SCORPION™ 9000

Owner's Guide

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SITE PREPARATION

In determining the location for your SCORPION™ 9000 dart game, consideration must be given to the location of a suitable electrical outlet. Since the game is a computerized device, it should have a separate circuit, if at all possible. If a circuit is not available, care should be taken to provide a clean and constant voltage. As a basic guideline, never connect the unit to a circuit that also supplies power to freezers, coolers or other high power-consuming and electrical-noise-making equipment.

The game should be prominently located to attract attention, but not where games will be interrupted by people walking through the playing area. The play area must extend approximately 8' from the front of the machine to accommodate the throw line.

SET-UP AND INSTALLATION

Floor Model Installation

1. Locate and remove the plastic bag stapled to the top of the base section. This bag contains the game keys.

2. Locate the Velcro hook on the base of the cabinet. The Velcro hook is holding the target section in its fold-down position. Pull the target section up until the Velcro latch on the target section door separates from the Velcro hook on the base section. Continue pulling the target section up until it locks into its upright position. Refer to Figure 7.

3. Use a #564 key to unlock the target door. On the upper, right corner of the target door you will see a safety hook holding the door in its closed position. Push the hook upward to release the target door. Inside, stapled to the floor of the target section, you will find a plastic bag with three threaded knobs. Place the knobs and washers in the holes provided as shown in Figure 9.

4. Close the target section door.

5. Using the key provided, open the coin box door.

6. Remove the line cord from the coin box and attach it to the receptacle on the back of the cabinet. See Figure 7.

7. Locate and remove the bag of hardware inside the coin box. This hardware is used to secure the game to the wall. Refer to the instructions contained within the bag to properly install the hook needed for your application.

8. Move the game into position. Adjust the levelers until the game does not rock and is stable. Attach the safety chain from the game to the wall hook installed in step 7.

9. Set the floor mark for the throw line. In the U.S.A., the throw line should be placed 8 feet from the face of the target. In some European countries, the throw line distance is placed 2.44 meters or 2.37 meters from the face of the target. Consult your local rules for throw line distances. The throw line decal can be found in the coin box.

10. Plug the power cord into the wall outlet. Power up the game.

Disassembly of Target from Base

If you decide to move the game to a different location and you do not have access to a large van or vehicle, you may need to disassemble the target from the base. In those circumstances, follow the steps below.

1. Unplug and remove the power cord from the back of the game. Store the power cord for future use.

2. With the game in the upright position, open the control panel door. Disconnect the target lamp power cord from the power supply. Unhook the light power cord from the clips holding it in place to the back of the cabinet. Also disconnect the main wiring harness or harnesses that may connect between the target and base sections. Close and lock the control panel door.

3. Unlock and open the target section door. Carefully pull the target lamp power cord and other wiring harnesses up into the target compartment. Next, remove the large black assembly knobs and washers. Store the knobs outside of the target section for future use. Carefully close and lock the target section door. Remove all keys from the target door lock.

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4. Locate the anti-tip bracket on the rear of the cabinet (see Figure 7). Pull upwards on the bracket while folding the top section down. Make sure that the top unit is resting on the metal support bracket and that the Velcro loop on the target section securely aligns with the Velcro hook on the base section.

5. Standing at the back facing the folded down target section, place one hand on the target section and apply a small amount of force forward to hold the section in place. With your other hand, take the hinge pin that is bent to form a handle and pull outward. (See Figure 8.) Make sure that the hinge pin is fully removed. Repeat the same procedure for the other hinge pin.

6. You are now ready to remove the target section. Lift the target section upward slightly and position it over the safety base hook. Place the target section, **HINGE END ONLY**, on the floor.

NOTE: DO NOT REST THE TARGET SECTION ON HOOD END. REST IT ON THE HINGE END ONLY. FAILURE TO DO SO COULD DAMAGE CABLES OR OVERHEAD DISPLAY.

Reassembly of Target to Base

1. The reassembly of the target section is very similar to that of disassembly. Position the target section so that it is resting on the metal bracket of the base. Align the hinges of the target section with the base section hinge pins. Install the hinge pins, locking them into position. Refer to Figure 8**.**

NOTE: YOU MAY HAVE TO LIFT THE TARGET SECTION SLIGHTLY TO ALLOW THE HINGE PINS TO MOVE FREELY INTO THE LOCKED POSITION.

2. Open the base control panel door.

3. Make sure that the hinge pins are in the locked position. Next swing the target section up into its upright position.

4. Very carefully open the target section front door. Place the large black assembly knobs and washers into the hole that they were removed from during disassembly. (Refer to “Floor Model Installation”, step 3.)

5. Locate the overhead light power cable in the control panel section. Feed your overhead light power cable down into the base and reconnect it to the power supply. Also reconnect the main harness or harnesses that interconnect between the sections.

6. Close all doors and reconnect the power cord to the back of the game. Reposition the game to the wall and reconnect the safety chain to the wall. Plug your power cord into the wall outlet and turn on the power.

Wall Mount Installation

Your dart game is designed for permanent mounting to any wall constructed in accordance with standard building codes. Installing your dart cabinet is not difficult but the following steps must be followed.

Your game comes equipped with a mounting bracket which attaches to the wall. The complete assembled cabinet weighs 85 pounds and is supported by the mounting bracket. The unit attaches to the bracket by means of four carriage bolt spacers, extending from the back of the cabinet.

If you aren't familiar with how to locate wall studs or if you run into a questionable type of wall construction - GET HELP!!

The following instructions are recommended as one method of installing your dart game. If you have a special situation , or a different method, we remind you that the cabinet will only be as stable as the wall is and the way that the bracket attaches to the wall.

NOTE: BE SURE THAT THE AREA BEHIND THE WALL DOES NOT CONTAIN WIRES OR PIPES THAT MAY BE DAMAGED BY THE BRACKET FASTENERS.

There must be a minimum 9 1/2" clearance on both sides of the game to allow for door opening and access to the coin mech.

REFER TO FIGURES 10, 11 and 12 FOR STEPS 1 THROUGH 8.

1. Find the location of a wall stud by using a stud finder, a joint in the wall board or paneling or by measuring in multiples of 16" from any known stud. Once you think you've found it, a good way to make sure is to tap in a small finishing nail about 2" above the floor. If the stud is there, you should hit it after putting the nail in about 1/2" to 3/4".

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2. Measure up 68" from the floor on the mounting stud and mark the wall with a pencil.

3. Using the nail that you used before, drive it in just to make sure that you're still lined up on the stud. If you aren't, go 1/2" either way until you hit it.

4. Open the front door of the cabinet and remove the locking bolt from the mounting bracket. Close and lock the front door.

5. Remove the mounting bracket from the back of the cabinet. Place the bracket against the wall with the center (threaded) hole directly over the mark you made in step 2. Now mark the upper hole with a pencil.

6. Remove the nail and place the bracket on the wall. Put a lag screw through the top hole and into the wall. Tighten the screw far enough so that the bracket swings slightly.

7. With the bracket not moving and level, mark the holes shown in Figure 12**.** Swing the bracket to the side and install (4) Molly bolts into the outer holes. Then, install and tighten all remaining screws.

8. Slide the cabinet onto the wall bracket. Make sure it is secure and won't fall down.

9. Install the Ultrasonic Transducer assembly (Player Change Sensor) as shown in Figure 5:

   (a) Route the transducer cable through the large hole in the center of the hood assembly.

   (b) Secure the Ultrasonic Transducer assembly to the lamp hood using the (2) #10 - 24 wing nuts (HW3253) provided.

   (c) Connect the transducer cable to J9 on the STG01 board.

10. Mount the left and right expansion brackets and the wood filler as shown in Figure 5:

    (a) Mount the left bracket (MW4028) to the hood using (2) carriage bolts and wing nuts.

    (b) Slide the wood filler into place between the left and right brackets on top of the game.

    (c) Mount the right bracket (MW4029) to the hood using (2) carriage bolts and wing nuts.

11. Using (4) #10-24 wing nuts (HW3253), mount the overhead display to the brackets installed in step 10.

12. Route the overhead display wire up through the hole in the wood filler and down through the slot on the left, top of the machine. Connect the wire to the 3-pin female connector on the power supply.

13. Route the ribbon cable from J7 on the STG01 board up through the overhead display and over the top of the game. Connect the other end to the connector on the top, left side of the game.

14. On games equipped with the linear power supply, attach the line cord to the AC power supply at the base of the cabinet. Tighten the cable lock assembly so that the cord is secured to the game.

15. Attach the price decal above the control panel, as shown in Figure 13**.**

16. Proceed to Section 3 - Testing Your Game.

Disconnecting the Cancel Game Feature

If the Cancel Game feature is not needed, you may disable the option by following the steps given below.

1. Open the target section door.

2. Locate the cancel game switch assembly on the left side of the cabinet.

3. Disconnect one or both of the wires attached to the Cancel Game switch. This will disable the cancel game feature.

4. Close the target section door.

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GAME OPERATION

Target Alarm

If darts are thrown while the game is in idle mode, the target alarm will sound and the overhead light will go off (for a few minutes). This feature can be disabled by turning off DIP switch 1-8.

Clearing Credits

To clear credits, first power off the game. Next, press and hold the PLAYER CHANGE button while turning the game back on. When the “STUC BUTTON” message appears on the overhead, release the PLAYER CHANGE button and the credits will be cleared.

Free Play

A 2-pin connector is provided on the main harness to allow you to enable free play. See Figures 1 and 2 for the location of the connector.

If you wish to enable free play, you will need (2) .062 male molex pins, a connector housing and .18 gauge wire. Insert the molex pins into the connector housing and attach it to the existing 2-pin connector on the main harness. Loop the wire as seen in Figure 3. Free play mode is enabled as long as the connection is made.

If you want the ability to enable/disable free play without having to connect and disconnect the wires, Merit suggests you insert a switch. To do this, simply cut the looped wire and solder the ends to the switch (see Figure 3).

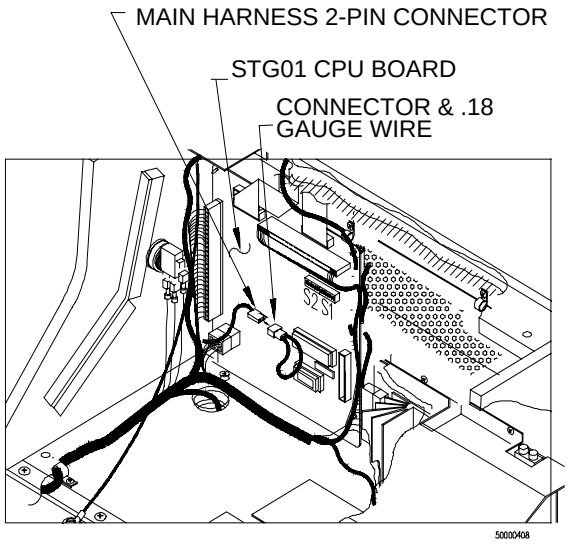

Figure 1 - LOCATION OF "FREE PLAY" CONNECTOR ON MAIN HARNESS (UPRIGHT MODEL)

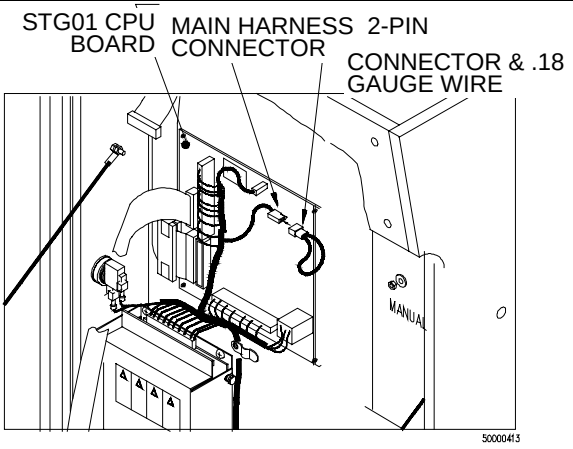

Figure 2 - LOCATION OF "FREE PLAY" CONNECTOR ON MAIN HARNESS (WALL MOUNT MODEL)

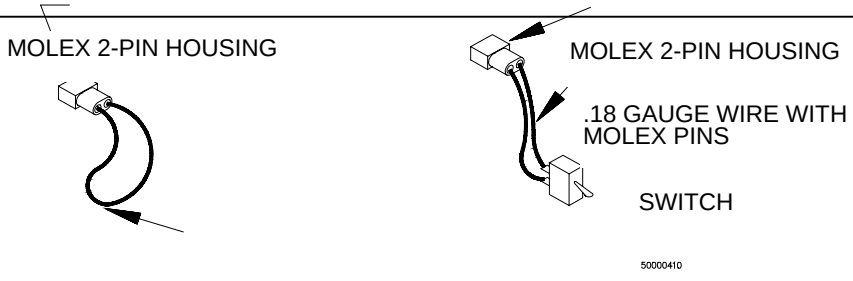

Figure 3 - "FREE PLAY" CONNECTION

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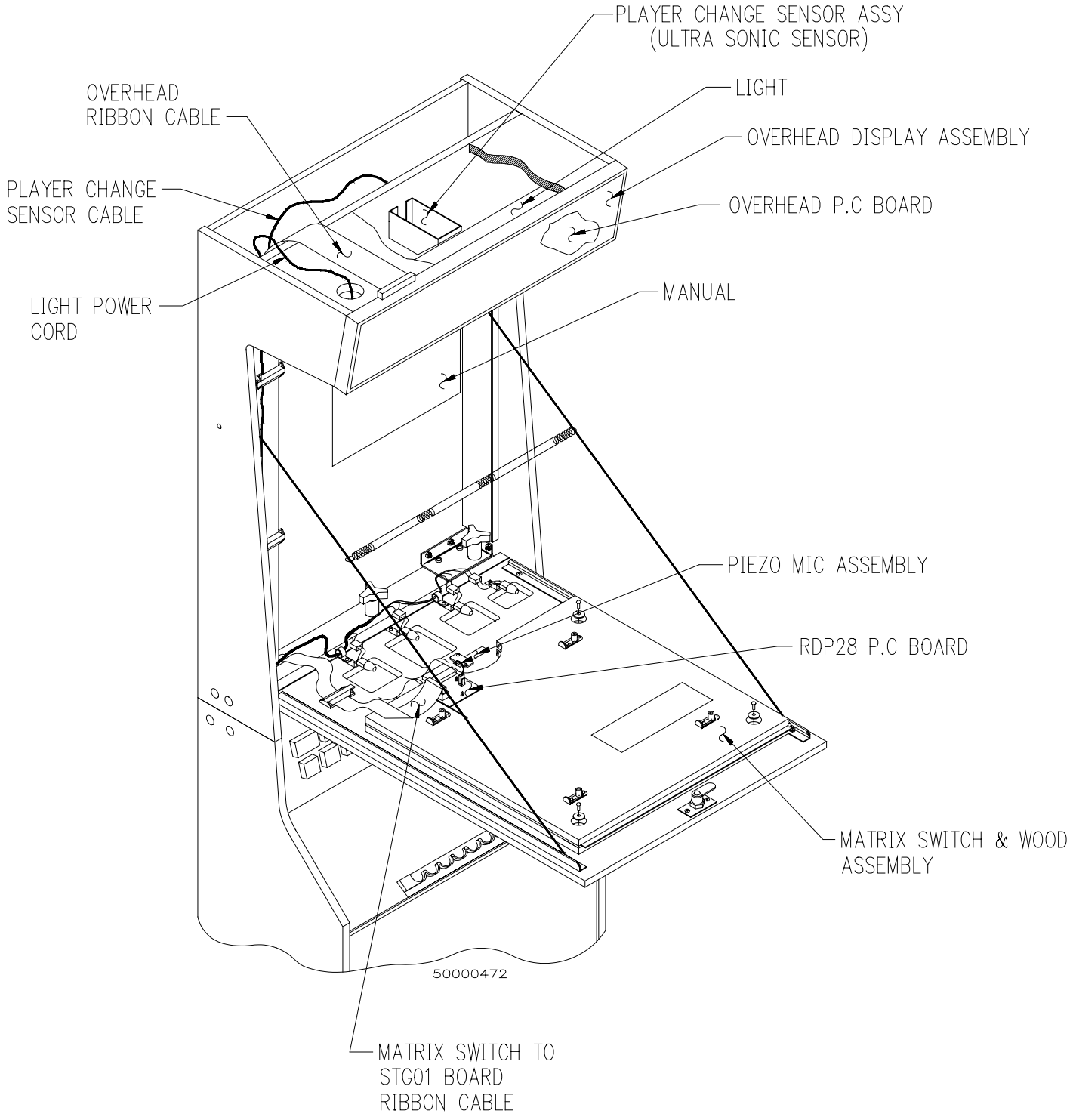

Figure 4 - OVERHEAD AND TARGET SECTIONS - INTERNAL VIEW (FLOOR MODEL)

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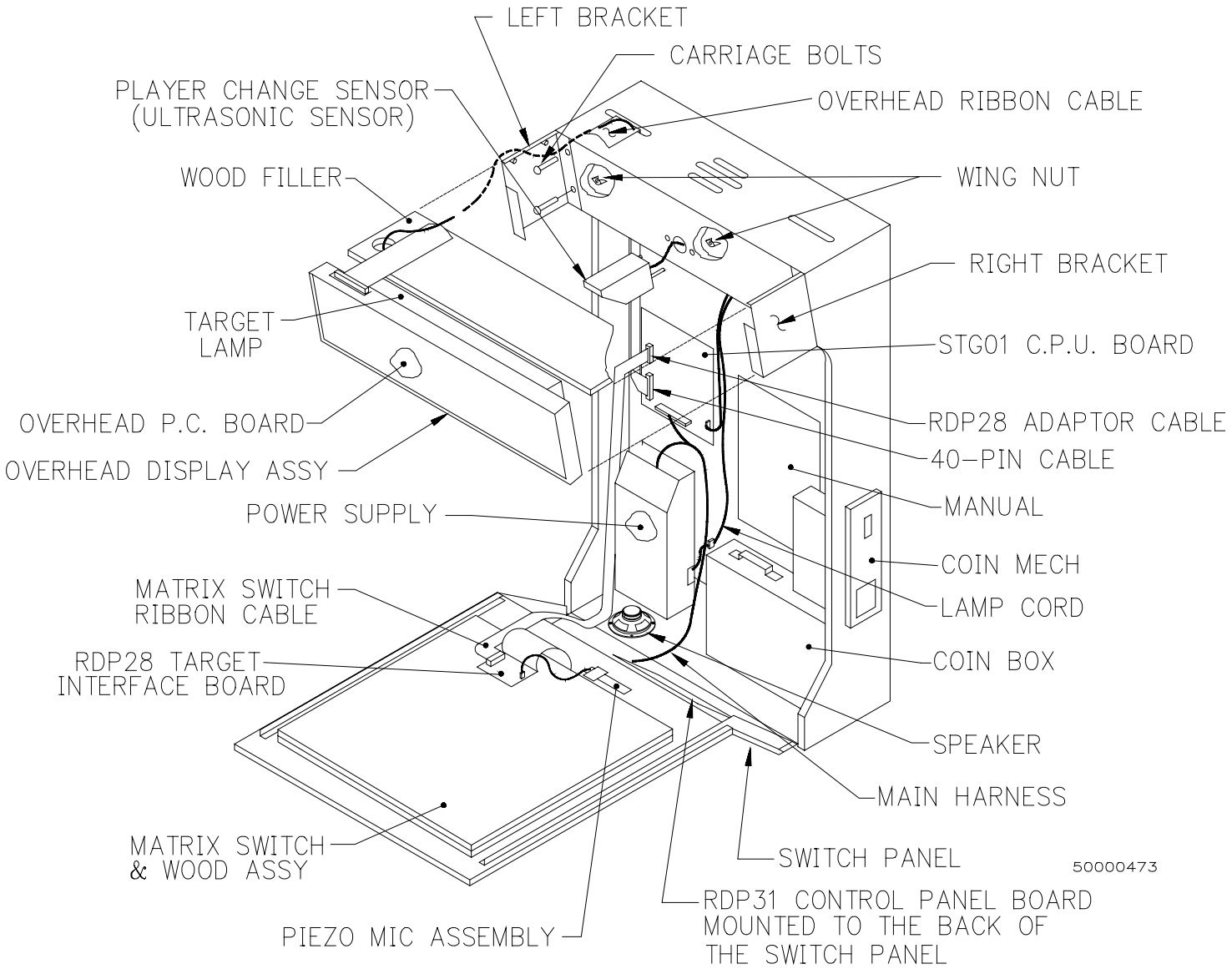

Figure 5 - OVERHEAD AND TARGET SECTIONS - INTERNAL VIEW (WALL MOUNT MODEL)

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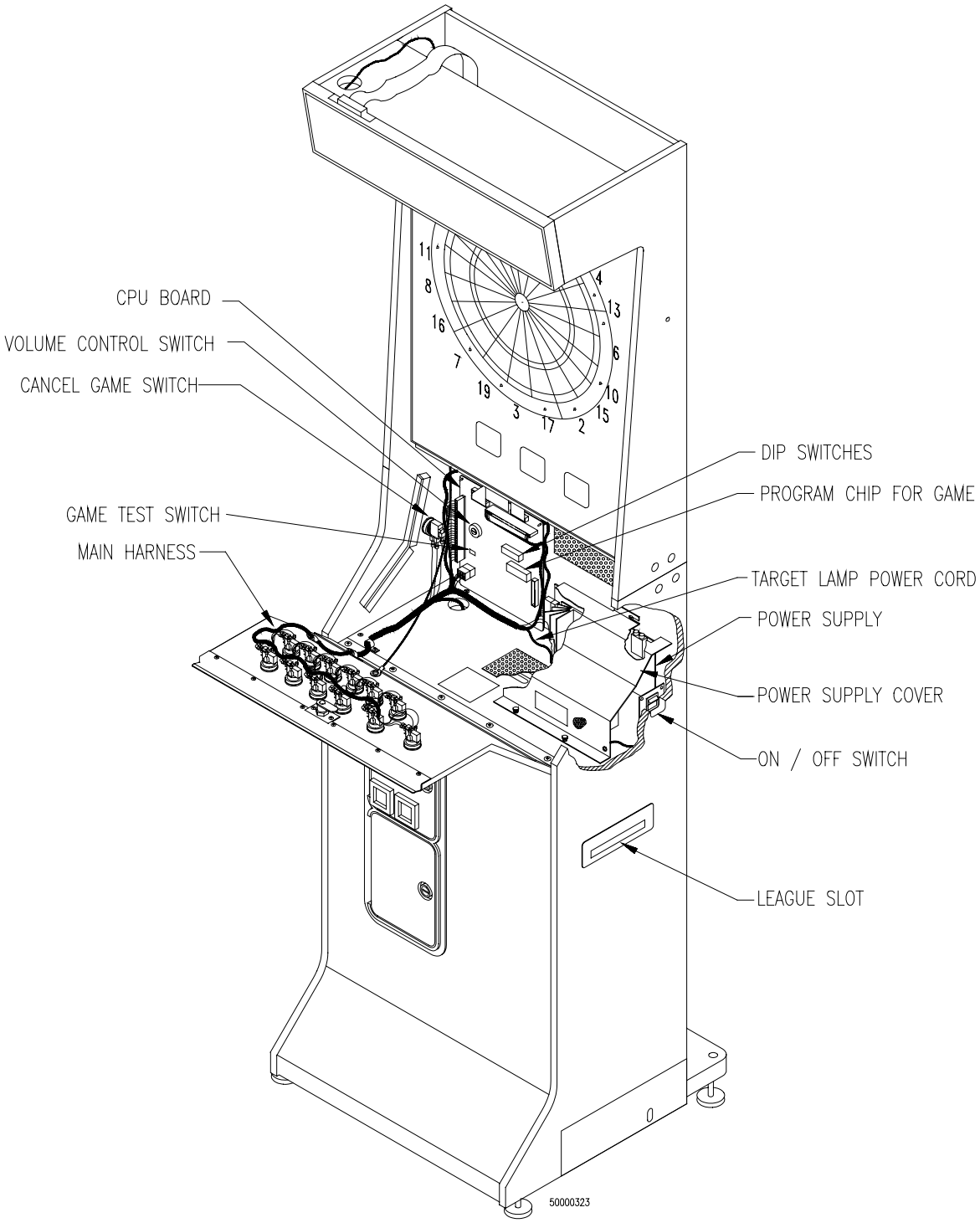

Figure 6 - CONTROL PANEL SECTION - INTERNAL VIEW (FLOOR MODEL)

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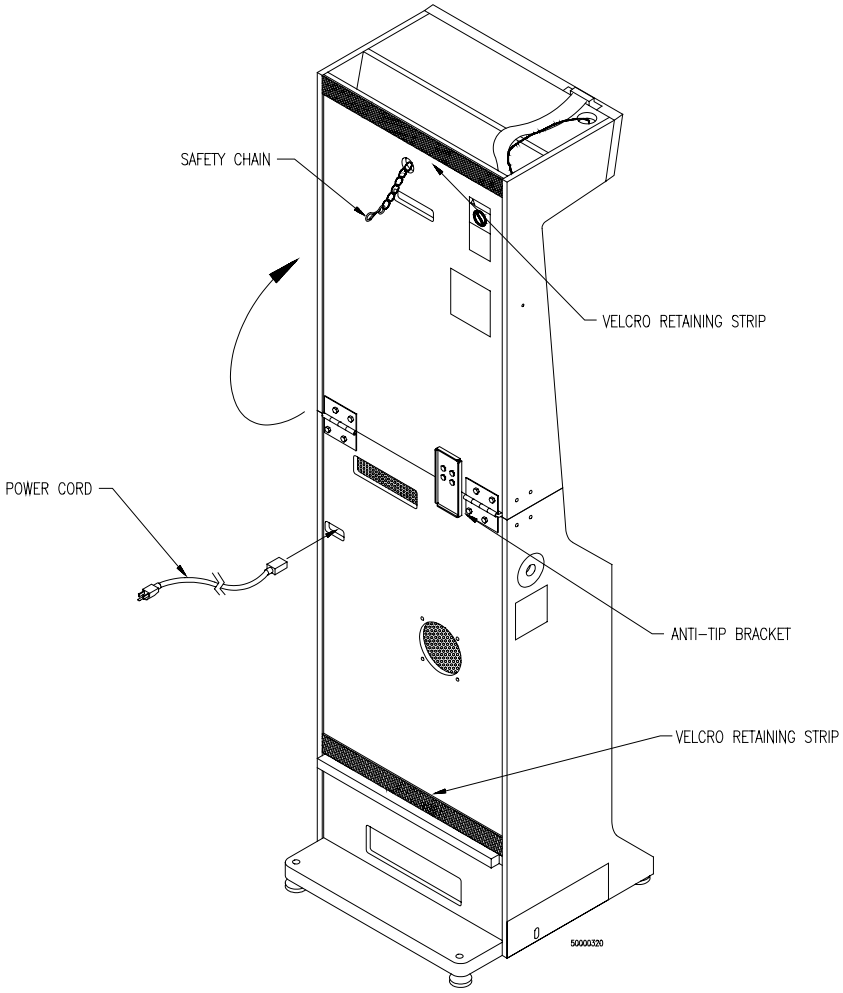

Figure 7 - REAR VIEW OF GAME (FLOOR MODEL)

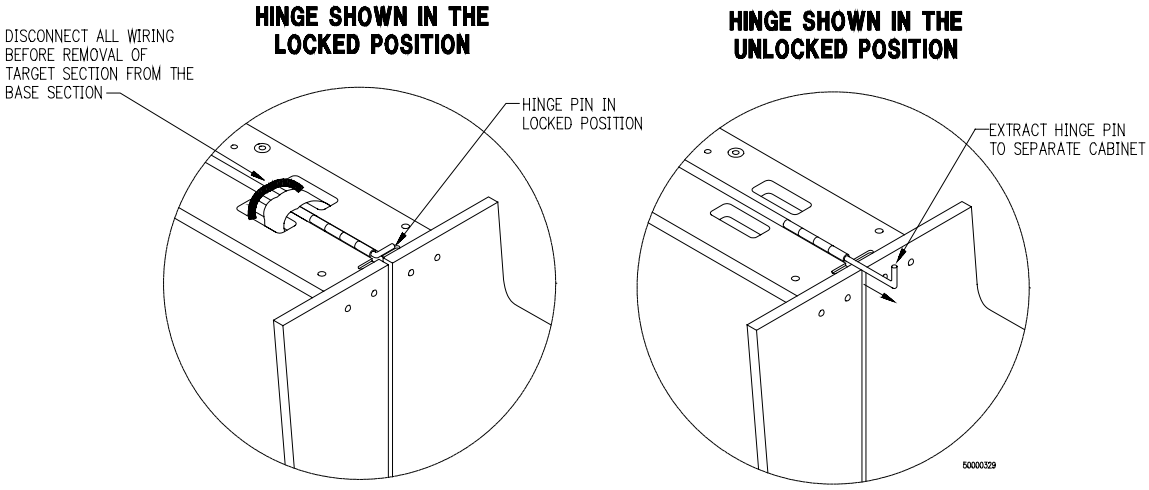

Figure 8 - TARGET SECTION HINGE IN LOCKED & UNLOCKED POSITIONS (FLOOR MODEL)

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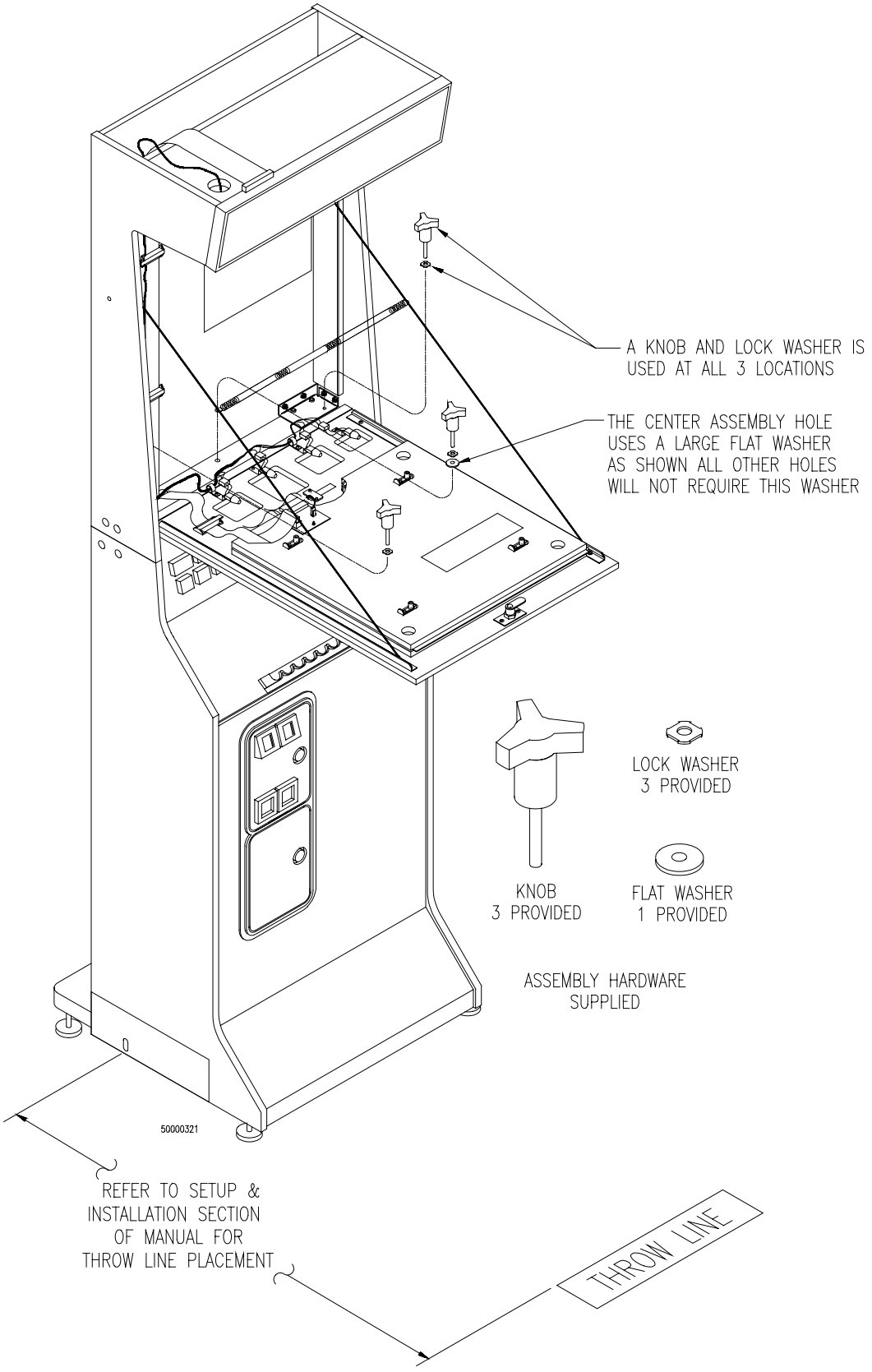

Figure 9 - INTERNAL VIEW - TARGET SECTION (FLOOR MODEL)

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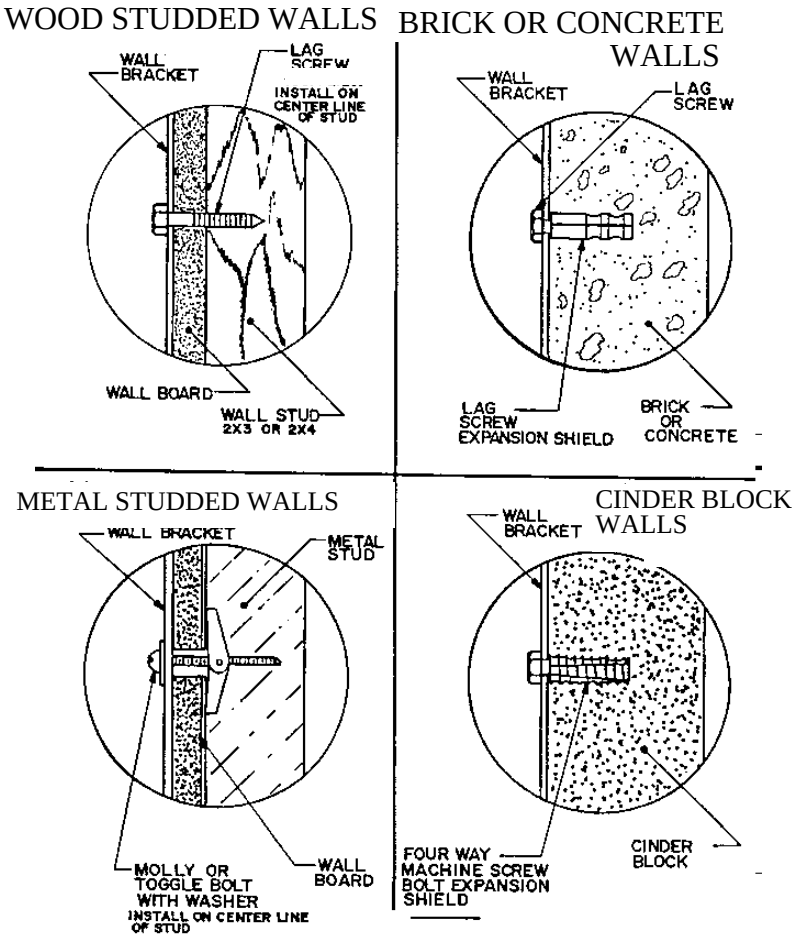

Figure 10 - WALL STUDS

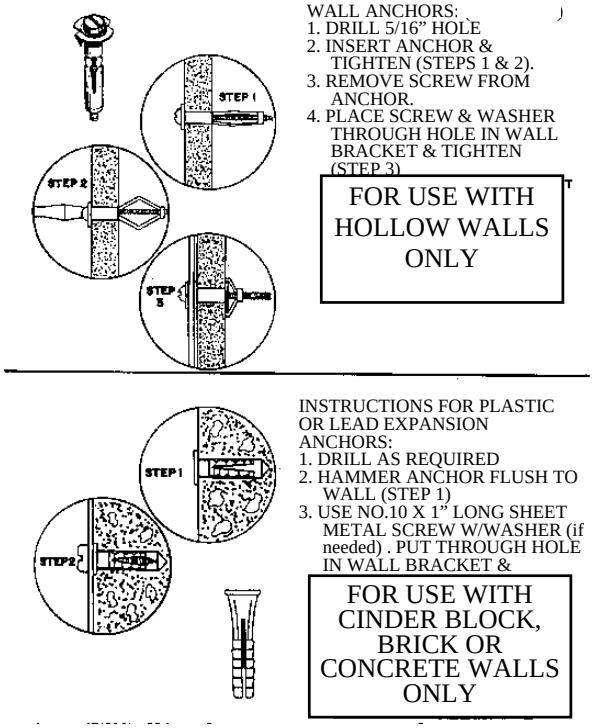

Figure 11 - MOLLY BOLTS

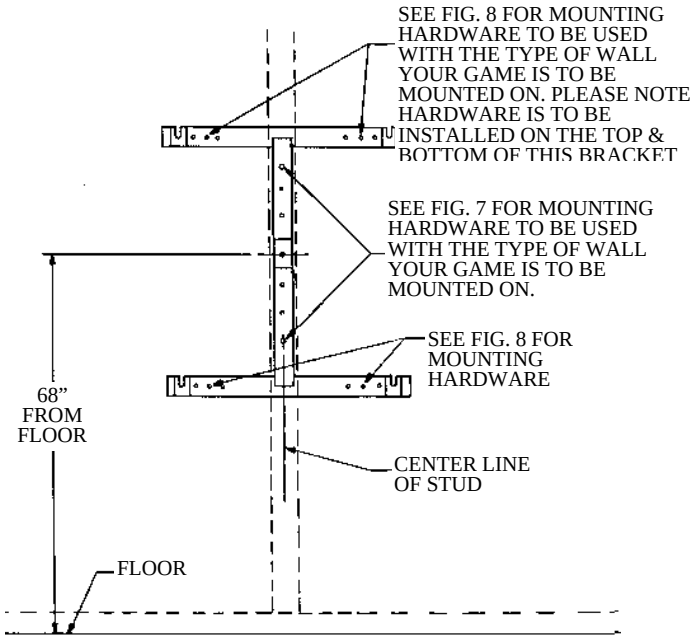

Figure 12 - WALL BRACKET

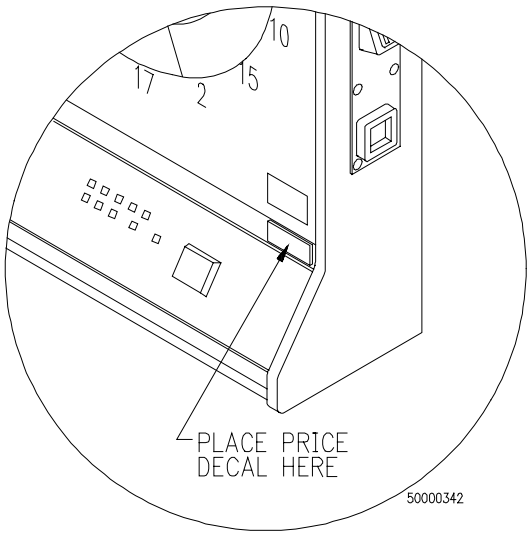

Figure 13 - LOCATION OF PRICE DECAL

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FACTORY DIP SWITCH SETTINGS - PROGRAMS 4779-XX AND 4978-XX

NOTE: GAMES WITH RANDOM CRICKET AND ITS VARIABLE OVERHEAD DISPLAY (4978-XX) REFER TO DIP SWITCH #1 AND DIP SWITCH #2A.

FOR GAMES WITH A FIXED OVERHEAD DISPLAY AND NO RANDOM CRICKET REFER TO DIP SWITCH #1 AND DIP SWITCH #2B.

DIP SWITCH #1

		OFF	ON	
CRICKET - NORMAL GAME	1	◈		INCREASE CRICKET COST BY 1 CREDIT, ADD 10 ROUNDS
NO STATS DISPLAYED IN WIN MODE	2		◈	STATS DISPLAYED IN WIN MODE
MISSED DART DETECTOR/AUTO PLAYER CHANGE INACTIVE	3		◈	MISSED DART DETECTOR/AUTO PLAYER CHANGE ACTIVE
SOLID BULLSEYE IN ALL CRICKET GAMES	4		◈	SPLIT BULLSEYE IN ALL CRICKET GAMES
SOLID CRICKET BULLSEYE 25 POINTS	5		◈	SOLID CRICKET BULLSEYE 50 POINTS
SOLID BULLSEYE ALL GAMES BUT CRICKET	6	◈		SPLIT BULLSEYE ALL GAMES BUT CRICKET
SOLID BULLSEYE NOT VALID FOR '01 DOUBLE IN/DOUBLE OUT	7		◈	SOLID BULLSEYE VALID FOR '01 DOUBLE IN/DOUBLE OUT
TARGET ALARM OFF	8		◈	TARGET ALARM ON

DIP SWITCH #2A — *PROGRAM 4978-XX*

		OFF	ON	
SET FOR FIXED OVERHEAD DISPLAY	1		◈	SET FOR VARIABLE OVERHEAD DISPLAY
	2			
BONUS MATCH FEATURE DISABLED	3		◈	BONUS MATCH FEATURE ENABLED
IDLE MODE PROMOTIONAL CREDIT (FREE PLAY) DISABLED	4		◈	IDLE MODE PROMOTIONAL CREDIT (FREE PLAY) ENABLED
TEAM GAME COSTS ARE DEFAULTED	5		◈	TEAM 301 AND 501 GAMES COST 1 CREDIT PER PLAYER
SOLO CHALLNEGER® NO EXTRA CREDIT	6	◈		SOLO CHALLENGER® ADDS 1 CREDIT
FROZEN PLAYER GOING OUT - OPPOSING TEAM WINS (NDA RULES)	7		◈	FROZEN PLAYER GOING OUT - TEAM BUSTS, PLAYER LOSES 1 TURN (EUROPEAN RULES)
TEAM CRICKET - EITHER PLAYER CLOSES TO WIN	8		◈	TEAM CRICKET - BOTH PLAYERS CLOSE TO WIN

DIP SWITCH #2B — *PROGRAM 4779-XX*

		OFF	ON	
ROUND LIMITS CONTROL (SEE ROUND LIMITS TABLE 2)	1		◈	
ROUND LIMITS CONTROL (SEE ROUND LIMITS TABLE 2)	2	◈		
BONUS MATCH FEATURE DISABLED	3		◈	BONUS MATCH FEATURE ENABLED
IDLE MODE PROMOTIONAL CREDIT (FREE PLAY) DISABLED	4		◈	IDLE MODE PROMOTIONAL CREDIT (FREE PLAY) ENABLED
TEAM GAME COSTS ARE DEFAULTED	5		◈	TEAM 301 AND 501 GAMES COST 1 CREDIT PER PLAYER
SOLO CHALLNEGER® NO EXTRA CREDIT	6	◈		SOLO CHALLENGER® ADDS 1 CREDIT
OPPOSING TEAM WINS (NDA RULES)	7		◈	TEAM BUSTS, PLAYER LOSES 1 TURN (EUROPEAN RULES)
TEAM CRICKET - EITHER PLAYER CLOSES TO WIN	8		◈	TEAM CRICKET - BOTH PLAYERS CLOSE TO WIN

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GAME OPTIONS AND ROUND LIMITS TABLES

GAMES AND OPTIONS

GAMES	301/501/701/ 801/901/1001	Hi- Score	Lo- Score	Burma Road†	Shanghai	Baseball	Cricket‡ Crazy Cricket†‡ Pick-It Cricket†‡
POSSIBLE OPTIOINS	Open In/Out* Double In/Out* Masters Out* Team* '01 Equal Darts™	NONE	NONE	NONE	NONE	NONE	Cut Throat‡ Team‡ No Score‡

*All options can be combined except Masters Out cannot be combined with Double In or Double Out.

‡All Cricket options can be combined except No-Score cannot be combined with either the Cut Throat or Team.

†These games are only available if you have the Crazy Cricket program (4978-XX)

ROUND LIMITS TABLES

ROUND LIMITS TABLE 1 PROGRAM 4978-XX

	NONE	CRIC	ALL	LONG
301	NONE	NONE	10	15
501	NONE	NONE	15	20
701	NONE	NONE	20	25
801	NONE	NONE	25	30
901	NONE	NONE	25	30
1001	NONE	NONE	25	30
Hi-Score	7-10	7-10	7-10	7-10
Burma Road‡	9	9	9	9
Shanghai	7	7	7	7
Baseball	9	9	9	9
Cricket*	NONE	20/30	20/30	25/35
Crazy Cricket*‡	NONE	20/30	20/30	25/35
Pick-It Cricket*‡	NONE	20/30	20/30	25/35
No-Score Cricket*	NONE	10/20	10/20	15/25

*DIP Switch 1-1 Off/On

‡These games are only available in Program 4978-XX.

ROUND LIMITS TABLE 2 PROGRAM 4779-XX

DIPS→ / GAMES↓	2-1 OFF 2-2 OFF	2-1 OFF 2-2 ON	2-1 ON 2-2 OFF	2-1 ON 2-2 ON
301	NONE	NONE	10	15
501	NONE	NONE	15	20
701	NONE	NONE	20	25
801	NONE	NONE	25	30
901	NONE	NONE	25	30
1001	NONE	NONE	25	30
Hi-Score	7-10	7-10	7-10	7-10
Lo-Score	7-10	7-10	7-10	7-10
Shanghai	7	7	7	7
Baseball	9	9	9	9
Cricket*	NONE	20/30	20/30	25/35
No-Score Cricket*	NONE	10/20	10/20	15/25

*DIP Switch 1-1 Off/On

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TESTING YOUR GAME

Merit's Scorpion™ 9000 has built-in tests to allow you to individually test all aspects of the game's operation, without actually playing all the games.

Power Up Tests

On power-up, the game performs internal tests on the ROM and RAM. If the ROM fails, the lamps and displays will flash slowly; if the RAM fails the lamps and displays will flash quickly.

- If a button is stuck, "STUC BUTTON" will flash in the score display.
- A jammed coin mech will flash "COIN#" for the mech that is jammed.
- If a target segment is stuck, the segment number will be shown in the temporary score display and "TARGET" will be flashed in the player score display.

These problems must be corrected before the machine will continue.

Operator-selectable Tests

To enter test mode the game must be in the Idle Mode or Game Select Mode. Start the test mode by pressing the "TEST" button on the main CPU board or on the inside of the coin mech door.

Upon entering Test Mode, the temporary score display will proceed with a numeric cycle test from "111" to "999." When it's finished, "cnA" will appear in the display. "cnA" indicates the first sub-test under Test 00; this test will begin unless the PLAYER SELECT button is used to select a different test.

Test Descriptions

Test 00 - Custom Coin Setup/Books Display

This test allows the operator to change coin mech/coin credit settings, change game price settings and review the bookkeeping information. Press the Solo Challenger® button to select a sub-test.

Custom Coin Setup/Books Sub-Tests

- **A - Mechanical Mech Coin/Credit Setup**
- **B - Electronic Mech Coin/Credit Setup**
- **C - Custom Counter Setup**
- **D - Game Pricing Setup**
- **E - Alternate Pricing (Happy Hour)**
- **F - Current Books Count***
- **G - Lifetime Books Count***
- **H - Game Popularity**
- **I - Solo Challenger® Popularity**
- **J - Set Delay**
- **K - Bonus Credit Awarded**
- **L - Promotional Credit**
- **M - '01/Cricket Round Limits Setup**†
- **N - Hi-Score/Lo-Score Round Limits Setup**
- **O - Date Setup**
- **P - Clock Setup**
- **Q - Happy Hour Setup**

*The books are shown two at a time, to step through them, press the "TEAM" button.

†This test is skipped in Program 4779-XX.

Sub-Test A - Mechanical Mech Coin/Credit Setup

When the test button is pressed, the temporary score display will show "cnA". The Player 1 and 2 displays will show the coin/credit ratio for mechs 1 and 2. The 100's digit of the display shows the number of coins; the 10's and 1's digits show the number of corresponding credits. To change the coin values, press a single segment will add 1 to the count. For the credit values, pressing a single segment will add 1 to the count; pressing a double segment will subtract 1 from the count; pressing a triple segment will add 10 to the count.

Mech 1 coins - Use target segment "1"
Mech 1 credits - Use target segment "11"
Mech 2 coins - Use target segment "2"
Mech 2 credits - Use target segment "12"

Sub-Test B - Electronic Mech Coin/Credit Setup

The temporary score display will show "cnE" to indicate the electronic mech setup. This test works the same way as Sub-Test A. The target segment list below shows which segment to press for each input:

Input 1 coins - target segment "1"
Input 1 credits - target segment "11"
Input 2 coins - target segment "2"
Input 2 credits - target segment "12"
Input 3 coins - target segment "3"
Input 3 credits - target segment "13"
Input 4 coins - target segment "4"
Input 4 credits - target segment "14"

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Special Coin/Credit Setting (US version only)

The coin input value can be set to 0 for the special 3 credits for $1 input. This setting will force the credit value to 1 and it cannot be changed as long as the coins are set to 0. With this setting, the first and second coins entered will each give 1/2 credit and the third and fourth coins will each give a full credit, making the base credit cost 33 cents.

Sub-Test C - Custom Setup for Counter

The Custom Counter Setup allows the mechanical meter to count up to 10 base units (of money) per coin entered. For example, assume that a game has 2 mechs, a quarter and a half dollar. The quarter would be the base unit. For each quarter entered, the meter should be incremented once; for each half dollar, the meter should be incremented two times.

The temporary score display will show “cnT” to indicate the counter setup. The following lists the display and which counter assignment is being displayed.

Player 1	Mechanical Mech 1
Player 2	Mechanical Mech 2
Player 3 1’s	Electronic Mech input 1
Player 3 100’s	Electronic Mech input 2
Player 4 1’s	Electronic Mech input 3
Player 4 100’s	Electronic Mech input 4

You can increment the counter for each mech by pressing one of the following associated target segments:

Segment 1	Mechanical Mech 1
Segment 2	Mechanical Mech 2
Segment 3	Electronic Mech input 1
Segment 13	Electronic Mech input 2
Segment 4	Electronic Mech input 3
Segment 14	Electronic Mech input 4

Sub-Test D - Game Pricing Setup

The temporary score display will show “Cr”. To select the game to be priced, press that game’s button. The current game price, in credits per player, will appear in the Player 1 display. Pressing the single “1” segment will increase the cost by 1 (up to 9). Pricing defaults are as follows:

301	1CR
501	2CR
701	2CR
801	3CR
901	3CR
1001	3CR
Hi-Score	1CR
Burma Road†	1CR
Shanghai	1CR
Baseball	1CR
Cricket	2CR
Pick-It Cricket†	2CR
Crazy Cricket†	2CR
No-Score Cricket	Always less than cricket, but never less than 1 credit.

†Only in Program 4978-XX

Sub-Test E - Alternate Pricing (Happy Hour)

The temporary score display will show “HHP” to indicate the alternate pricing setup mode. You may now program a second set of game prices, which can be used at designated times, like “happy hour.” This sub-test works the same as Sub-Test D, except the secondary tables are used. These prices will become active at designated times (see Sub-Test Q).

NOTE: IF YOUR GAME IS NOT EQUIPPED WITH A RAM CLOCK, THIS FEATURE WILL NOT FUNCTION.

Sub-Test F - Current Books Count

The temporary score display will show “CR1” to indicate current coin counts mode. The Coin mech 1 count is shown in the Player 1 and 2 displays; the coin mech 2 count is shown in the Player 3 and 4 displays. Press the “TEAM” button to show the next set of counts, for electronic mechs 1 and 2, indicated by “CR2” on the display. Press the “TEAM” button again to get counts for electronic mechs 3 and 4, indicated by “CR3” on the display.

Sub-Test G - Lifetime Books Counts

This sub-test works the same as Sub-Test F, except the coin counts are for the lifetime of the game, not just the current books. The temporary score display will show “LF1”, indicating that you are in lifetime coin counts mode. The display will change to “LF2” and “LF3” for lifetime counts on electronic mechs.

NOTE: THE CURRENT, LIFETIME AND GAME POPULARITY COUNTERS ARE MONITORED BY ERROR CORRECTION SOFTWARE. IF THE COUNTERS ARE CORRUPTED FOR ANY REASON, THE SOFTWARE WILL DETECT AND STORE THE ERROR. IF THE “CURRENT” AND “LIFETIME” COIN COUNTS ARE FLASHING, AN ERROR WAS DETECTED. ALL THE COUNTERS ARE RESTARTED FROM THE POINT OF THE ERROR.

Sub-Test H - Game Popularity

The TEMPORARY SCORE display will show “POP” to indicate the game popularity counts mode. The game popularity displays the number of times each game was played. You select each game by pressing that game’s button.

Sub-Test I - Solo Challenger® Popularity

The temporary score display will show “SOL” to indicate Solo Challenger® popularity counts mode. To see the popularity of Solo Challenger® for each game, press that game’s button.

Sub-Test J - Set Delay

This sub-test allows you to set the delay between players when the “PLAYER CHANGE” button is pressed. The temporary score display will show “SEt” and the Player 1 and 2 displays will show “dELAy”, indicating you are in set delay mode. The Player 3 and 4 displays will show the delay in seconds.

The delay can range from 2 to 8 seconds, with the default being 4 seconds. To change the delay length press the single 1 target segment. The delay will increase 2 seconds for each segment press.

Sub-Test K - Bonus Spin

This provides a random match feature at the end of each game. A randomly selected number is compared to the 1’s digit of all players’ scores. Credits equal to the cost of the game are awarded for each matching digit.

The temporary score display will show “bon” indicating you are in the bonus spin feature mode. The bonus credit awarded while the Bonus Spin feature was activated is shown on the Player 2 display. DIP switch S2-3 controls this feature.

Sub-Test L - Promotional Credit

This feature automatically supplies a free credit after the machine has been in idle mode for approximately 30 minutes. The operator can remove this credit by pressing the cancel button and/or enable/disable this feature by toggling DIP switch S2-4.

To indicate that you are in the promotional credit mode, the Player 1 and 2 displays will show “IdLE”, and the Player 3 and 4 displays will show “CREdIt”. The number of idle credits awarded while the feature was enabled is shown in the temporary score display.

*Sub-Test M - ‘01 and Cricket Round Limit Setup**

This sub-test allows you to adjust the round limits for all ‘01 and Cricket games. The temporary score display will show “rnd” and the Player 1 and 2 displays will show “tAbLE” and the Player 3 and 4 displays will show “NONE” indicating you are in round limits mode, table “NONE”.

You now have access to 4 tables: NONE (no round limit for ‘01 and Cricket games), CRIC (round limits for Cricket games, but not ‘01 games), ALL (round limits for both ‘01 and Cricket games) and LONG (round limits for Cricket and ‘01 games are extended). To change tables, press the single 1 target segment. The next table name will appear in the Player 3 and 4 displays.

*This test is skipped in Program 4779-xx. See *Round Limits Table 1* for round limits; if you have Program 4779-XX see *Round Limits Table 2.*

Sub-Test N - Hi-Score Round Limits Setup

The temporary score display will show “HI-”, the Player 1 and 2 displays will show “SCORE”, and the Player 3 and 4 displays will show “RND” to indicate Hi-Score round limit setup mode. The round limit value will be shown in the Player 3 display. Press the single 1 segment to change the round limit (it can range from 7 to 10 rounds, with the default being 7 rounds).

Sub-Test O - Date Setup

The temporary score display will show “dAt” to indicate the date setup mode. The date, month and year are shown in the Player 1, 2 and 4 displays.

Use the ‘01 game button to select the “date” field, the ‘01 Equal button to select the “month” field and the Shanghai/Baseball button to select the “year” field. When one of these button is pressed, an indicator (a raised “c”) is displayed in the active field and the corresponding player lamp is lit. Use the Double In button to increment the value of the selected field; use the Double Out button to decrement the selected field.

Sub-Test P - Clock Setup

The temporary score display will show “CLC” to indicate clock setup mode. The hour, minutes and

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day of the week are shown in the Player 1, 2 and 4 displays, respectively.

Use the ‘01 game button to select the “hour” field, the ‘01 Equal button to select the “minutes” field and the Shanghai/Baseball button to select the “day” field. When one of these buttons is pressed an indicator will appear in the active field and the corresponding player lamp is lit. Use Double In/Double Out to increment/decrement the selected field. (For the day of the week, 1=Sunday and 7=Saturday.)

NOTE: IF A RAM CLOCK IS NOT INSTALLED THIS FEATURE WILL NOT FUNCTION.

Sub-Test Q - Happy Hour Setup

The temporary score display will show “HHx”. The “x” indicates the day of the week (1-7). The default setup for the happy hour timer is 17:00 (5 PM). The starting time appears in the Player 1 and 2 displays and the ending time appears in the Player 3 and 4 displays. If the starting time is greater than, or equal to, the ending time the feature is considered inactive.

Use the “TEAM” button to step through the timers for each day of the week. Use the ‘01 game button to select the “starting time hours” field, the ‘01 Equal button to select the “starting time minutes” field, the Shanghai/Baseball button to select the “stopping time hours” field and the Hi-Score/Lo-Score button to select the “stopping time minutes” field.

Use the Double In button to increment the value in the selected field and the Double Out button to decrement the value.

NOTE: IF A RAM CLOCK IS NOT INSTALLED THIS FEATURE WILL NOT FUNCTION.

Once all of the sub-tests of the Custom Coin Setup/Books display test have been performed, press the “PLAYER CHANGE” button to select the remaining tests. Each press of the button will initiate a different test, starting with test 01 and ending with test 17.

Test 01 through Test 10 - 7 Segment Display, LED and Lamp Tests

Run tests 01 through 10 to check each of the game’s displays/LEDs/lamps. Each numbered test will light a different row/display. If a bulb is out, directions for changing it can be found in the maintenance section of the manual.

Test 11 - Target Test

Test the target by pressing each of the segments. The target test will display the value of each segment pressed in the Player 2 display (the ‘01 lamp indicates single; the Equal lamp indicates double; the Shanghai/Basball lamp indicates triple. When a closure is detected a tone will sound. Another tone will sound when the segment is released. The Player 3 and 4 displays will show “target”.

Test 12 - Button/Lamp Test

The button/lamp test will illuminate the lamp corresponding to each button pressed. The Player displays will show “button tESt”.

NOTE: THE START/PLAYER CHANGE BUTTON WILL ALWAYS ILLUMINATE AND SOUND A TONE WHEN PRESSED.

Test 13 - Missed Dart/Auto Player Change Test

The missed dart detector test will illuminate the ‘01 lamp and the Player 1 lamp when a missed dart is detected. The automatic player change will flash the ‘01 Equal and Player 2 lamps when a person is detected in front of the machine. The Player 1 display will show “tap”, the Player 3 display will show “a.p.c.” and the Player 4 display will show “-hi” or “-lo” if the missed dart detector/automatic player change feature is enabled. The display will show “NU” if the feature is disabled.

NOTE: THE PLAYER 4 DISPLAY WILL SHOW “-HI” WHEN THE ULTRASONIC UNIT IS TURNED “OFF” AND “-LO” WHEN THE UNIT IS TURNED “ON.”

Test 14 - DIP Switch Test

The temporary score display will show “DIP” to indicate the test. The DIP switch settings will be shown with vertical bars on the Player score displays. Switch bank 1 is shown in the Player 1 and 2 displays (with switch 1 to the left) and switch bank 2 will be in the Player 3 and 4 displays (switch 1 on the left). A vertical bar on top indicates the switch is on; a vertical line on the bottom indicates the switch is off.

Test 15 - Program Version Display

“Pro” will be displayed in the temporary score display indicating program version and the program version number will appear in the Player 1 display. The current revision level will be shown in the Player

2 display. The actual program number will be shown in the Player 3 and 4 displays.

Test 16 - Coin Mechs Test

This allows the operator to test the coin mechs without adding credits. When a coin is deposited the coin song is played and the mech number is displayed on the overhead, but no credits are added.

Clearing Books/Reset Mode

To clear books or reset default settings, an option button is pressed along with the TEST button(s). Both buttons must be pressed simultaneously. Refer to the table below:

BUTTONS	RESULTS
Test + Double Out	Clears Current Books
Test + Masters Out	Clear Lifetime & Current Books
Test + Team	Reset Factory Default Settings
Test + Double In	Resets Happy Hour Start/Stop Settings

NOTE: ADDITIONALLY, HOLDING IN THE PLAYER CHANGE BUTTON WHEN POWERING UP THE GAME WILL CLEAR ALL CREDITS AND COIN COUNTERS, ABORT ANY ACTIVE GAMES AND RESET THE IDLE MODE DISPLAY.

MAINTENANCE

Bulb Replacement

To replace the light bulbs for REMOVE DARTS and THROW DARTS:

1. Unlock and open the target section door.
2. Locate the defective bulb.
3. Pull the bulb to remove it.
4. Replace with a GE #161 bulb.

To replace the light bulbs for the Push-button Switch or Coin Lamp:

1. Unlock and open the control panel or coin mech door.
2. Locate and remove the defective bulb.
3. Replace with a GE #161 BULB.

To replace the bulbs in the overhead display:

1. Loosen the 6 screws that secure the bezel to the frame and slide it off the chassis.
2. Locate the defective bulb.
3. Pull the bulb to remove it.
4. Replace with a GE #79 bulb.
5. Replace the bezel and secure with screws.

Target Maintenance

Removing Broken Tips

Broken tips can sometimes be pushed into the cavity behind a segment and cause the segment to stick. If this happens you will have to remove the target matrix switch assembly to remove the tip.

1. Open the target door section.
2. Carefully remove the backboard and clean out all broken tips.
3. Reassemble the backboard assembly, making sure the latches are secure.

Cleaning the Cabinet

The cabinet, Lexan display and front base panel should all be cleaned with a damp cloth and mild detergent. The Lexan can be cleaned with a solution for Plexiglas or acrylic surfaces.

NOTE: NEVER SUBMERGE THE TARGET OR SEGMENTS IN WATER.

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TROUBLESHOOTING (MERIT CUSTOMER SERVICE 1-800-445-9353)

PROBLEM	ACTION
No sound, overhead display or overhead light.	Check AC outlet for power. Check for blown fuse.
Sound and overhead display function, but no overhead light.	Check for proper connection of overhead lamp wiring via the STG03. Check fluorescent tube. Check lamp starter if applicable (some lamps do not need starters).
No power up sound or overhead display, but overhead lamp turns on.	Check all connectors to power supply, AC input, +5V, and +12V outputs. +5V output must be >5.2V Check power connections to J1 on the STG01 board.
Power-up sound & overhead lamp function, but no overhead display.	Check 40-wire ribbon cable from STG01 to the overhead PC board for proper fit. Replace the overhead unit as necessary.
No sound.	Adjust volume control R25 on STG01 board. Check the connections to the speaker. Check for the presence of +12V on the power supply. Replace STG01 board or the speaker as necessary.
RAM reset on every power-up.	Check for correct DIP switch settings. Check integrity of DIP switches using game test switch. Replace the STG01 board as necessary.
No push-button lamps light.	Check proper connection of lamp connector J4 on STG01. Check black common wire loop to each lamp. Check for presence of +12V. Replace the STG01 board as necessary.
Individual overhead LEDs do not light.	Check the LED. Use a multimeter. Replace the driver IC as necessary.
Some or no buttons or coin inputs work on the STG01 board.	Check proper connection of switch connector J3. Check green common wire loop to each switch. Check each switch for functionality. Replace STG01 board as necessary.
Coin jam display.	Check the coin switch mechanism for a possible jammed coin. Check the actual coin switch for jammed lever. Ensure that the switch wiring connects the normally open contacts.
Stuck segment display.,	Check that the wing nuts holding the target back board are finger tight. Check for broken tips wedged between a segment and the spider. Check for broken tips stuck behind a segment.
No missed darts detected, auto player change not working.	Switch position 3 on DIP switch 1 must be ON; check for correct DIP switch settings. RDP28 has not been properly connected to STG01 for missed darts; also check microphone connection. Check ultrasonic cable connection to J9 of STG01.
Player change works but no missed darts are detected.	Check the microphone connections to the RDP28 board. Check for correct DIP switch settings.
Automatic player change does not work.	Check for correct DIP switch settings. Is the cable from the ultrasonic transducer connected correctly to J9 on STG01? Replace the ultrasonic transducer. Replace the STG01 board.
Only some missed darts are detected.	Replace the RDP28 board.

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SCORPION™ 9000 SPARE PARTS LIST

FLOOR MODEL

CABINET AND HARDWARE PARTS	
WD2836-01	CABINET, U/R D2, BASE
MW1728	CONTROL PANEL, U/R D2
WD2831-01	CABINET, U/R D2, TARGET
HW8991	HINGE, U/R D2
HW8992	HINGE PIN SCORPION FOLD-DOWN
HW8960	LEG LEVELER, 3/8-16”
HW8716	LOCK, FLAT, STR, #564, 1-7/16
HW8986	FACE PLATE LEAGUE SLOT ABS
HW8198	COIN HOLDER GENERIC BLACK W/YL
HW8933	STANDOFF, BLIND HOLE, 1/4”
HW8985	ENCLOSURE, OVERHEAD, PLASTIC
HARNESSES AND CABLES	
EC2185	CABLE, RIBBON, CPU TO MATRIX, 27”
SA1554	CABLE, RIBBON, 2 x 20, 59”
ACCESSORIES	
GL4075	DECAL, “BULL STARTS HERE”
DT1100	1/4” DART TIPS, WHITE
SB3000	KIT, SAFETY CHAIN HARDWARE
SB1895	SOLO CHALLENGER® PROMOTION KIT
SB1783-02	SIGN ASSEMBLY, EQUAL DARTS, ENGLISH, WRAPPED
PM1717	MANUAL, SCORPION 9000
SA3213-03	KIT, BILL ACCEPTOR DOOR 25¢- JCM1$
TARGET PARTS	
HW8012	TARGET MAT, RUBBER, NEOPRENE 093
SA8704	MATRIX/WOOD ASSEMBLY, LGTGT-S
SB1484	SPIDER W/SEGMENTS, LGTGT-S, BLACK-4 COLORS
DS2001	CATCH RING SEGMENT, LGTGT-XS, BLACK
DS2009	CATCH RING CAP, BLACK
DS0073	SPIDER, LGTGT-S, BLACK
SEGMENT KITS FOR BLACK SPIDERS	
DS5078	SEGMENT KIT SINGLE, LGTGT-S, CREAM (10 EACH)
DS5079	SEGMENT KIT DOUBLR/TRIPLE, LGTGT-S, GREEN (10 EACH)
DS5085	SEGMENT KIT DB/TP/OB, LGTGT-S, RED (10 EACH DOUBLE, TRIPLE; 1 OUTER BULL)
DS5087	SEGMENT KIT SGL/IB, LGTGT-S, BLACK (10 EACH DOUBLE, TRIPLE; 1 OUTER BULL)
DECALS AND DISPLAYS	
GL1700-01	DECAL, BASE, SCORPION, U/R D2, GRAY
GL1701-01	DECAL, TARGET, SCORPION, U/R D2, GRAY
GL1734-05	DECAL, INSTR.,EQUAL/BULL, ENG, UR D2
GL1708	DECAL, FOOT RAMP, U/R D2
GL1703-01	DECAL, CONTROL PANEL, U/R D2, SCORPION
GL2778	PLEXI, DISPLAY, OVERHEAD, SCORPION, U/R D2
COIN MECHS (WITHOUT HARNESSING)	
HW8230	COIN DOOR DBL-5/8” DUAL 25¢
ELECTRICAL/ELECTRONIC COMPONENTS	
EC2001	CORD, POWER, U.S.A.
SB1637	SPEAKER ASSEMBLY, 6”, U/R D2
SB1441-02	TRANSDUCER ASSY, PIEZO, 7.0”LEADS (MICROPHONE ASSEMBLY)
SB1905	TRANSDUCER ASSY, ULTRASONIC (PLAYER CHANGE SENSOR)
SB1796-0A	LAMP ASSY, F15T8CW, 120V, CL79

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SCORPION™ 9000 SPARE PARTS LIST (cont'd)

TA10005	*PCA, OVHD, LED, RNDM, CRKT
SA1786	*PCA, TARGET MICROPHONE INTERFACE (RDP28 BOARD)
EC7533	SWITCH MODE P/S, DART
SB1573-01	FILTER ASSEMBLY, POWER ENTRY, #10 LUG
LAMPS AND SWITCHES	
LB1126	BULB, T 1-3/4", 6V, GE #79 (RDP02 OVERHEAD DISPLAY)
LB1150	BULB T 3-1/4",14V, GE #161 (10 PACK - SWITCHES & COIN MECHS)
LB2100	LAMP, FLUORESCENT, 15", F15T8CW
SW1565	*PBBODY, RECTANGULAR, RED, 301-1001
SW1581-02	*PBBODY, RECTANGULAR, GREEN, EQUAL DARTS™/SPOT CRICKET
SW1569	*PBBODY, RECTANGULAR, RED SHANGHAI/BSAEBALL
SW1584	*PBBODY, RECTANGULAR, RED, HI-SCORE/BRMA/321
SW1582-02	*PBBODY, RECTANGULAR, RED, CRICKET/CRAZY CRICKET/PICK-IT CRICKET
SW1583-02	*PBBODY, SMALL SQUARE, AMBER, DOUBLE IN/WILD & CRAZY CRICKET
SW1984-01	*PBBODY, SMALL SQUARE, AMBER, DOUBLE OUT/NO SCORE CRICKET
SW1985-01	*PBBODY, SMALL SQUARE, AMBER, MASTER/CUT THROAT CRICKET
SW1608-01	*PBBODY, SMALL SQUARE, AMBER, TEAM
SW1591	*PBBODY, SMALL SQUARE, AMBER, SOLO
SW1623	*PBBODY, FLUSH MOUNT, LARGE SQUARE, RED, PLAYER CHANGE
SW1609	*PBBODY, SMALL SQUARE, AMBER, SPLIT BULL
SW4024	SWITCH, ROCKER, DPST, 250V (ON/OFF SWITCH)

*PBBODY = PUSH-BUTTON BODY

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SCORPION™ 9000 SPARE PARTS LIST

WALL MOUNT MODEL

CABINET AND HARDWARE PARTS	
HW8716	LOCK, FLAT, STR, #564, 1-7/16”
MW4029	BRACKET, HOOD, RIGHT, WD2
MW4028	BRACKET, HOOD, LEFT, WD2
HARNESSES AND CABLES	
EC2184	CABLE, RIBBON, 2 x 12, 39”
EC2180	CABLE, RIBBON, 2 x 20, 38”
SB1939-01	HARNESS, MAIN, WD3
ACCESSORIES	
GL4075	DECAL, “BULL STARTS HERE”
SB1895	SOLO CHALLENGER® PROMOTION KIT
TARGET PARTS	
HW8012	TARGET MAT, RUBBER, NEOPRENE 093
SA8704	MATRIX/WOOD ASSEMBLY, LGTGT-S
DS2001	CATCH RING SEGMENT, LGTGT-XS, BLACK
DS2009	CATCH RING CAP, BLACK
SB1484	SPIDER W/SEGMENTS, LGTGT-S, BALCK-4 COLORS
DS0073	SPIDER, LGTGT-S, BLACK
SEGMENT KITS	
	FOR BLACK 15 1/2” - 40cm
DS5078	SEGMENT KIT SINGLE, LGTGT-S, CREAM (10 EACH)
DS5079	SEGMENT KIT DOUBLE/TRIPLE, LGTGT-S, GREEN (10 EACH)
DS5085	SEGMENT KIT DB/TP/OB, LGTGT-S, RED (10 EACH DOUBLE, TRIPLE; 1 OUTER BULL)
DS5087	SEGMENT KIT SGL/IB, LGTGT-S, BLACK (10 EACH DOUBLE, TRIPLE; 1 INNER BULL)
	FOR WHITE 15 1/2” - 40cm
DS5075	SEGMENT KIT ALL, LGTGT-S, RED
DS5076	SEGMENT KIT ALL, LGTGT-S, BLU
DECALS AND DISPLAYS	
GL2700	DECAL, TARGET, SCORPION WD2
GL2730-01	DECAL, INSTRUCTIONS, ENGLISJ, EQUAL /BULL, WD3
COIN MECH PARTS	
HW8248	COIN MECH, BLACK SINGLE/25C CCI
MW4022	COIN BOX, PT2W
MW4023	COVER, COIN BOX, MECHANICAL COIN REJECTOR, WD2
LAMPS AND SWITCHES	
LB1150	BULB, T 3-1/4”, 14V, GE3161 (10 PACK)
SW1623	*PBBODY, FLUSH MOUNT, LARGE SQUARE, RED, PLAYER CHANGE
	*PBBODY = PUSH-BUTTON BODY
ELECTRICAL/ELECTRONIC COMPONENTS	
EC2001	CORD, POWER, U.S.A.
EC2005	LATCH, POWER CORD
SA4084	SPEAKER ASSEMBLY, 4”
SB1441-02	TRANSDUCER ASSY, PIEZO, 7.0” LEADS (MICROPHONE ASSEMBLY)
SB1905	TRANSDUCER ASSY, ULTRASONIC (PLAYER CHANGE SENSOR)
TA10005	*PCA, OVHD, LED, RNDM CRICKET
SB1796-0A	LAMP ASSY, F15T8CW, 120V, CL79 (OVERHEAD LIGHT FIXTURE)
SB1924-01	OVHD ASSY, 4PLR, 120V, WD3, SCORP (OVERHEAD DISPLAY ASSY)
EC7533	PWR SPL, SW, 110V, +5/+12
SB1588	POWER ENTRY ASSEMBLY, WD3, 120V, SW P/S
SA1787	PRINTED CIRCUIT ASSY, CPU/SONIC, LED DART
SA1786	PRINTED CIRCUIT ASSY, TARGET/MICROPHONE INTERFACE (RDP28 BOARD)
SA1808-01	PRINTED CIRCUIT ASSY, PUSH-BUTTON CONTROL PANEL, WD3 (RDP31 BOARD)

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Merit Limited Warranty for Coin Operated Dart Machines

Merit Industries, Inc., warrants the Scorpion™ 9000 dart machines to be free from defects in material and workmanship for a period of twenty-four months from the date of delivery or twenty-five months from the date of shipment from its facilities, whichever occurs first. The warranty covers all major components except the coin mechanism, which is governed by the original manufacturer's warranty.

Consumables such as fuses, light bulbs, switches, line cords and target rubber mats are warranted for a period of six months from the date of delivery or seven months from date of shipment, whichever comes first

Failure or damage due to misuse, vandalism, excessive or intentional abuse, operation outside specified conditions (including but not limited to improper electrical power source), normal wear and tear, fire, water damage, acts of God, acts of war and civil unrest, are specifically excluded. Damage resulting from improper servicing by unqualified personnel is also excluded. Cabinet damage resulting from normal wear and tear or customer/user abuse is not included

Merit products are carefully inspected and thoroughly tested prior to packing and shipment. Any damage discovered upon receipt of goods, whether obvious or concealed, must be reported immediately to the delivering carrier and claims made directly to them. Merit assumes no responsibility for damages once the product has left its facilities, and any disputes regarding transportation damage must be resolved with the shipping company(s).

Merit will repair or replace, at its option, any component, part or subassembly that fails under warranty, provided that the failed item is returned, shipping charges prepaid, to Merit's repair facility and Merit is notified of the failure within the warranty period. Merit reserves the right to request the serial numbers of the item and/or game which has failed, and copies of sales invoices, bills of lading or other documents as required to determine the validity of the warranty coverage Merit's obligation shall be limited to repair or replacement, as stated above, and shall specifically exclude any liability for consequential damage or loss of earnings.

Merit may, at its discretion, provide replacement parts under warranty prior to receiving defective items without incurring any ongoing obligation to extend such accommodations.

The above terms and conditions constitute the sole obligation, written or implied, of Merit Industries under its warranty coverage.

FCC WARNING:

THIS EQUIPMENT COMPLIES WITH THE REQUIREMENTS IN PART 15 OF FCC RULES FOR A CLASS "A" COMPUTING DEVICE. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA MAY CAUSE INTERFERENCE TO RADIO AND TV RECEPTION REQUIRING THE OPERATOR TO TAKE WHATEVER STEPS ARE NECESSARY TO CORRECT THE INTERFERENCE.