

SUPPLEMENT TO



OPERATORS MANUAL ( TM-300, 1st printing )

The information in this supplement supports all Irish built Rolling Thunder games. The following items supersede the corresponding sections in TM-300.

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## OPENING / REMOVING THE CONTROL PANEL

Perform the following procedure to open or remove the Control Panel:

1. Unlock and open the coin door. Reach up through the upper coin door opening, and release the two spring draw latches located under the Control Panel, on each side of the cabinet.
2. Close the coin door.
3. Lift the Control Panel at the top edge, and tilt it towards you.
4. To remove the Control Panel, remove the carriage bolts, which fasten the Control Panel hinge to the cabinet. Disconnect the control harness connector from the Game PCB, and disconnect the green ground wire.
5. Replace the Control Panel in the reverse order of removal.

### WARNING

#### Shock Hazard

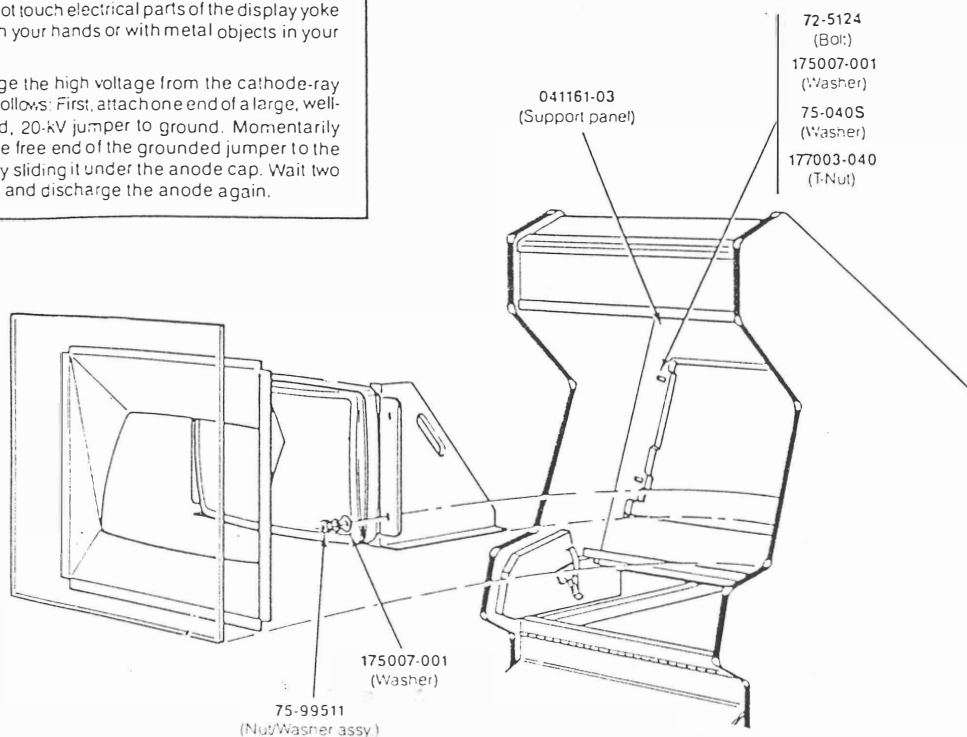
Display repair should only be performed by a *qualified* service technician. Before removing or repairing the video display, turn the game off.

High voltages may exist in any video display, even with power disconnected. Use extreme caution and do not touch electrical parts of the display yoke area with your hands or with metal objects in your hands!

Discharge the high voltage from the cathode-ray tube as follows: First, attach one end of a large, well-insulated, 20-kV jumper to ground. Momentarily touch the free end of the grounded jumper to the anode by sliding it under the anode cap. Wait two minutes and discharge the anode again.

#### Implosion Hazard

If you drop the display and the picture tube breaks, it will implode! Shattered glass and the yoke can fly six feet or more from the implosion. Use care when replacing any display.



Video Display

### REMOVING THE DISPLAY

This procedure is illustrated in Figure 3-1.

1. Unplug the game.
2. Remove the rear access panel from the game cabinet.
3. Disconnect the power lead (two-pin connector) and the video input lead (five-pin connector J5) from the CRT assembly.
4. Open the control panel as previously described.
5. Carefully remove the display shield and bezel.
6. Remove the four screws that secure the display support panel to the cabinet.
7. Lift the front edge of the bezel support panel and slide it out from the front of the game.
8. Use an 11 mm socket to remove the four bolts, nuts, and washers from the front of the display mounting brackets.
9. Carefully lift the CRT assembly out from the front of the game cabinet.

Reinstall the CRT assembly in the reverse order of removal.

### SERVICING THE JOYSTICK LEAF SWITCHES

1. Open the control panel as previously described.
2. To replace the joystick leaf switches, you do not need to disassemble the joystick. Using your thumbs, pry apart the plastic flanges on the switch holder. With your index finger, lift the switch up so that it will clear the plastic tab located on the outside end of the switch holder.
3. Slide the leaf switch out of its holder. Replace the switch in reverse order.
4. Make sure that each leaf switch is firmly seated in its holder. There is a small gray plastic tab on the outside end of the switch

holder. The black plastic part of each leaf switch must be in front of this tab.

5. Check that all four leaf switches can be activated by watching the switch blades as you move the joystick handle up, down, left, and right.
6. Adjust each switch contact for a narrow gap using the following procedure:
  - a. Push the joystick handle away from the switch for easier servicing.
  - b. Use a pair of needlenose pliers or a switch adjustment tool to bend each double set of blades in toward the center. Make the bend where the double set of blades protrude from the black plastic part of the switch.
7. Inspect the switch action. The switches must move independently for right, left, up, and down motion of the joystick.

#### DISASSEMBLING THE JOYSTICK ASSEMBLY

1. Open the control panel as previously described.
2. Remove the entire joystick assembly from the control panel.
3. Remove the four screws in the plastic joystick frame.
4. Remove the retaining ring from the bottom of the shaft. The assembly will now come apart.
5. To replace the bellows, pry the bellows up and out of the plastic frame. Note that the inner raised ring on the bellows is longer on one side. This longer side goes on top of the assembly (toward the control knob).

Reassemble the joystick in reverse order.

CABINET-MOUNTED ASSEMBLIES  
PARTS LIST

A044230-01

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Part No.	Description
A043055-51	On/Off Switch Assembly with Harness
A043377-51	Display Power Harness Assembly
A041167-51	Speaker/Lightboard Assembly
A044220-01	Cabinet Assembly
A044081-51	Power Harness Assembly
A044082-51	Video Harness Assembly
A044083-51	Speaker Harness Assembly
A044084-51	Coin Harness Assembly
3637-18AT	Light Harness Assembly
A042210-51	Coin Counter Extender Harness
78-6900404	1/4 Inch-Wide x 1/4 Inch-Thick Foam Tape
009992-01	On/Off Switch Cover
034536-02	Ø.5Ø - Inch-Thick Foam Vibration Damper
037332-01	Louvered Grille
038091-01	Moulded Coin Box
042914-51	Ventilation Grille
044231-01	Attraction Film
041182-01	Attraction Glass
041163-01	Retainer, Upper
041164-01	Retainer, Lower
043583-51	Rear Access Panel with Lock
039144-01	Speaker Grille
041187-01	19 Inch Video Display Bezel
041183-01	Clear Video Display Shield
139017-204	Wells-Gardner 19 Inch Tinted Color Raster Video Display
171005-001	Non-Resettable Counter, 10 VDC
178013-001	Spring Draw Latch

*The following items are technical information supplements for this game:*

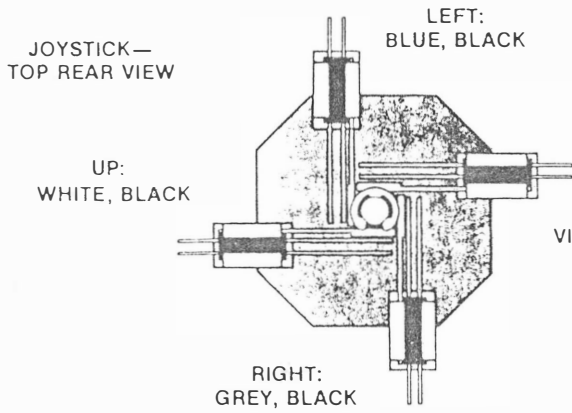
TM-300	Rolling Thunder Operators Manual
SP-300	Rolling Thunder Schematic Package Supplement
ST-300	Rolling Thunder Self Test Chart
99-131014	Wells-Gardner 19-Inch Color Raster Video Display Service Manual, used with Part No. 139017-204

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PARTS CHANGE

The following part numbers were changed in the Control Panel Assembly and the Control Panel Assembly Parts List for the Irish build Rolling Thunder Games.

Part No.	Description
A044232-01	Control Panel Assembly
171016-001	4-Position Leaf Switch Joystick Assembly
A044086-51	Control Panel Harness Assembly
044228-01	Control Panel
044229-01	Control Panel Decal (English) OR
044229-02	Control Panel Decal (German)



**WARNING**

Prior to removing or repairing the joystick, unplug the game.

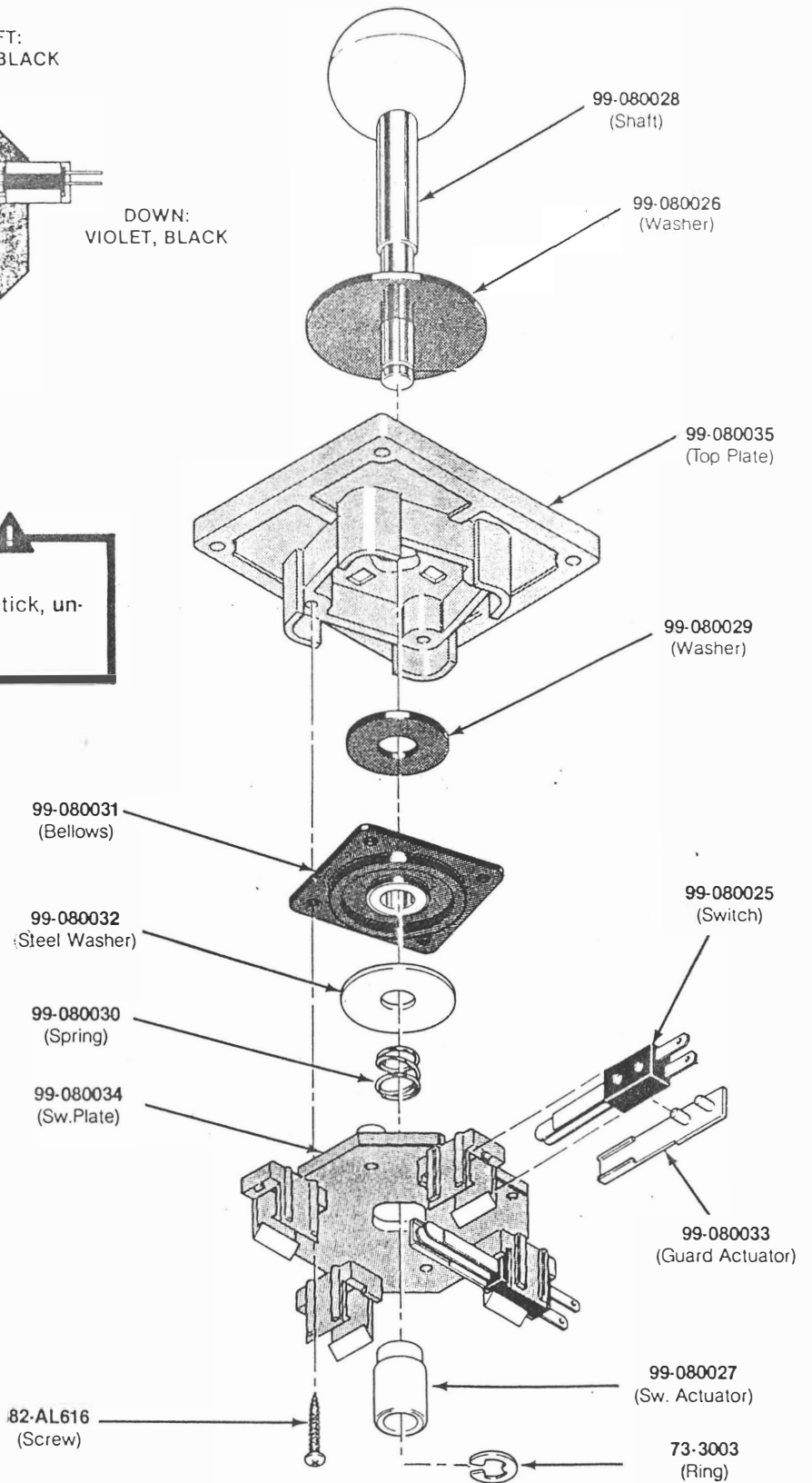


Figure 2-3 4-Position Joystick Assembly  
171016-001

### Joystick Assembly Parts List

Assemblies and components in the following parts list are shown in Figure 2-3.

Part No.	Description
A038404-01	Joystick Harness (not shown)
73-3003	Retaining Ring
82-AL616	#6 x 1-Inch Cross-Recessed Pan-Head BT Tapping Steel Screw
99-080025	Leaf Switch
99-080026	2-Inch Black Plastic Washer
99-080027	Nylon Switch Actuator
99-080028	Metal Shaft
99-080029	Nylon Washer
99-080030	Spring
99-080031	Bellows
99-080032	Flat Steel Washer
99-080033	Plastic Guard Actuator
99-080034	Switch Mounting Plate
99-080035	Top Plate