

MCI, LTD.

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INSTRUCTION MANUAL

THE BLUE MAX

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### TIPS TO THE OPERATOR

1. The sound level is factory set on maximum volume (see volume control VI-A).
2. Skill level can be set to correspond to the type of location (see airplane speed VI-C).
3. The player must track airplane and hold airplane in sights for about one-half second to record hit (see game sequence).
4. The target area is the pilot.
5. Position coin control switch (VI-D) and apply proper applique to coin acceptor plate.
6. CAUTION: The game has been properly aligned at the factory. There should be no need for further alignment.
7. Do not make any adjustment without reading the manual.

## GAME SEQUENCE

The games per quarter switch is set at 2 games for one quarter. The first one and one-half minute game is started by inserting a quarter, the second by pushing the Credit Button. If the switch is put in the 1 game for a quarter position, the game is started by the quarter.

Inserting a quarter or pushing the Credit Button will:

1. Reset the score to zero.
2. Start the Main Fuel Gauge.
3. Start the airplanes.
4. Turn on the projector lamp.
5. Turn on the phototransistor lamp.
6. Start the Tracer Motor (tracers will not be seen until player shoots).
7. Apply power to the sound system causing the airplane motor sound.

The player can now align the airplane in the sight by moving the control stick. When the player pushes the trigger button on top of the control stick, the machine gun sound is heard, and the tracers appear on the screen.

The player must track (while shooting) the pilot of the airplane for about a half second in order to score a hit.

When the player scores a hit:

1. A hit flash is seen.
2. A screaming sound is heard.
3. The crash disc starts and a smoke trail is seen.
4. The scream sound stops and an explosion is heard.
5. The player is credited with a hit on the score panel.

If, at any time in the one and one-half minutes of the game, the player scores eight hits he is awarded a bonus time of thirty (30) seconds. The Bonus Fuel Gauge starts and the Main Fuel Gauge stops during the bonus period. At the end of the bonus time the player continues until the main fuel is used up. A light under the Bonus Fuel Gauge indicates the bonus situation.

Twelve hits makes the player an "ACE" as indicated by the last HIT light on the score panel. The 13th hit will be indicated by the "ACE" light staying on and the HIT #1 light coming on again. Succeeding hits will be indicated by #2, #3, etc.

When the main fuel is used up, all of the motors stop and the flashing screen light comes on. If the player has a game remaining, the CREDIT light will also come on.

## II. RELAY FUNCTIONS

### A. Start Relay (K1)

Energized by inserting a quarter or pushing the CREDIT button and remains energized until Game Relay (K2) is energized.

1. Resets the score to zero.
2. Starts the Main Fuel, Tracer and Airplane Disc motors, turns on the projector lamp, and energizes the sound system.
3. Latched contacts give credit for second game.

### B. Game Relay (K2)

Energized by the Main Fuel Motor cam switch (M4-CS1), or Bonus Relay (K5). It remains energized until the game is over.

1. De-energizes Start Relay (K1) and Credit circuit.
2. Keeps the Main Fuel, Tracer and Airplane Disc motors running, the projector lamp on, and the sound system energized.
3. Allows the machine gun tripper to operate.

C. Machine Gun Relay (K3)

Energized only as long as the TRIGGER button is pushed.

1. Turns on the Tracer lamp.
2. Energizes the Hit Relay (K6) if the player is on target.
3. Starts the machine gun sound.

D. Explosion Relay (K4)

Energized when the machine is plugged in.

De-energized when the Crash Disc cam switch (M1-CS2) is opened.

1. Energizes score step switch solenoid, adding one point to player's score.
2. Stops airplane scream sound.
3. Starts explosion sound.
4. Energizes Bonus Relay (K5) if bonus level has been reached.

D. Bonus Relay (F5)

Energized by Explosion Relay (K4) when the player scores the 8th hit. Bonus motor cam switch (F5-CS1) keeps it energized until the bonus time is over.

1. Starts the Bonus Fuel motor.
2. Stops the Main Fuel motor.
3. Keeps Game Relay (K2) energized.

F. Hit Relay (K6)

Energized by a player being on target (photo-transistor board PC-1) and the Machine Gun Relay (K3). It remains energized until the explosion sequence starts.

1. Starts the Crash Disc motor.
2. Energizes the Hit Flash.
3. Stops the Machine Gun sound.
4. Starts the airplane scream sound.

### III. MOTORS

#### A. Crash Disc Motor (M1)

Started by Hit Relay (K6). The Crash Disc motor cam switch (M1-CS1) closes when the motor starts and keeps it running for one revolution. The cam switch then opens stopping the motor.

#### B. Airplane Disc Motor (M2)

Started and stopped identical to Main Fuel Motor (M4), except it continues to run during the bonus time.

The speed of the airplanes is adjustable by use of the speed adjustment potentiometer (VR1).

(See Section VI-C).

#### C. Tracer Motor (M3)

Started and stopped identical to Main Fuel Motor (M4), except it continues to run during the bonus time. The tracers are not seen on the screen until the player pushes the trigger which turns on the tracer lamp.

#### D. Main Fuel Motor (M4)

Started by the Start Relay (K1) when Score Stepper (SS-10) returns to zero. The Main Fuel cam switch (M4-CS1) closes when the motor starts and energizes Game Relay (K2) which keeps M4 running for one revolution at which time the cam switch opens



de-energizing K2 which stops the motor.

E. Bonus Fuel Motor (M5)

Started by the Bonus Relay (K5). The Bonus Fuel cam switch (M5-CS1) closes when the motor starts and keeps the Bonus Relay energized causing the motor to run for one revolution. The cam switch then opens de-energizing K5, stopping the motor.

IV. CAM SWITCH FUNCTIONS

A. Crash Disc Motor Cam Switch (M1-CS1)

One contact is open when the crash sequence starts. A hit starts the Crash Disc Motor causing the open contact to close after approximately one-half revolution and remain closed until the end of the revolution. This contact keeps the Crash Disc Motor energized until it opens. The other contact is closed when the crash sequence starts. The flash lamp is energized thru the closed contact. After approximately one-quarter revolution of the crash disc the contact opens turning off the flash lamp.

B. Crash Disc Motor Cam Switch (M1-CS2)

One contact is closed when a crash sequence starts. After approximately three-quarters (3/4) of a revolution of the Crash Disc Motor, the

closed contact opens briefly. This de-energizes Explosion Relay (K4) and Hit Relay (K6) and adds one point to the player's score.

C. Main Fuel Motor Cam Switch (M4-CS1)

Open when the game is ready to start. Starting the game starts the Main Fuel Motor causing M4-CS1 to close and remain closed for one revolution. M4-CS1 energized Game Relay (K2) when it closes and de-energizes it when it opens, stopping the game. M4-CS1 also turns on the phototransistor light.

D. Bonus Fuel Motor Cam Switch (M5-CS1)

Open until a player reaches the bonus level. Reaching the bonus level energizes Bonus Relay (K5) which starts the Bonus Fuel Motor causing M5-CS1 to close and remain closed for one revolution. M5-CS1 keeps the Bonus Relay K5 energized until it opens.

V. PHOTOTRANSISTOR BOARD - (PC-1)

The phototransistor board has an output when light from the phototransistor lamp passes through a code hole in the airplane disc and is sensed by the phototransistor. This energizes the Hit Relay (K6).

To check the board, open the lower front door and stop the airplane disc with switch SW-1. Line up a code hole directly under the phototransistor lamp

and push the trigger on the control stick.

## VI. ADJUSTMENTS

### A. Volume

The volume of all the sounds (motor, machine gun, scream, and explosion) is set with the potentiometer on the audio chassis.

### B. Treble

The treble control (short control arm) is pre-set at the factory for the higher pitch sounds. It is recommended for maximum sound effects that the setting remain at this position.

### C. Airplane Speed (VRI)

The speed of the airplanes is controlled by using the potentiometer on the left side of lower chassis. It is accessible by opening the lower front door.

Turning the pot clockwise will increase the speed of the airplanes making hits more difficult.

### D. Coin Control Switch

The switch located front left side lower chassis marked "games per quarter" can be set for either one play per quarter or two plays per quarter. Self-adhesive appliques are supplied for operator option. Position appliques just below coin input slot on coin acceptor.