shaft	CMA-3012
32	1	Discharge Idler Guide	CMA-3062
33	1	Shutter	CMA-3005
34	1	Shutter Pin	CMA-3063
35	1	Base Plate	CMC-3003
36*	1	Geared Motor 24V	ZAA-4005
36*	1	Geared Motor 12V	ZAA-4054
37	1	Sensor Bracket	CMA-3058
38	2	Photo (Opto) Sensor	CMA-6009
39	1	Discharge Roller	CMA-2015
40	1	Discharge Roller Shaft	CMA-3017
41	6	Set Screw M3x4	80S-ST00-0-09
42	1	Feeder Roller Assy including Bush	CMA-2011
42	1	Feeder Roller Shaft	CMA-3020
43	1	Shut-off Lever	CMA-3039
44	1	Sensor Spring	CMA-3061
45	1	Shut-off Lever Weight	*
46	1	Support Bar	CMA-3008
47	2	#2.5 E Ring	80R-ER00-0-04
48	2	Tension Roller	CMA-3076
49	1	Tension Lever (Left)	*
50	1	Tension Lever (Right)	*

ITEM	QTY	DESCRIPTION / SPEC	PART Ref.
51	1	MXL Gear Pulley (Z=26/Z=32)	CMB-3007
52	1	MXL Gear Pulley (Z=30) (G)	CMA-3073
53	1	MXL Gear Pulley (Z=26) (F)	CMA-3072
54	2	MXL Gear Pulley (Z=18) (C)	CMA-3051
55	1	MXL Gear Belt (Z=88)	CMC-6001
56	1	MXL Gear Belt (Z=95)	CMC-6007
57	2	#2 E Ring	80R-ER00-0-03
58	1	Side Plate (R) Assembly	*
59	1	Sensor Lever Weight	*
60	1	Counter Sunk Screw M3x5	80S-CS00-0-15
61	1	Empty Sensor Lever	CMA-3068
62	1	Roll Pin 2.5x8	80P-SP00-0-07
63	1	DC Solenoid 12V	CMA-6002-0-10
63	1	DC Solenoid 24V	310-185A
64	1	Clutch Lever Assembly	CMA-2005
65	1	Nut M3	80N-HN00-0-09
66	1	Solenoid Bracket	CMA-2006
67	1	Control Board Insulator	CMA-3059
68	1	Control PC Board (9603 Dual voltage)	CMA-8014
69	5	Washer 3x6x0.5	80W-FW00-0-24
70	1	Counter Turning Roller	CMA-2026
71	1	Guide (For use with CMA-2026)	CMA-3085
	1	Wiring Connector Assembly	ECM-8003
	1	Screw M3x10	80S-WS00-0-07

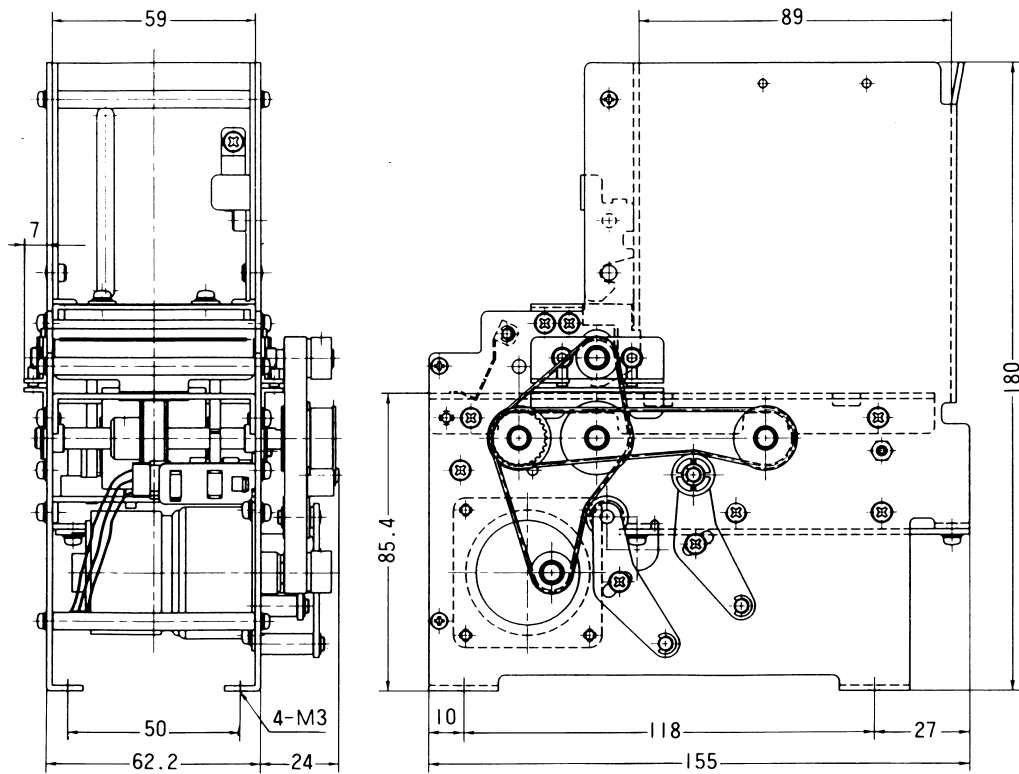
Ordering

Some spare parts are available as individual part numbers or as assemblies. Listed below are the assemblies available and their component parts.

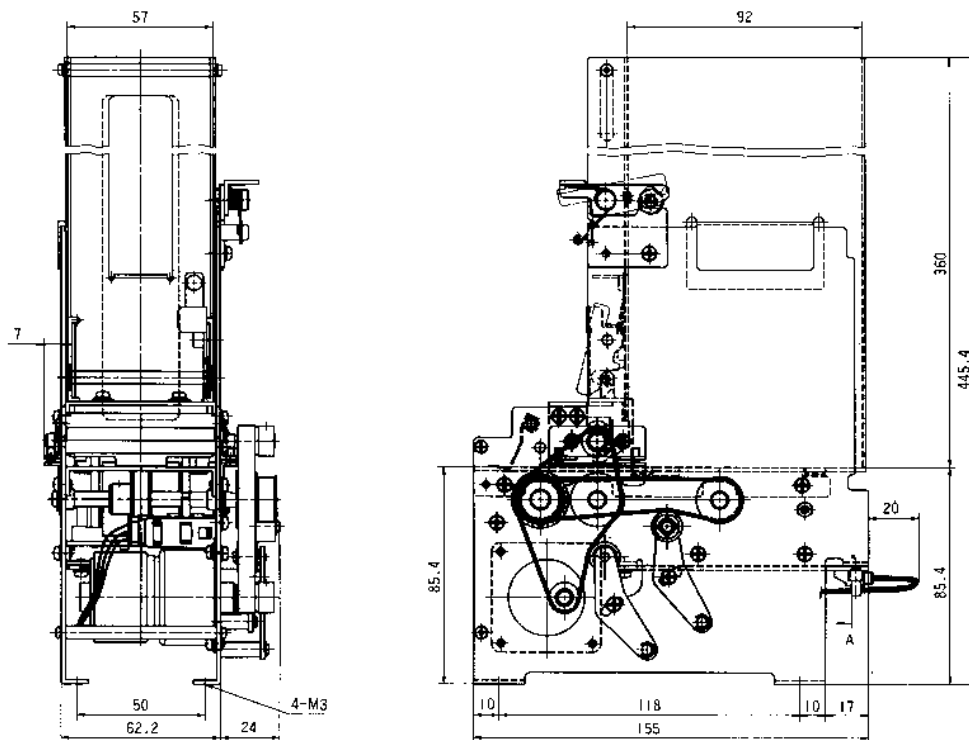
Clutch Roller Assembly including roller shaft but without driving cam	Items 16 – 21	CMA-3024-A-92
Clutch Roller Assembly including roller shaft and driving cam	Items 16 – 24	CMA-2023

7. DIMENSIONAL DRAWINGS

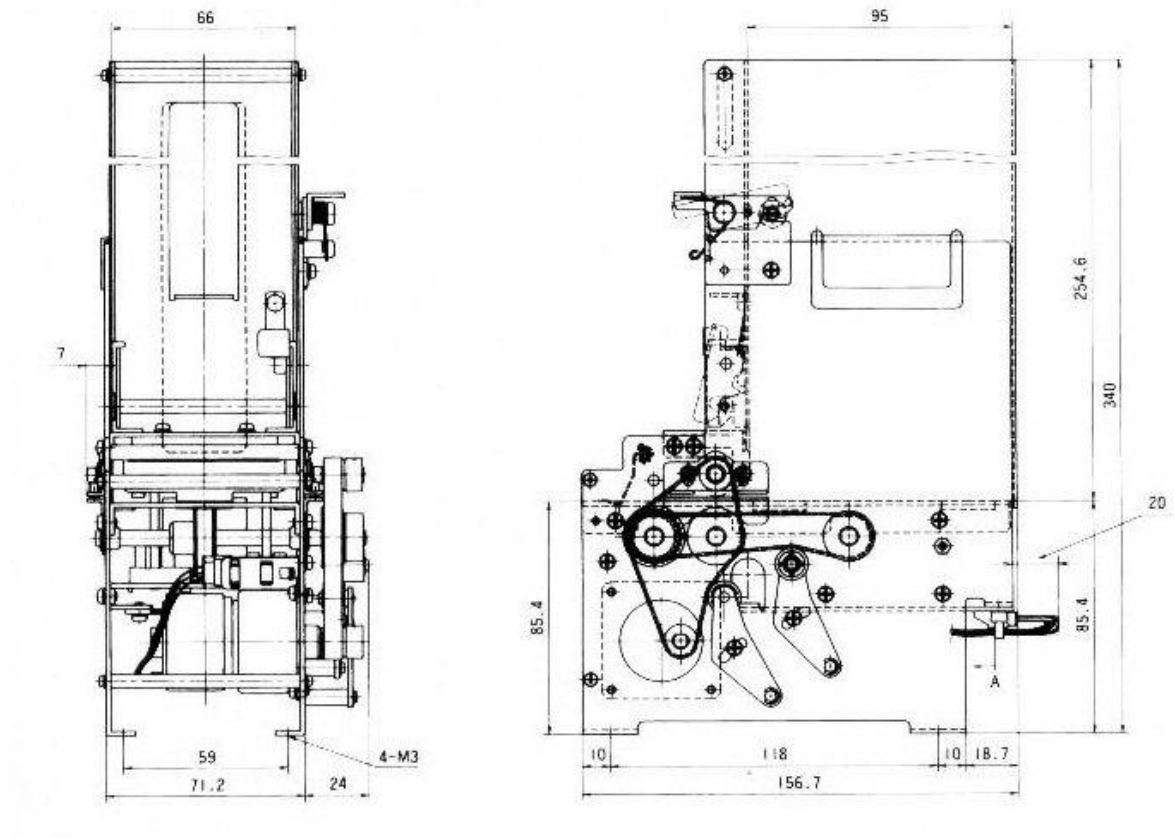
7.1 CD-200



7.2 CD-1000



7.3 CD-1300



8. DOCUMENT CONTROL

Date	Issue No.	Reason for Revision	Page No.
1/2/98	CD-A-0298	-	
15/2/98	CD-B-0298	Additional information to item 3.7 – Timing Sequence Chart - Circuit Board 9603	16-18
1/5/98	CD-C-0598	Revision of Section 6.0 – Exploded Diagrams and Parts Lists	29-37
1/7/98	CD-D-0798	Additional explanation to Item 3.4 – Connector Pin Functions	12
1/6/99	CD-E-0699	Revisions to items 3.6 and 2.7 – Timing Sequence Charts for Circuit Boards Also other minor changes throughout	13-17
31/09/03	CD-F-0903	General revision	Inc
14/03/06	CD-G-0306	General revision	All
27/11/09	CD-G-1109	Figure 5.5 revised & wording 5.3.8	23 & 24