

**Preliminary:** With power on, slide self-test switch towards rear of cabinet or on (see illustration). This switch is located on a metal bracket just inside the coin door. Game advances through all tests automatically, except when it fails in Test 1 or 2. In such a case, it will stop wherever it finds a failure. Lunar Lander will not be able to finish the self-test procedure until the defective RAM(s) is replaced.

# LUNAR LANDER™

## SELF-TEST PROCEDURE

### IMPORTANT NOTE TO OPERATORS:

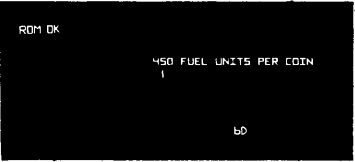
If the operation, maintenance and service manual was not included in this game when you unpacked it, contact your distributor to get a copy. (All Atari and Kee Games manuals for coin-operated games also include a complete illustrated parts catalog.)

### Identification of Faulty ROM Chips

Display During Self-Test	-01 P.C. Boards (PROMs)	Alternate -01 P.C. Boards (PROMs)	-02 P.C. Boards (ROMs)
1		035176-01 <b>K4</b>	034599-01 <b>R3</b>
3		035177-01 <b>L4</b>	
0		035174-01 <b>K4</b>	
2		035175-01 <b>L4</b>	034598-01 <b>N/P3</b>
9		034600-01 <sup>1</sup> <b>K4</b>	034597-01 <sup>1</sup> <b>M3</b>
11		034601-01 <sup>1</sup> <b>L4</b>	
8		034601-01 <sup>1</sup> <b>L4</b>	
10		034592-01 <b>F2</b>	034572-01 <b>F1</b>
13	034579-01 <b>F2</b>	034596-01 <b>H1</b>	
15	034580-01 <b>L2</b>	034599-01 <b>K4</b>	
12	034587-01 <b>H1</b>	034595-01 <b>J1</b>	
14	034588-01 <b>M1</b>	034591-01 <b>H2</b>	034571-01 <b>D/E1</b>
17	034577-01 <b>H2</b>	034590-01 <b>J2</b>	
19	034578-01 <b>M2</b>	034594-01 <b>K1</b>	
16	034585-01 <b>J1</b>	034599-01 <b>K4</b>	034570-01 <b>C1</b>
18	034586-01 <b>N1</b>	034599-01 <b>K4</b>	
21	034575-01 <b>J2</b>	034599-01 <b>K4</b>	
23	034576-01 <b>N2</b>	034599-01 <b>K4</b>	
20	034583-01 <b>K1</b>	034599-01 <b>K4</b>	034569-01 <sup>2</sup> <b>B1</b>
22	034584-01 <b>P1</b>	034599-01 <b>K4</b>	
25	034573-01 <b>K2</b> <sup>2</sup>	034599-01 <b>K4</b>	
27	034574-01 <b>P2</b> <sup>2</sup>	034599-01 <b>K4</b>	
24	034581-01 <b>L1</b> <sup>2</sup>	034599-01 <b>K4</b>	
26	034582-01 <b>R1</b> <sup>2</sup>	034599-01 <b>K4</b>	

<sup>1</sup>These chips contain *only* the French, German and Spanish messages. If the game is to be operated in the English language, you do not need to replace them. In fact, they may not even be supplied on a printed circuit board intended for use only in English-speaking areas. Thus in such a case you should ignore the 8 9 10 11 "bad" ROM message.

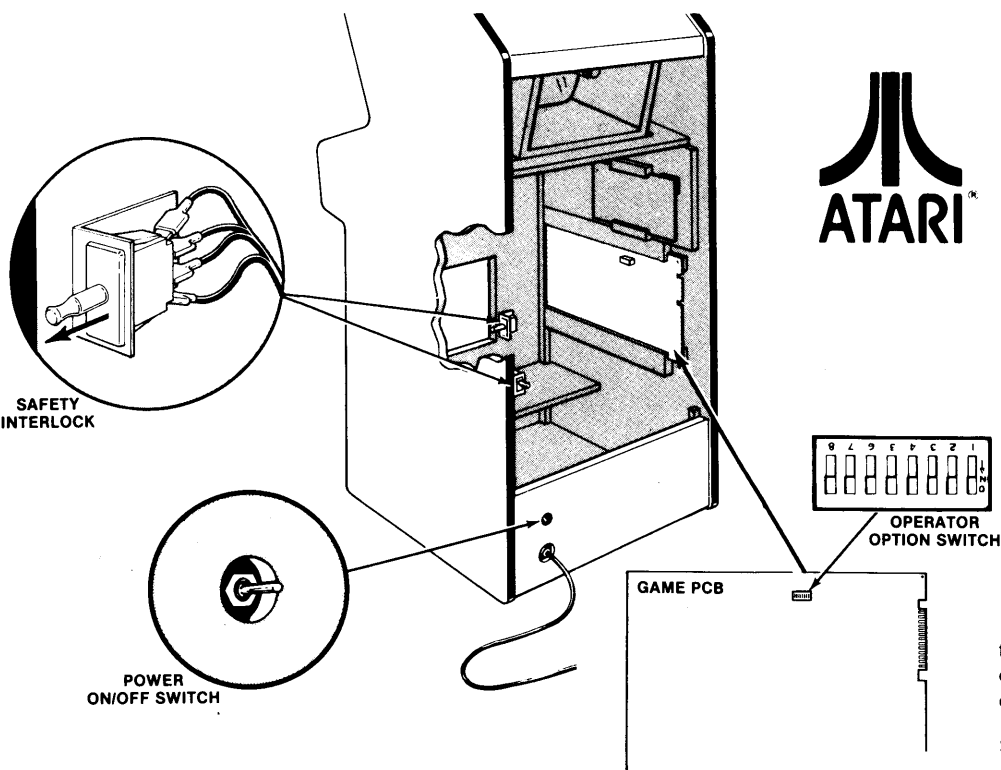
<sup>2</sup>ROM or PROMs must be in place for self-test to run properly.

Name of Test/Instructions	Result if Test Passes	Result if Test Fails
1. Zero Page RAM Test	Select and Start switches light and stay lit. Screen is blank.  Two short medium-high beeps are sounded (3000 Hz).	Screen stays blank and never displays any characters of Test 3.  One or both beeps are very high pitch (6000 Hz), meaning bad RAM(s). 1st beep very high = bad RAM at location D2 on game PCB  2nd beep very high = bad RAM at location E2
2. Vector Generator (Screen) RAM Test	Four long medium-high beeps are sounded (3000 Hz).	One or more of the beeps are very high pitch (6000 Hz), meaning a bad vector generator RAM. 1st beep very high = bad RAM at M4 2nd beep very high = bad RAM at R4 3rd beep very high = bad RAM at N4 4th beep very high = bad RAM at P4
3. ROM Test	ROM OK appears in upper left corner of screen. 	☒ is displayed in upper left corner of screen, indicating bad or missing ROM at location M3 or PROMs at locations K4 and L4.  OR One or more numbers 0 thru 27 will be displayed, indicating a bad ROM or PROM: see Identification of Faulty ROM Chips list at right.
4. Option Display	Option settings are displayed in center of screen, as shown in photograph above.  The first line shows one of 4 different numbers (see Option Switch Settings list below) or an "X" to indicate free play setting. Message will be in one of four available languages.  The second line shows the right coin mechanism factor — it will be 1, 4, 5, or 6.	
5. Thrust Control Test Push thrust control slowly towards rear of game.	The third line shows two characters: they should increase. "Flickering" numbers while control is at rest are unimportant and should be ignored.	Two characters don't change at all, or skip numbers, indicating a dirty potentiometer. Decreasing numbers as you push control means harness wires have been reversed.
6. Lamp, Audio, and LED Test	Four mission select lamps light sequentially from right to left. (Instructions lamp is always lit.)  Engine thrust sound increases with each light from right to left. With Training Mission light on, you'll hear the crash sound. Now adjust volume for your location.  Between the end and beginning of the four-light sequence, both Select and Start switches go on in unison for a moment.	One or more lights won't go on, indicating a defective light bulb.  No engine thrust or crash sound means volume control too low, a defective speaker, loose speaker wires, or a problem in the audio circuitry.  One or both of the Select and Start switches do not flash on, indicating bad LED switches or loose harness wires.
7. Switch Test Press each of these switches: • 5 LED switches on control panel • 2 coin switch trip wires • slam switch on coin door	High beep is sounded for each change in switch state, i.e., a push and release should produce two beeps.	No beep indicates a defective switch or loose harness wires.

Slide the self-test switch towards the front of the game or off. Note that using the self-test will cause all the numbers at the top of the screen to reset to zeroes.

### NOTE:

When troubleshooting with the door(s) open, you must pull interlock plunger out as indicated by direction of arrow.



### Option Switch Settings

Switch Settings on 8-Toggle DIP Switch (located at position P8 on the game PCB)								Results
8	7	6	5	4	3	2	1	
On	On							450 fuel units per coin
On	Off							600 fuel units per coin
Off	On							750 fuel units per coin \$
Off	Off							900 fuel units per coin
		TOGGLE	Off					Free play
			On					Coined play as determined by toggles 7 & 8 \$
			Off	Off				* German instructions on screen
			Off	On				* Spanish instructions on screen
			On	Off				* French instructions on screen
			On	On				English instructions on screen \$
		UNUSED				On	On	Right coin mechanism (as you face the game) registers: 1 credit per coin \$ 4 credits per coin } (Left coin mechanism always registers 1 credit per coin) 5 credits per coin 6 credits per coin
						On	Off	
						Off	On	
						Off	Off	

**\*Important:** When changing any instruction language switches, do not worry if the six phrases at the top of the screen still remain in the previous language, and only the fuel units per coin phrase has immediately changed. Simply wait until the lunar lander "crashes" (in the attract mode), then the language will reset completely. In free play, the language will not reset until the game's start button is pressed.

\$ indicates settings made at the factory and/or recommended settings.

Backdoor should be printed on yello color paper  
as it was originaly by Atari

See original scan as color reference

