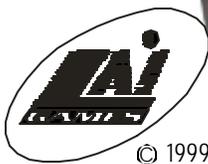


SKILLTESTER

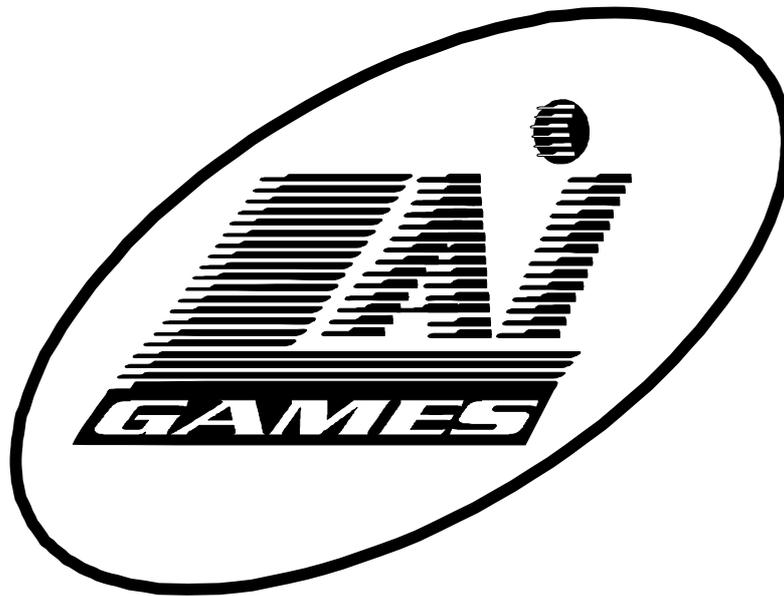


INSTRUCTION



© 1999 AT1901

MANUAL



LEISURE & ALLIED INDUSTRIES

Correspondence regarding this machine should be addressed to your closest LAI Games Distributor, or Leisure and Allied Industries office. For a list of Leisure and Allied office contact details, refer to the back page of this manual.

Leisure & Allied Industries Branches are
Located in
Singapore - Australia - Philippines - Indonesia - New Zealand - USA

SPECIFICATIONS

DESCRIPTION

- The *Skill Tester* is a Single-player Prize redemption game requiring players to use their coordination skills to control the actions of a crane to redeem prizes.

PACKAGING

DELIVERY

- At delivery, the machine is packed and wrapped in bubble plastic and plastic wrap film. To move the packaged machine for transport or placement, Roll on casters or use a fork lift and take care not to hit the package as this may cause damage to the front and side glass of the machine.

CONTENTS

- Skill tester game machine fully assembled, on castors.
- Keys: 4 keys (All locks keyed alike)
- Operator's manual

DIMENSIONS

- Depth: 875 mm
- Height: 1905 mm
- Width: 790 mm

ELECTRIC SUPPLY

- The game requires 400 Watts at 110 / 240 Volts AC
- The game is factory set to operate on a 240 V mains electric supply.

LOCATION REQUIREMENTS

- Ambient temperature: between 5°C and 40°C.
- Ambient humidity: Low
- Ambient U.V. radiation: Very low
- Vibrations level: Low

CAUTION

DO NOT

attempt to test the *logic boards* (PCBs) with ordinary test equipment as this may result in damage to digital components.

DO NOT

connect or disconnect any of the logic boards' *integrated circuit modules* (ICs) while the power is **ON**.

- ∞ Mains AC power should always be turned OFF and the game unplugged, before replacing any parts.
- ∞ When unplugging the game from an electrical outlet, always grasp the plug, not the line cord.
- ∞ The cabinet should be grounded with a securely connected ground line.

DO NOT

subject the *Skill Tester* to extreme temperature variations. Reliability of electrical components deteriorates rapidly over 60 °C.

DO NOT

expose the game logic boards to U.V. radiation (eg. direct sunlight) as this could eventually corrupt the program.

DO NOT

install the Game Cabinet outdoors or in areas of high humidity, direct water contact, dust, high heat or extreme cold or in areas that would present an obstacle in case of an emergency, ie. near fire equipment or emergency exits, or an unstable surface or surface subject to floor or other vibration.

IF A PC BOARD SHOULD NEED SERVICING, CONTACT YOUR
NEAREST
LEISURE & ALLIED INDUSTRIES
OFFICE

HANDLING PRECAUTIONS

When installing or inspecting the machine, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.

- Be sure to turn the power OFF before working on the machine.
- Make sure the power cord or the grounding wire is not exposed on the surface (floor, ground, etc.). Make sure that grounding connections are made safe.
- Do not use any fuse that does not meet specified rating.
- Make complete connections for the IC Board and other connectors. Insufficient insertion is very dangerous.
- The operating (ambient) temperature range is from 5° to 40°.
- Only qualified personnel to inspect or test the IC boards.
- Only use a logic tester for testing IC boards. The use of a continuity tester is not permitted. After confirming that there are no irregularities, turn the power **ON**.

HOW TO PLAY

This is a Single player, prize-redemption game where players control the actions of an overhead crane and claw to redeem prizes.

- Insert coins into the left or right coin slot to start game play. The credit available is displayed on the control panel.
- Use the 4-way joystick to position the crane and claw above the desired prize. The game timer begins as soon as the crane is first moved.
- Press the DESCEND button to activate claw and redeem prize.
- The Crane will then return to the prize chute and open the claw. Any prizes won can be removed via the prize chute door

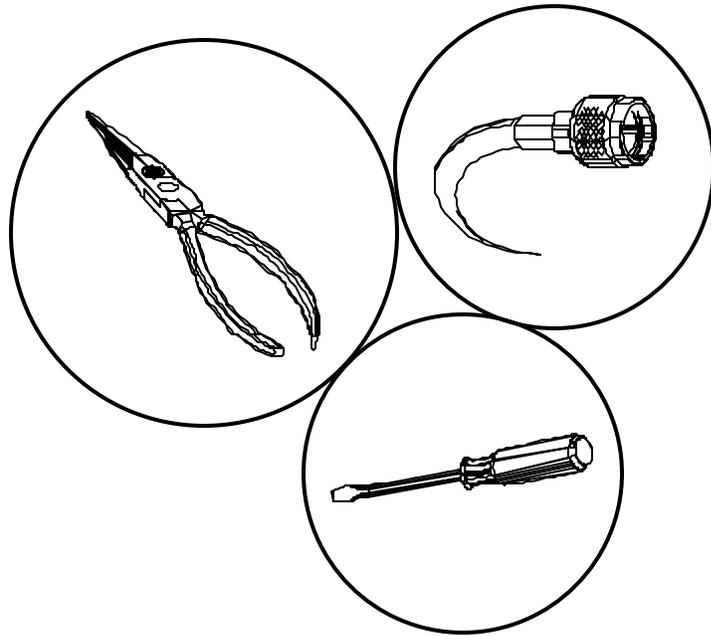
BEWARE !

DO NOT SHAKE THE MACHINE DURING PLAY

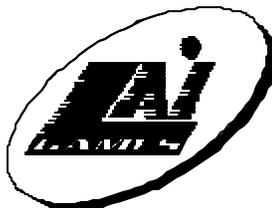
*You will loose the credit currently played as well as any prize
in the claw and the machine will say
“Don’t Shake The Machine”*

SECTION A

SERVICE INSTRUCTIONS



Please read these instructions carefully before servicing
this machine.



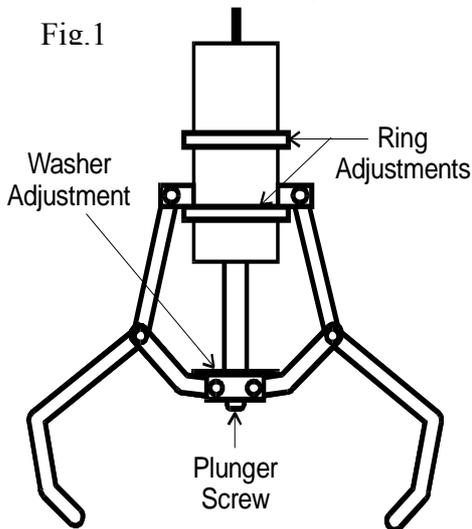
A

CLAW ADJUSTMENTS

The Claw can be adjusted both mechanically and electrically to the size and weight of Prize stock used. The prize stock should all be of similar size and weight to maximize earnings and customer enjoyment.

1. Mechanical Adjustments

Fig.1

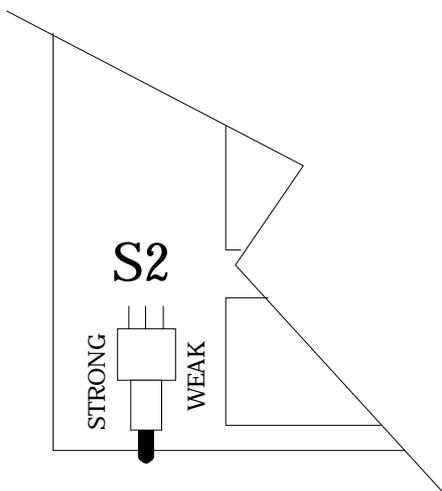


- Distance between claw arms in the closed position is adjusted by moving the two rings up and down the body of the claw. Close the claw manual and loosen ring grub screws. Adjust the position of the rings for desired claw arm distance and tighten ring grub screws.
- Distance between claw arms in the Open position is adjusted by moving the washer at the base of the plunger. Loosen plunger screw and rotate washer to allow the claw to open wide or narrow.

2. Electrical Adjustments

The claw has two power levels to control the closing of the claw, **Strong Claw** and **Weak Claw**. The VR (**Variable Resistors**) controls are located just inside the coin door at the bottom. The Strong level is for the initial closing of the claw and the Weak level is for holding the claw closed. During adjustments the voltage level will be displayed on the Volt-Meter.

MAIN CONTROLLER BOARD



- Strong Adjustment – Set the switch S2 on the Main Controller Board to the strong position. Place a sample of the prize stock in the closed claw arms. Adjust the Strong VR so that the Prize is gripped firmly and is unable to drop from the claws. Set the switch S2 back to the middle position to complete the adjustment.
- Weak Adjustment – Set the switch S2 on the Main Controller Board to the weak position. Place a sample of the prize stock in the closed claw arms. Adjust the Weak VR so that the claws are just able to grip the prize. Set the switch S2 back to the middle position to complete the adjustment.

DIP SWITCH SETTINGS

1. Claw Strong / Weak Timer

Under normal operation the claw has two stages of closing. First a strong level and then after a delay it switches to the weak level. The machine has two modes of timing this Operation.

Mode One – The Strong level starts from the time the descending claw reaches the toy stock. This mode is selected when DIP switch 1 – 8 is in the OFF position

DIP Switch 1	1	2	3	4	5	6	7	8
Strong Time 2.0 Seconds ➤	OFF	OFF	OFF	OFF				↑ OFF ↓
Strong Time 2.5 Seconds	ON	OFF	OFF	OFF				
Strong Time 3.0 Seconds	OFF	ON	OFF	OFF				
Strong Time 3.5 Seconds	ON	ON	OFF	OFF				
Strong Time 4.0 Seconds	OFF	OFF	ON	OFF				
Strong Time 4.5 Seconds	ON	OFF	ON	OFF				
Strong Time 5.0 Seconds	OFF	ON	ON	OFF				
Strong Time 5.5 Seconds	ON	ON	ON	OFF				
Strong Time 6.0 Seconds	OFF	OFF	OFF	ON				
Strong Time 6.5 Seconds	ON	OFF	OFF	ON				
Strong Time 7.0 Seconds	OFF	ON	OFF	ON				
Strong Time 8.0 Seconds	ON	ON	OFF	ON				
Strong Time 9.0 Seconds	OFF	OFF	ON	ON				
Strong Time 10 Seconds	ON	OFF	ON	ON				
Strong Time 11 Seconds	OFF	ON	ON	ON				
Strong Time 12 Seconds	ON	ON	ON	ON				

Mode Two – The Strong level starts its time period from the start of the game. If the player presses the DESCEND button before the time period ends the claw will grab and hold at the strong level until the time period is finished. If the player presses the DESCEND button after the time period ends the claw will grab and hold at the weak level only. This mode is selected when DIP switch 1 – 8 is in the ON position

DIP Switch 1	1	2	3	4	5	6	7	8
Strong Time 10 Seconds	OFF	OFF	OFF	OFF				↑ ON ↓
Strong Time 11 Seconds	ON	OFF	OFF	OFF				
Strong Time 12 Seconds	OFF	ON	OFF	OFF				
Strong Time 13 Seconds	ON	ON	OFF	OFF				
Strong Time 14 Seconds	OFF	OFF	ON	OFF				
Strong Time 15 Seconds	ON	OFF	ON	OFF				
Strong Time 16 Seconds	OFF	ON	ON	OFF				
Strong Time 17 Seconds	ON	ON	ON	OFF				
Strong Time 18 Seconds	OFF	OFF	OFF	ON				
Strong Time 19 Seconds	ON	OFF	OFF	ON				
Strong Time 20 Seconds	OFF	ON	OFF	ON				
Strong Time 21 Seconds	ON	ON	OFF	ON				
Strong Time 22 Seconds	OFF	OFF	ON	ON				
Strong Time 23 Seconds	ON	OFF	ON	ON				
Strong Time 24 Seconds	OFF	ON	ON	ON				
Strong Time 25 Seconds	ON	ON	ON	ON				

Note:- ➤ factory setting

2. Game Timer

The game time begins its count down from the first movement of the Crane. The control panel display will indicate the game time. After the game time expires the machine will automatically try to grab a prize unless the player has already press the DESCEND button.

DIP Switch 1	1	2	3	4	5	6	7	8
Game Time 25 Seconds ➤					OFF	OFF		
Game Time 20 Seconds					ON	OFF		
Game Time 15 Seconds					OFF	ON		
Game Time 10 Seconds					ON	ON		

3. Claw Close Delay

The claw has two time delay settings, based on the type of Prize Stock used. A short 0.5 seconds delay for small or hard cased stock or a longer 3 seconds delay for large or plush stock. The time period is from when the claw reaches the Prize Stock level to the closing of the claw.

DIP Switch 1	1	2	3	4	5	6	7	8
Short 0.5 seconds delay ➤							OFF	
Long 3 seconds delay							ON	

4. Coins per Credit

This selects the number of coin(s) per Credit(s). Both coin channels A and B are affected equally by this setting.

DIP Switch 2	1	2	3	4	5	6	7	8
1 Coin 2 Credits	OFF	OFF						
1 Coin 1 Credit ➤	ON	OFF						
2 Coins 1 Credit	OFF	ON						
3 Coins 1 Credit	ON	ON						

5. Bonus Credit

This setting will give a bonus credit if the player inserts five or more coins within three seconds of each other.

DIP Switch 2	1	2	3	4	5	6	7	8
Bonus Credit Disabled			OFF					
Bonus Credit Enabled ➤			ON					

6. Master / Slave Controller

This machine is a Single Player Skill Tester. DIP Switch 2 – 4 must be set to OFF

DIP Switch 2	1	2	3	4	5	6	7	8
Single or Master Twin ➤				OFF				
Slave Twin (right side)				ON				

Note:- ➤ factory setting

7. Control Mode

The Skill Tester is manufactured with a 4-way joystick and one DESCEND button to control the crane and claw movement. There are three other modes of control available and are as follows

- Two Buttons – FORWARD and RIGHT only, with the claw descending on the release of the RIGHT button
- Two Buttons – FORWARD and RIGHT only, with the claw descending on the press of both FORWARD and RIGHT buttons together
- 4-way Joystick and Two Buttons – Joystick for Crane Direction, a claw DESCEND button and a claw GRAB button

DIP Switch 2	1	2	3	4	5	6	7	8
2 Buttons – Auto Claw					OFF	OFF		
2 Buttons – Manual Claw					ON	OFF		
Joystick – 2 Buttons					OFF	ON		
Joystick – 1 Button ➤					ON	ON		

8. Crane Home Position

This machine has a Front-Left home position. DIP Switch 2 – 8 must be set to OFF

DIP Switch 2	1	2	3	4	5	6	7	8
Front – Left Home ➤								OFF
Rear – Left Home								ON

9. Bonus Display

With the Bonus Display enabled, the player is able to win bonus games. The player times the pressing of the DESCEND button with the flashing LEDs on the display. There are four bonus LED's and four "Try Again" LEDs. The percentage of payout for the following three bonus winnings is controlled by DIP switch 4.

- A. One Free Game– one extra Bonus Game
- B. Two Free Games – two extra Bonus Games
- C. Super Strength – full power to the claw

DIP Switch 4	1	2	3	4
Bonus Chance Display Disabled	OFF			
Bonus Chance Display Enabled ➤	ON			
% A/B/C = 30/20/10 ➤		OFF	OFF	OFF
% A/B/C = 25/15/ 8		ON	OFF	OFF
% A/B/C = 20/10/ 6		OFF	ON	OFF
% A/B/C = 18/ 8/ 5		ON	ON	OFF
% A/B/C = 15/ 5/ 3		OFF	OFF	ON
% A/B/C = 12/ 4/ 2		ON	OFF	ON
% A/B/C = 10/ 3/ 1		OFF	ON	ON
% A/B/C = 5 / 2/ 1		ON	ON	ON

Note:- ➤ factory setting

FUNCTION TESTS

There are five function tests available to test the machines various controls, mechanisms and displays. To enter the function test press the test switch located on the main controller board while there are no credits to play. The first digit on the credit display indicates one of the five tests. Push the joystick forward to select the test number and move the joystick to the right to start the selected test.

1. Crane and Claw mechanism test

The machine will activate the crane and claw for all movements. A flashing 3 in the second digit of the Credit Display indicates test in progress. At the end of the test it will then flash a code to indicate the results. Note, during the test you will need to visually confirm the claw grab function is working as the test is unable to verify this.

<i>Code Number</i>	<i>Test Result Explanations</i>
Flashing 0	Crane & Claw Functioning Normally
Flashing 1	Problem with Crane Forward Motion
Flashing 2	Problem with Crane Backward Motion
Flashing 3	Problem with Crane Left Motion
Flashing 4	Problem with Crane Right Motion
Flashing 5	Problem with Claw Up Motion
Flashing 6	Problem with Claw Down Motion

2. Credit Display Test

The Credit Display will begin a count sequence from 0 to 9 in each digit. Note; the first digit will be one number sequence behind the second digit and the second digit will continually flash during the count.

3. Sound - Music Test

Each move of the joystick to the left will increment the music test to the next tune or sound effect with the second digit flashing the tune number.

4. Sound - Speech Test

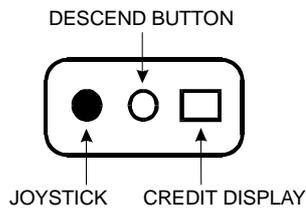
Each move of the joystick to the left will increment the speech test to the next speech pattern with the second digit flashing the speech number.

5. Printer Test (*Not Installed*)

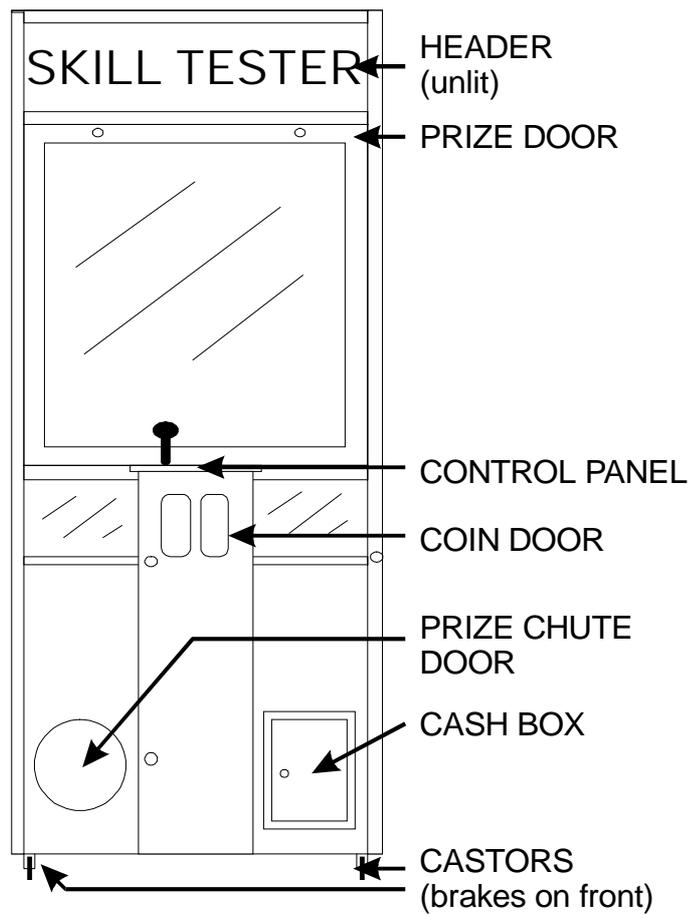
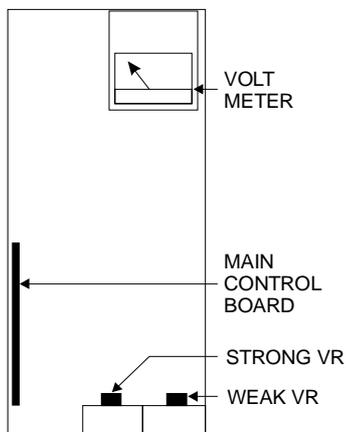
The Printer Function is not installed on this machine. Please skip the Printer test.

MACHINE LAYOUT

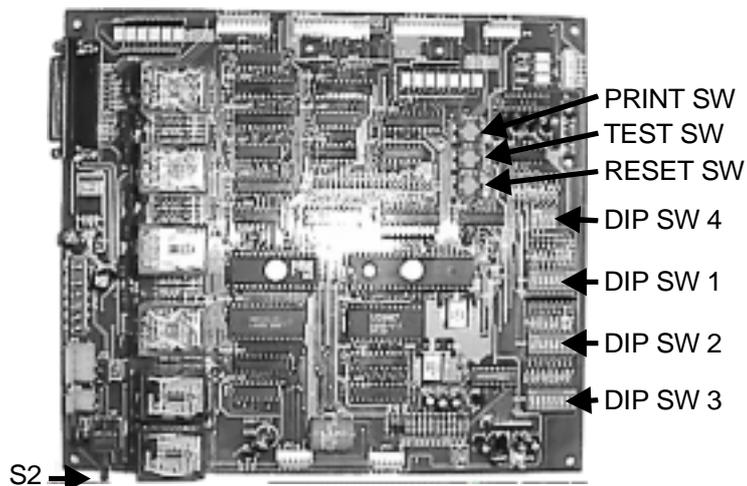
CONTROL PANEL LAYOUT



SERVICE PANEL LAYOUT



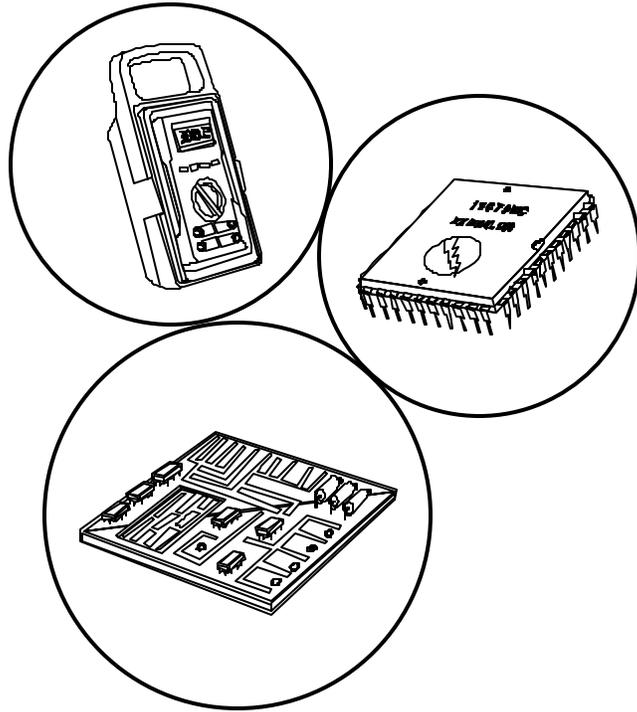
MAIN CONTROLLER BOARD SWITCH LOCATIONS



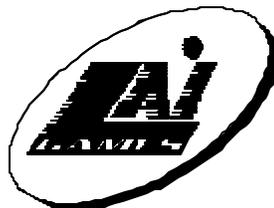
Default DIP Switch Table	1	2	3	4	5	6	7	8
DIP Switch 1	OFF							
DIP Switch 2	ON	OFF	ON	OFF	ON	ON	OFF	OFF
DIP Switch 3	OFF							
DIP Switch 4	ON	OFF	OFF	OFF				

SECTION B

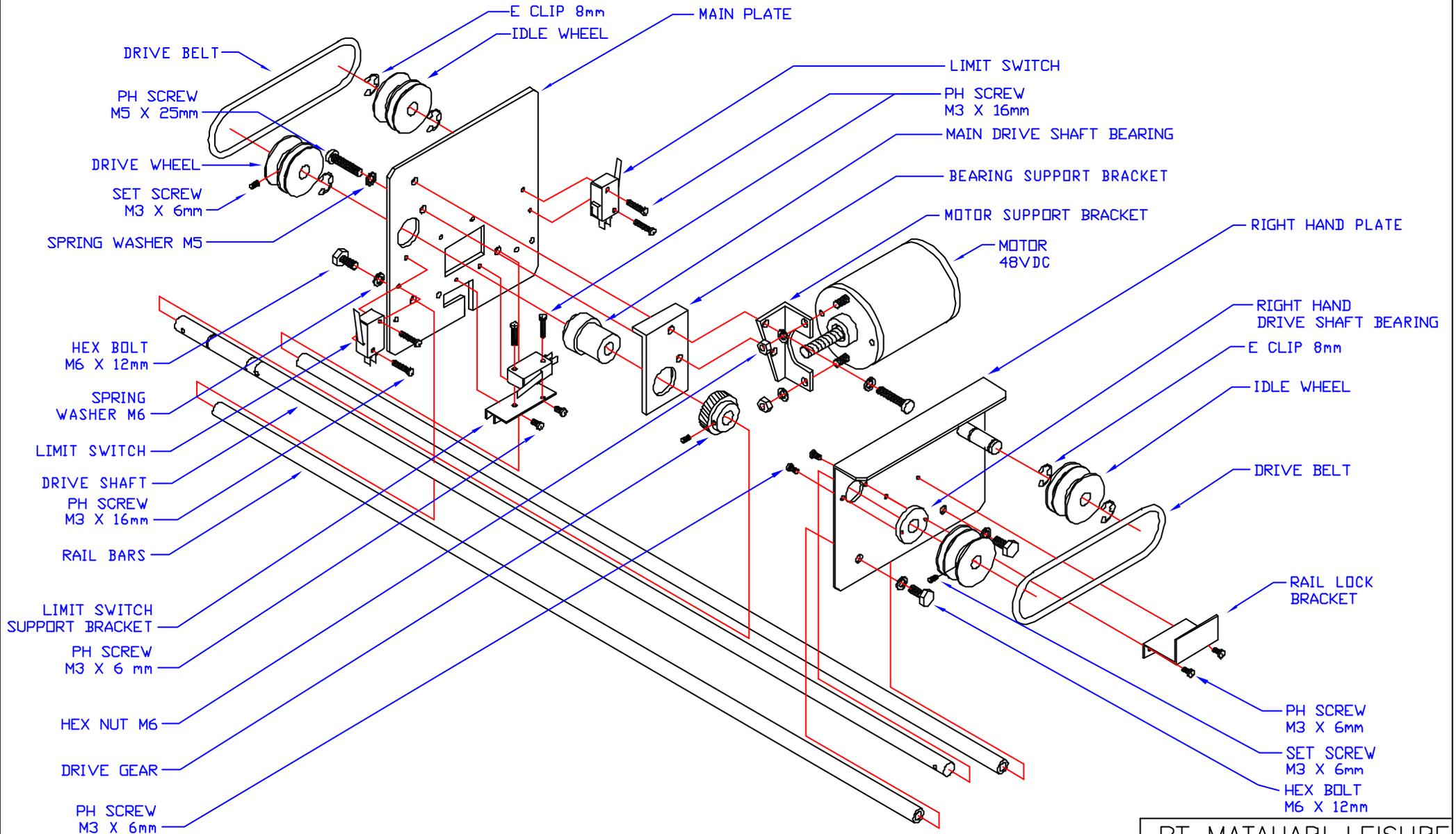
TECHNICAL DETAILS



It is advised that anybody using SECTION B for repairing or modifying any of the components of the game should be a qualified technician, having at least a basic knowledge of digital components, integrated circuits and electricity.

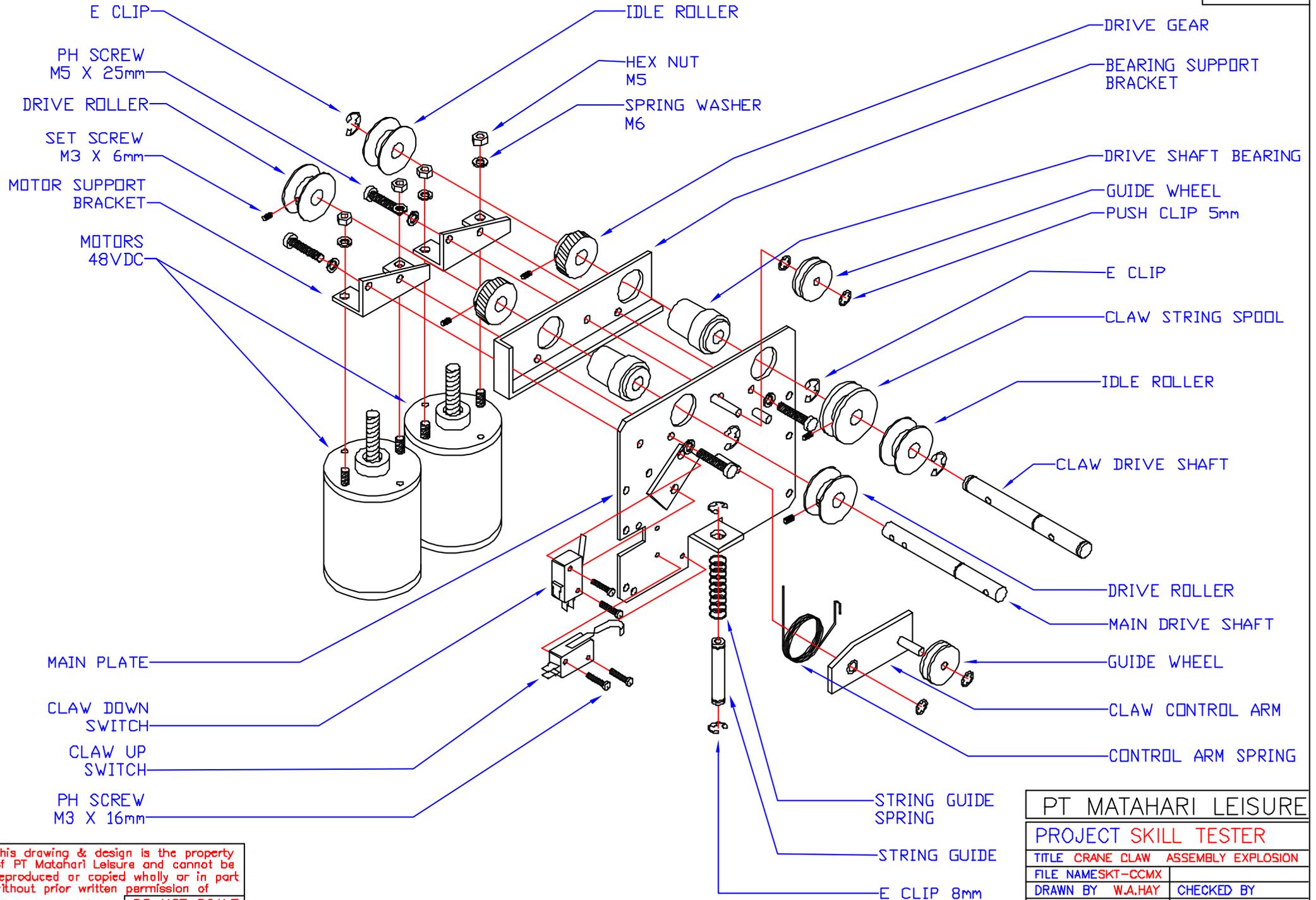


B



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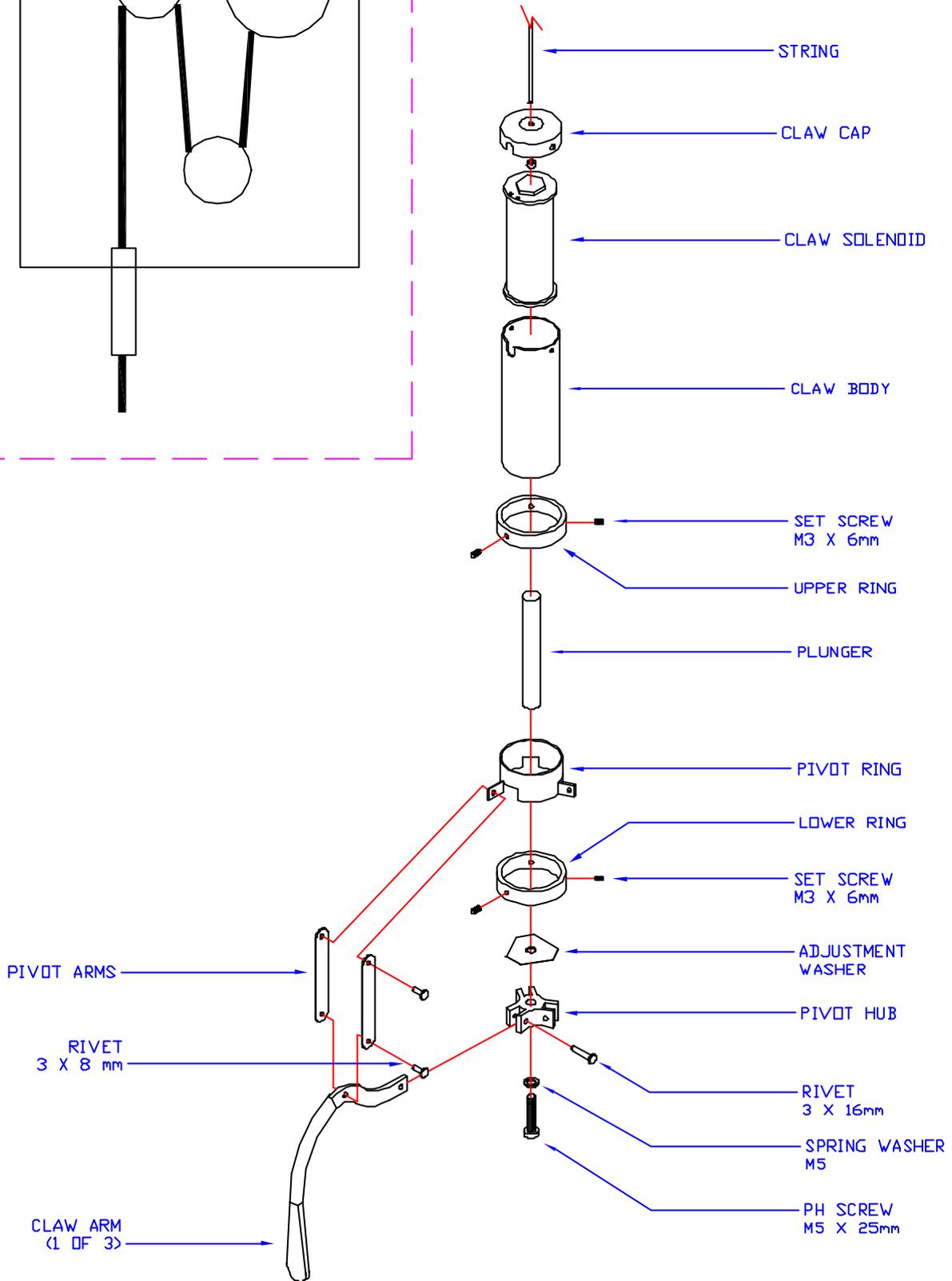
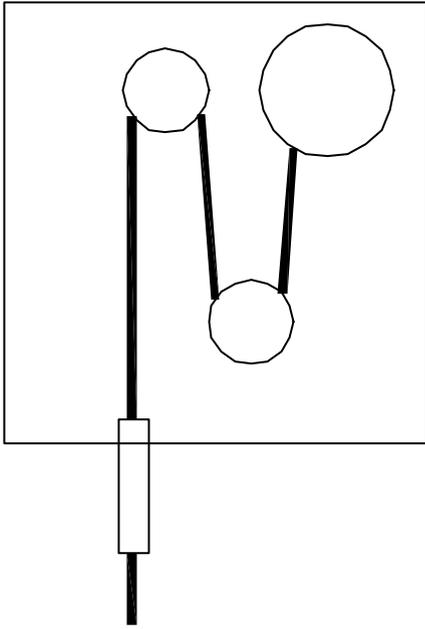
PT MATAHARI LEISURE	
PROJECT SKILL TESTER	
TITLE CRANE ASSEMBLY EXPLOSION	
FILE NAME	SKT-CRMX
DRAWN BY	W.A.HAY
DATE	27/10/99
CHECKED BY	
DATE	



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PROJECT SKILL TESTER	
TITLE CRANE CLAW ASSEMBLY EXPLOSION	
FILE NAME SKT-CCMX	
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CLAW STRING PATH



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PROJECT SKILL TESTER	
TITLE CLAW ASSEMBLY EXPLOSION	
FILE NAME	SKT-CLMX
DRAWN BY	W.A.HAY
CHECKED BY	
DATE	1/11/99
DATE	

MAIN CONTROLLER BOARD

SPEAKER OUT JP1	
SPEAKER -	1
SPEAKER +	2

COUNTERS JP2	
+12VDC	1
COUNTER 1	2
COUNTER 2	3
COUNTER 3	4
GND	5
	6

COIN INPUTS JP5	
+12VDC	1
GND	2
COIN A	3
COIN B	4
TILT SENS	5
GND	6

CONTROLS JP9	
FRONT (RTN)	1
BACK (FWD)	2
LEFT	3
RIGHT	4
DOWN (&GRAB)	5
PICK	6
LAMP 1	7
LAMP 2	8
GND	9
LAMP 3	10
ROLL	11
K1	12

DISPLAY JP3	
+12VDC	1
SEGMENT a	2
SEGMENT b	3
SEGMENT c	4
SEGMENT d	5
SEGMENT e	6
SEGMENT f	7
SEGMENT g	8
SELECT DISP 0	9
SELECT DISP 1	10
SELECT DISP 2	11
SELECT DISP 3	12
GND	13

VOLT METER JP10	
METER +	1
METER -	2

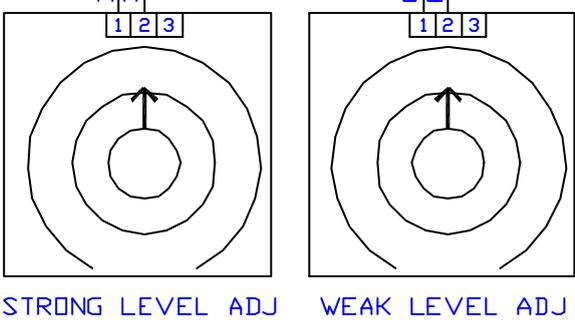
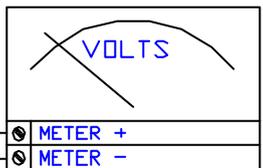
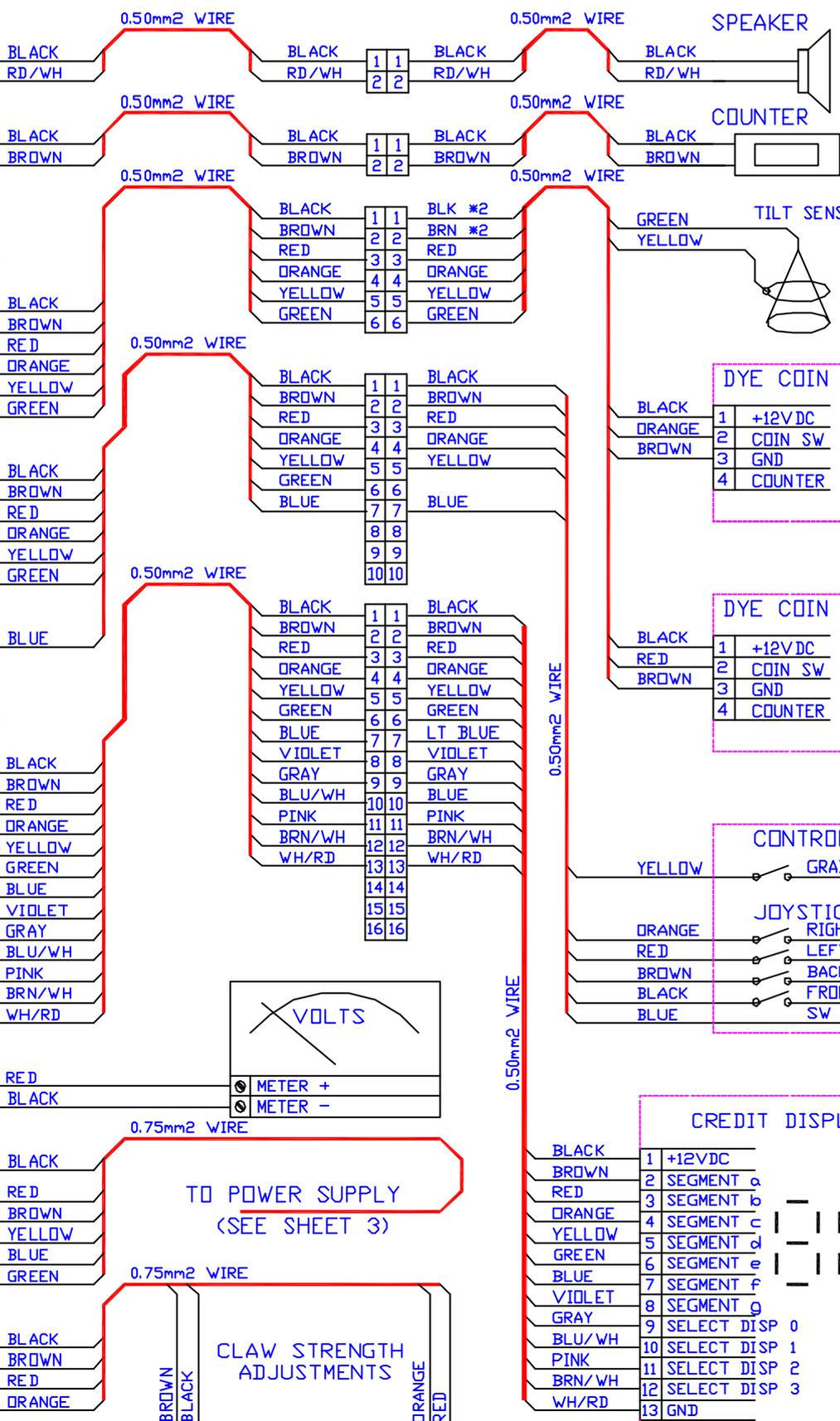
POWER IN JP13	
GND	1
+5VDC (VCC)	2
+24VDC	3
-48VDC	4
+48VDC	5
+12VDC	6

CLAW ADJUST JP6	
COMMON	1
HIGH ADJ	2
COMMON	3
LOW ADJ	4

NOTE:
CONNECTORS NOT USED
ARE JP4, JP8 & JP14

NOTE:-
WIRE COLOR MAY VARY
FROM HARNESS TO HARNESS

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PROJECT SKILL TESTER

TITLE MAIN CONTROLLER HARNESS (new)

FILE NAME SKT-1a

DRAWN BY W.A.HAY

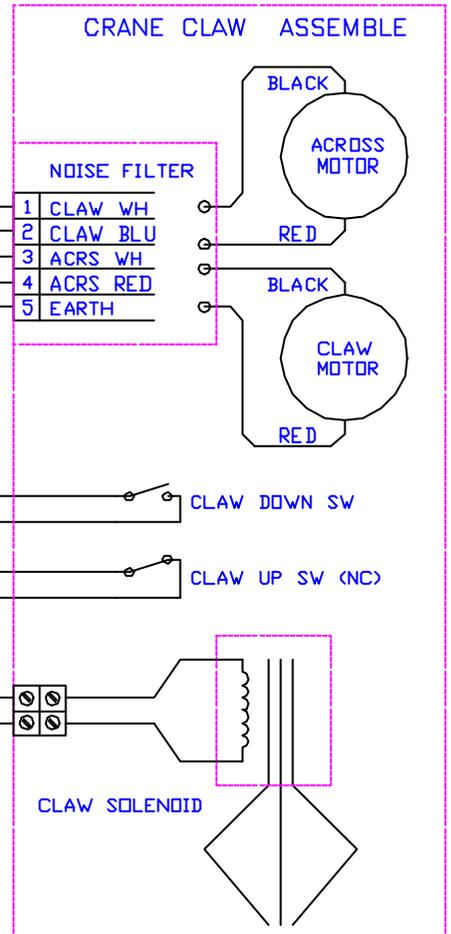
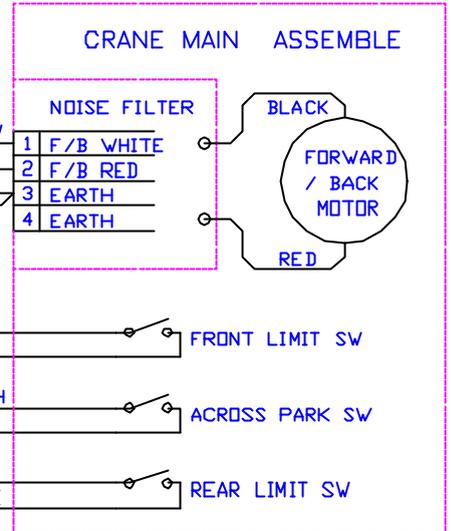
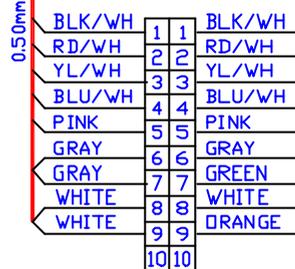
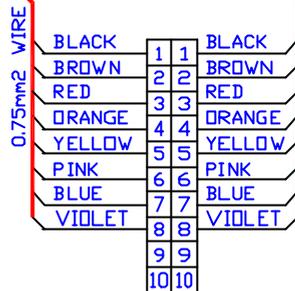
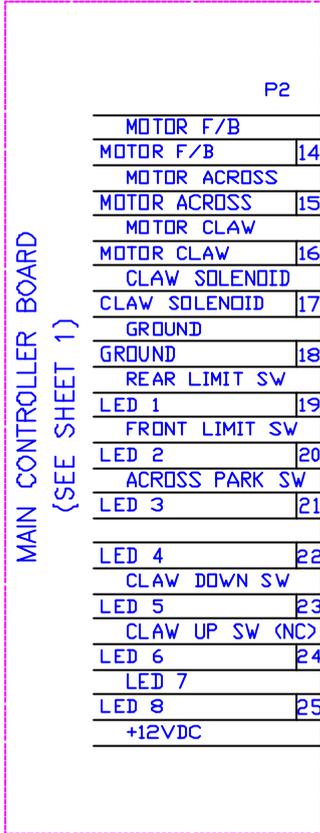
DATE 23/09/99

CHECKED BY

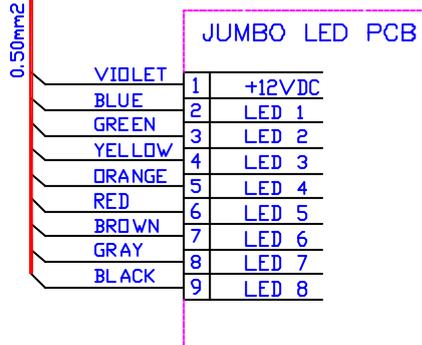
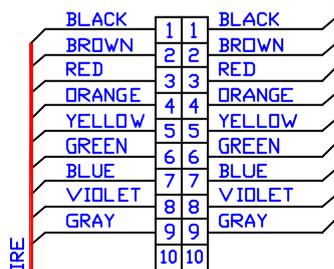
DATE

TO POWER HARNESS

BRAD 1 1 GREEN (EARTH)
(SEE SHEET 3)

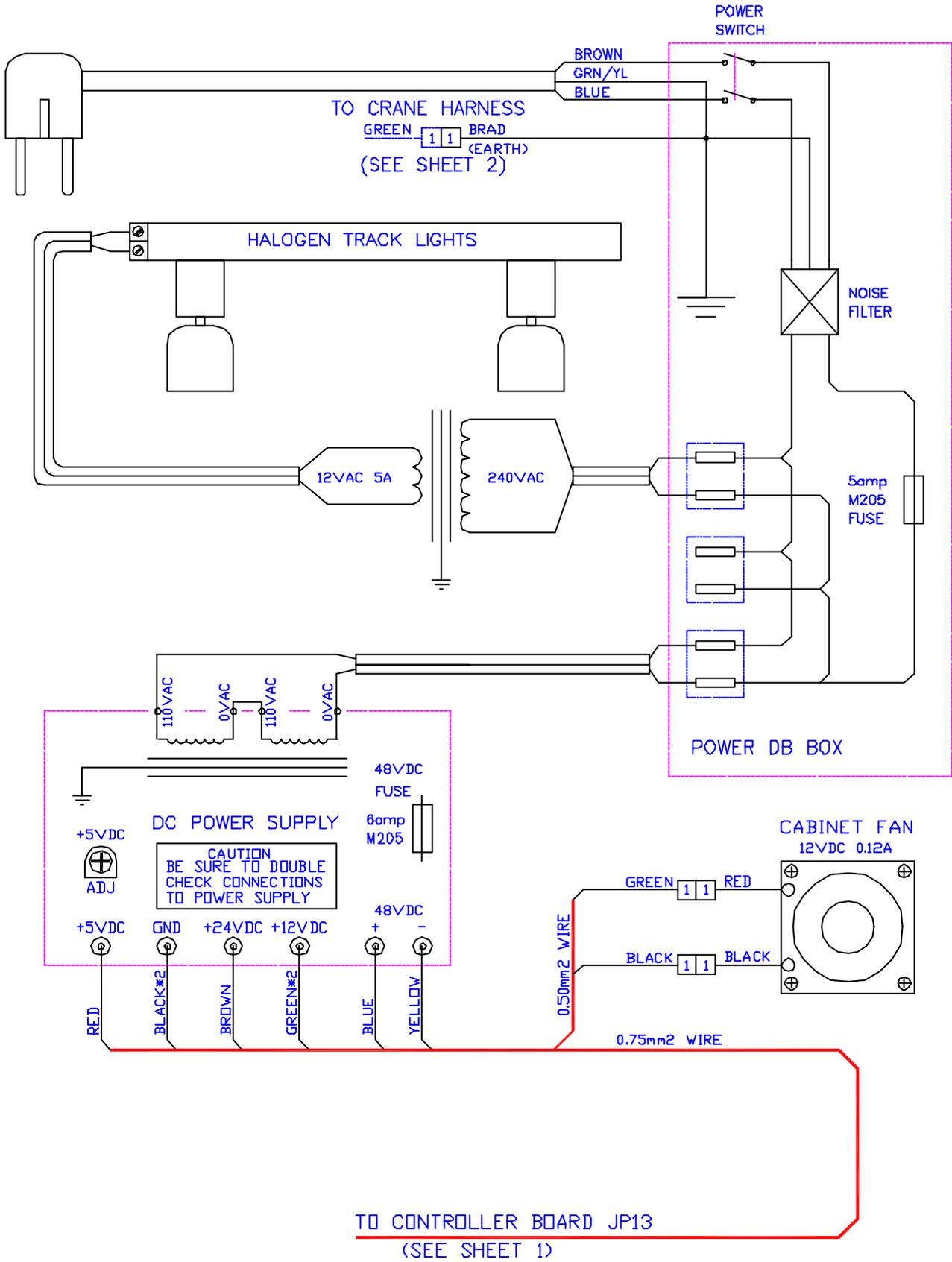


NOTE:-
WIRE COLOR MAY VARY FROM WIRING DIAGRAM



PT Matahari Leisure	
PROJECT SKILL TESTER	
TITLE CRANE MECHANISM HARNESS (new)	
FILE NAME	SKT-2a
DRAWN BY	W A HAY
CHECKED BY	
DATE	23/09/99
	DATE

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NOTE:-
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FROM HARNESS TO HARNESS

PT Matahari Leisure	
PROJECT SKILL TESTER	
TITLE POWER SUPPLY HARNESS (new)	
FILE NAME SKT-3a	
DRAWN BY W A HAY	CHECKED BY
DATE 23/09/99	DATE

WARRANTY

LAI warrants its manufactured products (LAI Games) sold by them for a period of 3 months from the date of sale. LAI's exclusive obligation is to repair any item with any defects as a result of faulty workmanship or materials, providing the defective item or items of equipment are returned to the LAI office from which the machine was purchased at the purchaser's expense.

- New Machines: 3 months (including labor and parts)
- New PCB's: 3 months (including labor and parts)
- New Monitors: 3 months (including labor and parts)
- New Power Supplies: 1 month (including labor and parts)
- Used Machines: 1 month (labor only excluding parts)

LAI shall have no obligation to make repairs necessitated by negligence or interference to any component by any unauthorized personal. This will automatically void any existing warranty. In the event of a component not being covered by warranty, LAI will only repair the faulty item(s) providing the purchaser agrees to pay the appropriate service rates as set out in our schedule of charges from time to time.

IF MAKING A WARRANTY CLAIM:

- (a) A Copy of the sales invoice must accompany the claim.
- (b) Transport and freight costs are not covered by the warranty.
- (c) Warranty is not transferable with the sale of a machine from one owner to another.
- (d) Warranty claims made after the expiry of the warranty period will not be accepted regardless of whether the fault was reported during the warranty period or not.





LEISURE & ALLIED INDUSTRIES OFFICES

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