



Smash 'n' Grab

(SAG 1.0, set 1)

MANUAL

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Safety Instructions

Product Safety

Every effort has been made to ensure this product has been designed with safety in mind.

Components used within this product are used within the manufacturers stated specification limits. Under no circumstances should replacement parts other than those specified or supplied by the manufacturer be used within this machine.

Electrical Safety

All machines leaving the manufacturer are subject to electrical safety tests. These tests consist of earth-bond and insulation tests. These tests should be carried out on a regular basis, or when a critical part is replaced.

Only suitably qualified or adequately instructed person should carry out work on the internal parts of this machine.

Electrical supply.

This machine must not be used unless it is correctly earthed and should be connected to a mains supply of 220v/240v.

Introduction

Smash 'N' Grab is designed to fit the list of Barcrest based machines on the front page.

The machine incorporates an alphanumerical display and also boasts the use of sample sound.

On receipt of your kit please check the contents against the following list, and notify our **Spares department** immediately of any shortages on: - 01222 377402

Part list

P a r t	P a r t n u m b e r
Top glass	AT 1003
Reel glass	AL 1003
Reel band 1	AR 1011
Reel band 2	AR 1012
Reel band 3	AR 1013
Reel band 4	AR 1014
Button legends x11	AB 1003
£ 10 top jackpot decal	AD 1042
£ 8 top jackpot decal	AD 1043
£ 5 + repeat chance top jackpot decal	AD 1077
Variable gamble ladder decal	AD 1045
5p/10p reel glass awards decal	AD 1046
20/25p reel glass awards decal	AD 1047
£ 5 disclaimer decal	AD 1078
£ 8 token disclaimer decal	AD 1049
£ 8 cash disclaimer decal	AD 1050
£ 10 disclaimer decal	AD 1051
Variable price of play decal	AD 1052
Top glass vacuum form loomed	
Reel glass vacuum form loomed	
Sound EPROMS x2	
Game EPROM x1	
Token bezel blanking plate	

Conversion instructions

Prior to commencement ensure that the machine to be converted is in good working order.

Slide the payout shelf back to allow easier access to the interior of the machine.

Disconnect and remove the mars mech.

Disconnect and remove the reel unit.

Disconnect the lamp looms attached to the lamp interface board.

Disconnect and remove the percentage key PCB. Do NOT cut the wires, as the existing machine loom will be used to connect the top glass feature switches.

Remove the button switches from the button housings.

Remove the alphanumeric display using either a posi driver or a 7mm (3BA) nut-spinner.

Remove the securing screws fixing the glass frames from the machine.

Inside the machine, below the button panel are five studs securing the framework to the button panel. Remove these, which will then allow the removal of the glass housings (frames) from the machine.

Place the glass housings onto a flat surface and remove the glasses, retain all fixings to use again, discard the glasses.

Before replacing the new glass into the framework affix the vacuum forming to the glass ensuring that it is aligned correctly. Also insert designated award decal.

Replace glasses into the frame and secure back into the machine the same way they came out.

Remove the lens caps from the buttons and discard the existing button legends.

Replace with legends provided. See the layout diagram below. (Viewed from the front of the machine)

CANCEL	HOLD	HOLD	HOLD	HI	LO	EXCHANGE	START
COLLECT	NUDGE	NUDGE	NUDGE				

Reconnect button switches to the button housings and reconnect the top glass lamp looms to the lamp interface board.

Connect the reel glass lamp loom to the auxiliary lamp board.

Insert the three triangular button legends provided into the triangular buttons and insert into the top glass. See layout diagram below (viewed from the front of the machine).



Conversion instructions continued.

Connect the loose wiring on the top vacuum form to the switches provided. The orange wires are the common and are fitted to the common terminal located at the base of the switches. The red wire is connected to the normally open terminal of the TAKE FEATURE switch. The pink wire is connected to the normally open terminal of the TAKE NUDGES switch. The white wire is connected to the normally open terminal of the TAKE CASH switch.

The blue and green wires are then connected to the lamp terminals of each switch.

The trailing six-way plug is then connected to the existing percentage key loom.

Alpha numerical display

The fixing plate attached to the alpha casing needs to be placed on the bottom of the housing (this may already be the case in certain machines.) Affix the plate back onto the alpha and affix into the machine with the securing bolts on the central extrusion.

Routing plug information

This machine uses an 18 way routing plug. The pins are defined with the notch of the routing plug facing downward and the wire links facing you.

To achieve the correct routing, link pins: -

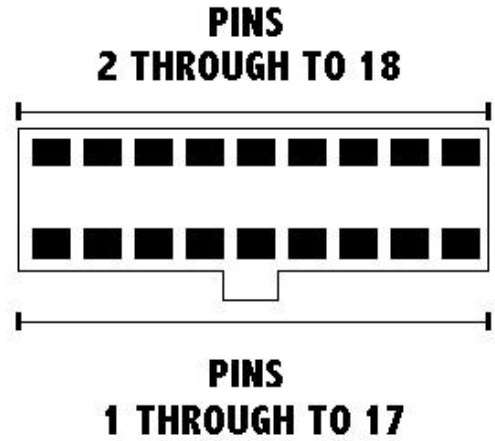
1 + 2

4 + 6

8 + 15

7 + 18

12 + 13



Award structure

Reel glass decals

5/10p all jackpots

Top jackpot
£4
£2
£1
80p
60p
40p

20/25p all jackpots*

Top jackpot
£4
£3
£2
£1.60
£1.20
£1

Top glass award structure

The variable gamble ladder is shown below. In its entirety the gamble ladder has twelve positions, to achieve the correct awards the gamble ladder can scroll up and down. See the diagram below for correct awards.

Entire ladder

£8/£5

£8

£5

£10or15

£10or£15

5/10p

20p

20p

5/10p

20/25p

£8
£6
£5
£4
£3
£2
£1.60
£1.20
£1
80p
60p

£4	£8	£4	£4	£8
£3	£6	£3	£3	£6
£2	£5	£2	£2	£5
£1.60	£4	£1.60	£1.60	£4
£1.20	£3	£1.20	£1.20	£3
£1	£2	£1	£1	£2
80p	£1.60	80p	80p	£1.60
60p	£1.20	60p	60p	£1.20
40p	£1	40p	40p	£1

D i l s w i t c h s e t t i n g s

The following outcomes occur when the switch is set in the 'ON' position

Switch bank 1

SWITCH	FUNCTION
1	Ram clear
2	Coin alarm inhibit
3	Direct payout
4	Priority payout to 20p
5	Lock up if tubes low
6	Reel motor selection (See below)
7	Zero credit animation off
8	Single coin play

Switch bank 2

SWITCH	FUNCTION
1	Price of play (see next page)
2	Price of play (see next page)
3	Jackpot selection OFF=£8, ON=£5
4	High token ratio \Rightarrow
5	Payout percentage selection (see next page)
6	Payout percentage selection (see next page)
7	Payout percentage selection (see next page)
8	Payout percentage selection (see next page)

£ 8 T EPROM ONLY

***** N O T E *****

Switch 6 on switch bank 1 controls motor selection. When the switch is in the OFF position the Barcrest, Minebea, Crouzet motors are selected. When the switch is in the ON position the Saia, Airpax motors can be used. Once this switch is in the desired position the RAM has to be reset via DIL switch 1 on bank 1.

Although the £ 8 token EPROM can be switched to £ 5 cash, in token mode of play all wins over £ 4 are still paid in tokens.

Price of play table

£8 / £5 Version

Switch 1	Switch 2	Outcome
Off	Off	5p Play
On	Off	10p Play
Off	On	20p Play

£10/£15 All cash Version

Switch 1	Switch 2	Outcome
Off	Off	5P Play
On	Off	10p Play
Off	On	20p Play
On	On	25p Play

Percentage payout table

Switch 5	Switch 6	Switch 7	Switch 8	%
OFF	OFF	OFF	OFF	70
ON	OFF	OFF	OFF	72
OFF	ON	OFF	OFF	74
ON	ON	OFF	OFF	76
OFF	OFF	ON	OFF	78
ON	OFF	ON	OFF	80
OFF	ON	ON	OFF	82
ON	ON	ON	OFF	84
OFF	OFF	OFF	ON	86
ON	OFF	OFF	ON	88
OFF	ON	OFF	ON	90
ON	ON	OFF	ON	92
OFF	OFF	ON	ON	94
ON	OFF	ON	ON	96

OFF	ON	ON	ON	98
ON	ON	ON	ON	99

Inputs & outputs

Triac drives (Male MTA white 11-way)

Pin No.	Function
1	48v AC
2	0V
3	20p solenoid
4	£1 solenoid
5	Token solenoid A
6	Token solenoid B
7	Key
8	Not used
9	Lockout
10	Cash refill meter (if connected)
11	Token refill

Misc. (Male MTA blue 11-way)

Pin No.	Function
1	48v AC
2	0V
3	Audio output
4	0V
5	0V
6	0V
7	+12v DC
8	Key
9	-12v DC
10	+34v DC

11	Aerial
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Switch Inputs

Male MTA 19-way Orange

Male MTA 19-way Black

Pin No	Function	Pin No	Function
1	20p level	1	Not used
2	£ 1 level	2	Not used
3	Token level A	3	Not used
4	Token level B	4	Not used
5	Not used	5	Not used
6	Not used	6	Test switch
7	Not used	7	Refill key switch
8	Not used	8	Door switches
9	Not used	9	Cancel
10	Not used	10	Hold-Nudge
11	Not used	11	Hold-Nudge
12	Not used	12	Hold-Nudge
13	% key pin 4	13	HI
14	Key	14	LO
15	% key pin 3	15	Collect
16	% key pin 2	16	Key
17	% Key pin 1	17	Start
18	Enable pins 1-8	18	Enable Pins 1-8
19	Enable pins 9-17	19	Enable pins 9-17

Feature switches

6 way % key connector pins	Switches
1	Take feature
2	Take nudge
3	Take cash
4	Not used
5	Key Way
6	Common

General information

Float levels.

The float level is approximately £100 cash and £70 Tokens.

The £1 tube holds £70 with the level sensor positioned at £16.

The 20p tube holds £30 with the level sensor positioned at £4.40 (22 coins).

The 20p small token tube holds £30 with the level sensor positioned at £5 (25 coins).

The 20p large token tube holds £40 with the level sensor positioned at £9 (45 coins).

Test procedure

To enter test, open the back door and press the test switch twice. Alternatively if you wish to enter 'DEMO' mode, open the back door and press the test button once.

The test numbers are shown on the Alpha display. These can be increased or decreased via the Hold-Nudge buttons.

Hold-Nudge 3 **INCREASES** test number

Hold-Nudge 1 **DECREASES** test number

Once the designated test has been reached it can then be activated via the Start button.

<u>Test No</u>	<u>Test Procedure</u>
1	Lamp Test
2	Meter Test
3	Switch Test
4	Reel Test
5	Coin Test
6	Percentage Test

7 RS232 Test

8 Alpha Test

9 Payout Test

10 Alarm Log

11 Sound Test

Test 1 - Lamp test

On pressing the **START** button, the lights on the button panel and coin mech's will illuminate.

On pressing the **Exchange** button the lamps will single step, and display the lamp number on the Alpha display.

On pressing the **HOLD-NUDGE 3** it will allow to stop and start on any lamp at any one time. To bring all the lamps on again press the **Exchange** button, the lamps will light in the following order.

Smash 'N' Grab lamp test -

Group 1 - Button panel left to right
Token acceptor, Cash acceptor

Group 2 - Reels

Group 3 - Reel glass

Group 4 - Top glass

CANCEL TO EXIT

Test 2 - Meter test

On pressing the **START** button, each meter will pulse five times, in the following order: -

Cash in	Cash out	Token in	Token out	Token refill
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All the meters operate in 10p units.

Once pulsed the machine will automatically advance to test 3.

Test 3 - Switch test

Press **START** to activate.

On the press of each button, its corresponding lamp will light and a tone will sound.

When the level sensors are in the open (tube empty) position the corresponding light will illuminate.

20p level sensor	illuminates	Choose your loot
£1 level sensor	illuminates	Grab the swag
Front token level sensor	illuminates	Skill cash multiplier
Rear token level sensor	illuminates	Stash your cash

The **DIL** switches on the MPU will light as follows

Bank 1 - Switch 1 to 8 illuminates 1 Nudge note to 8 Nudges note
Bank 2 - Switch 1 to 8 illuminates the cash bags lower position to higher position.

Switch 1 Bank 1 is Ram Clear. **DO NOT OPERATE**

TO EXIT THIS TEST PRESS 'START' AND 'COLLECT' SIMULTANEOUSLY

Test 4 - Reel test

On pressing the '**START**' button, the reels will spin and bring the jackpot symbols to the win line. The appropriate win value will be displayed on the alphanumeric display.

The reels can be stepped down via the **HOLD-NUDGE** buttons or can be stepped up if the **LO** button is held down. Pressing the **Exchange** button can then pay out these wins.

The fourth reel will spin to show 12 in the window.

CANCEL TO EXIT

Test 5 - Coin test

Press **Start** to activate test. This will allow coins to be accepted.

Press **Exchange** to lock out coins.

Each coin will show its value on the Alpha Display.

To pay coins out, advance to test 9.

CANCEL TO EXIT

Test 6 - Percentage test

On pressing the **START** button the aiming percentage and the actual percentage will be displayed on the alpha. These will continue to scroll until such time the **START** button is depressed.

Test 7 - RS232 test

If the RS232 Data Port is not present the Alpha will display **FAIL**

THIS TEST WILL AUTOMATICALLY ADVANCE TO TEST 8

Test 8 - Alpha numerical display test

On pressing the **START** button each segment will light from left to right.

THIS TEST WILL AUTOMATICALLY ADVANCE TO TEST 9

Test 9 - Payout test

Press **START** to activate.

On pressing the lit buttons the relevant solenoid will pulse. To continually pulse keep the buttons depressed. When the solenoid is active the respective information is displayed on the alphanumerical display.

Hold-Nudge 1 - 20p Coin

Hold-Nudge 2 - £1 Coin

Hold-Nudge 3 - Token 2

Collect - Token 1

CANCEL TO EXIT

Test 10 - Alarm log

On pressing the **START** button the alarm log number will be shown on the left-hand side of the display, the alarm number on the right.

On pressing **HOLD-NUDGE 3** you can advance the log number

On pressing **HOLD-NUDGE 1** you can decrease the log number.

On pressing the **EXCHANGE** button you can clear the Alarm Log.

CANCEL TO EXIT

Alarm codes

Code	Fault	Causes (in order of probability)
0.1	Checksum failure	Faulty battery, change of program, M.P.U
0.2	Mode change	Price of play change
0.3	Manual Ram clear	D.I.L switch 1 bank 1 operated
1.1	£ 1 coin input	Coin jam. Coin mech., coin loom,
1.2	50p coin input	As above
1.3	20p coin input	As above
1.4	10p coin input	As above
1.5	20p token input	As above
1.9	Anti strim alarm	Coin mech., coin loom, M.P.U
2.1	Reel 1 fault	Jammed, opto, loom, motor, backboard, M.P.U
2.2	Reel 2 fault	As above
2.3	Reel 3 fault	As above
2.4	Reel 4 fault	As above
7.1	E.D.C failure	Datport unit not fitted, M.P.U, no -12v
9.1	Incorrect setting	Switch settings not valid, incorrect P.O.P./J/pot

CANCEL TO EXIT

Test 11 - Sound test

On pressing the **START** button the sample number will be listed on the alphanumerical display.

To activate the sample press **START**.

To increase use **HOLD-NUDGE 3**, to decrease use **HOLD-NUDGE 1**. On pressing the exchange button the machine will automatically play each tune.

This is not a volume test. The volume is adjusted via the variable resistor on the programme/sound module.