

# Road Blasters™ /System I™ RTC Steering Control: Assembly and Maintenance Procedures

## Introduction

This Road Blasters game uses a specially designed RTC (return-to-center) steering control assembly, *Atari part number A044397-01*. This supplement contains the assembly and maintenance procedures and drawing for this control.

This information replaces pages 3-4 through 3-6 and *Installing the Harness Assembly* on page 3-7 in your *Road Blasters/System I Operators Manual* (TM-304). Please keep this supplement with your manual for reference.

### NOTE

Certain maintenance procedures can be performed with the RTC steering control attached to the control panel. However, for convenience and to avoid damaging the control panel, we recommend that the control be removed from the control panel before any maintenance or repair is performed.

## Preventive Maintenance

Preventive maintenance on the RTC steering control consists of:

- Inspecting the RTC steering control housing for excessive wear or dirt.
- Checking the operation of all four handle switches.
- Inspecting the Optical Coupler PCB Assembly for damage and contamination.
- Lubricating the bronze bearings attached to the control base weldment.
- Replacing or tightening the securing hardware if necessary. (See Screw Torque Specifications Table.)

Perform the following procedure to lubricate and tighten the RTC steering control. (See Figure 1.)

1. Remove the control panel. (Refer to Chapter 3 in the *Operators Manual*.)
2. Apply a film of light oil (Atari part no. 107013-001) to the inside and top surfaces of both bronze bearings attached to the inside ends of the control base weldment.
3. Use a  $\frac{1}{16}$ -inch wrench to tighten the nuts holding the RTC steering control to the control panel.

## Corrective Maintenance

The following corrective maintenance procedures apply to the RTC steering control. The RTC steering control consists of the handle assembly and the steering assembly.

## Removing the Handles

Perform the following procedure to remove the handles from the handle assembly.

1. Use a 3 mm hex driver to remove the two cap screws holding the cover on each handle.
2. Unsolder the three harness wires from both Switch PCBs inside each handle.
3. Use a  $\frac{9}{64}$ -inch hex driver to loosen and remove the two cap screws that secure the brace and cover.
4. Cut the tie wrap holding the harness, then gently pull the harness out of the shaft.
5. Use a  $\frac{1}{16}$ -inch hex driver and a  $\frac{7}{16}$ -inch wrench to remove the two cap screws that hold each handle shaft to the steering head.
6. Gently slide the handles from the shaft.
7. Reassemble the handle in the reverse order of removal.

## Disassembling the Steering Assembly

Perform the following procedure to disassemble the steering assembly.

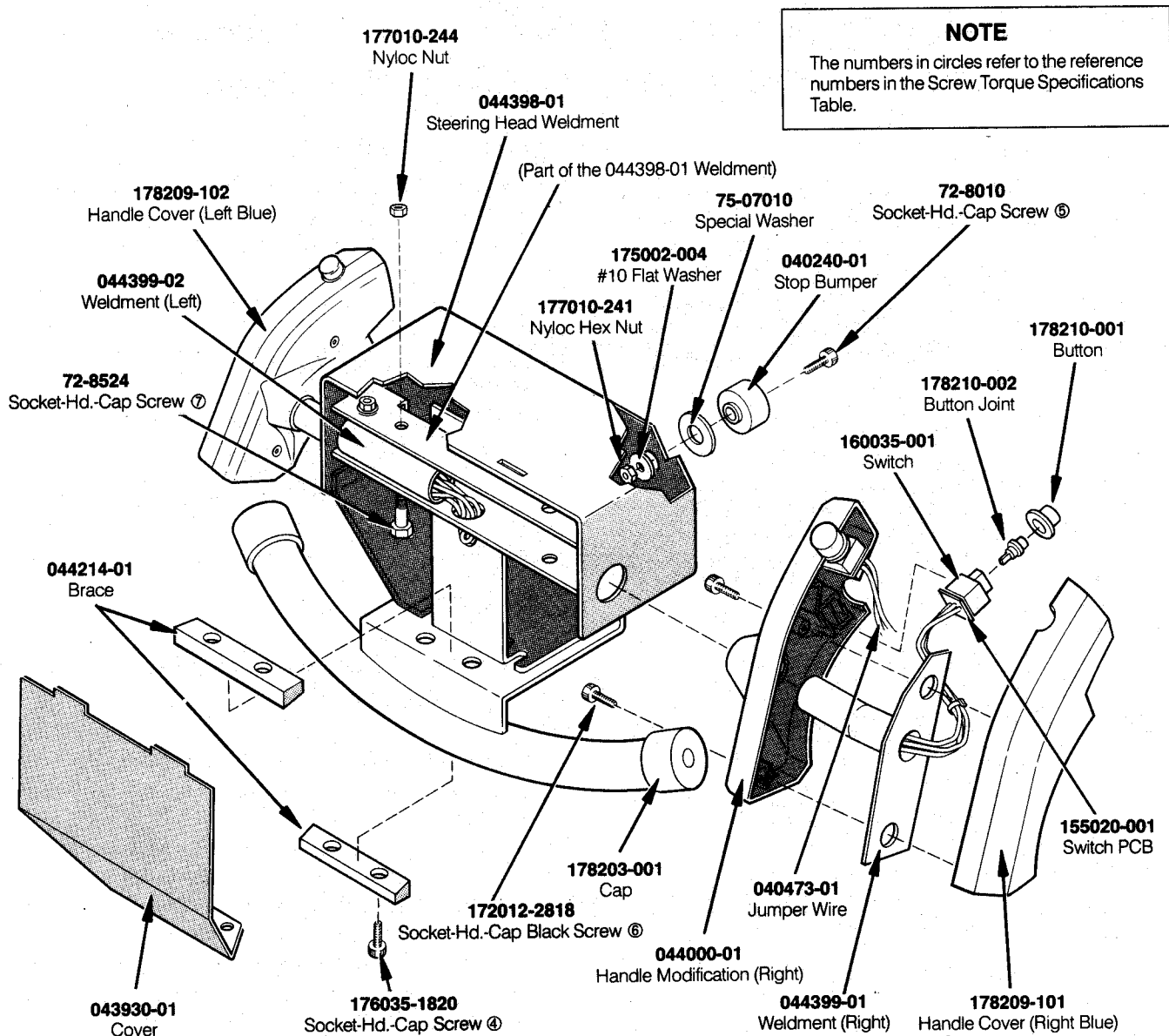
1. Remove the handle covers as described previously.
2. Unsolder the three harness wires from the handle push-button and trigger switches.
3. Remove the green ground wire from the ground clip on the base, and the Optical Coupler PCB harness connector.
4. Use a hex driver to remove the two screws holding the Optical Coupler PCB Assembly to the base.
5. Use a  $\frac{3}{32}$ -inch hex driver to remove the cap screw holding the encoder disc. Remove the retaining ring, two washers, encoder disc, encoder spacer, and small gear.

### WARNING

Shield your face and eyes when prying the retainer from the shaft because the retainer can fly loose at a high speed. Cover the retainer with a rag or any material that can trap the retainer.

## Screw Torque Specifications Table

Ref. No.	Screw Size	Seating Torque Inch-Lbs.
①	2-56	5 ± 1
②	4-40	12 ± 3
③	6-32	28 ± 5
④	8-32	32 ± 5
⑤	10-32	64 ± 5
⑥	M4-18	28 ± 5
⑦	$\frac{1}{4}$ -20	75 ± 5

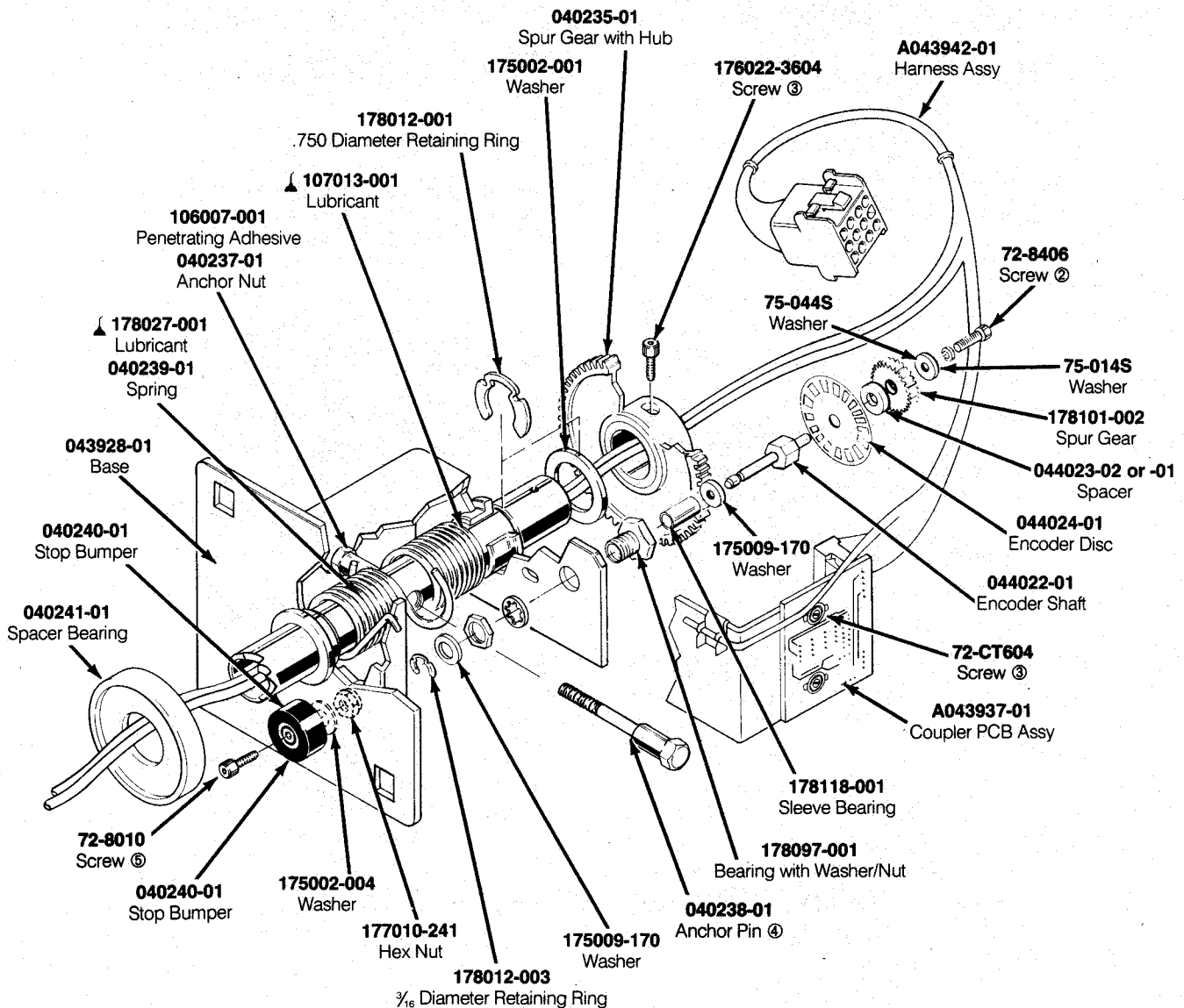


**Figure 1 Disassembly and Lubrication**

6. Use a 7/64-inch hex driver to remove the cap screw holding the large spur gear and hub to the shaft.
7. Use a slotted screwdriver (or an appropriate tool) to remove the retainer from the shaft.
8. Use a 5/16-inch wrench to remove the anchor nut on the end of the anchor pin. (The anchor nut holds the hook ends of the torsion-steering springs.)
9. Use a 9/64-inch hex driver to remove the two screws holding the cover to the steering head.
10. Cut the tie wrap holding the harness, then gently pull the harness out of the shaft.
11. Gently pull the steering assembly from the handle assembly. Make sure the harness wires are free to slide out of the handle-assembly shaft.
12. Use a 5/32-inch hex driver and 3/8-inch combination wrench to remove the two bumpers from the frame.

**NOTE**  
With the steering control disassembled, lubricate the bronze bearing surfaces, and the torsion springs. Also, apply penetrating adhesive inside the anchor nut hole after assembly. Refer to *Preventive Maintenance* for further information.

13. Reassemble the steering assembly in the reverse order of removal. Be sure that all necessary screws have been tightened according to the Screw Torque Specifications Table.



**Figure 1 Disassembly and Lubrication, Continued**

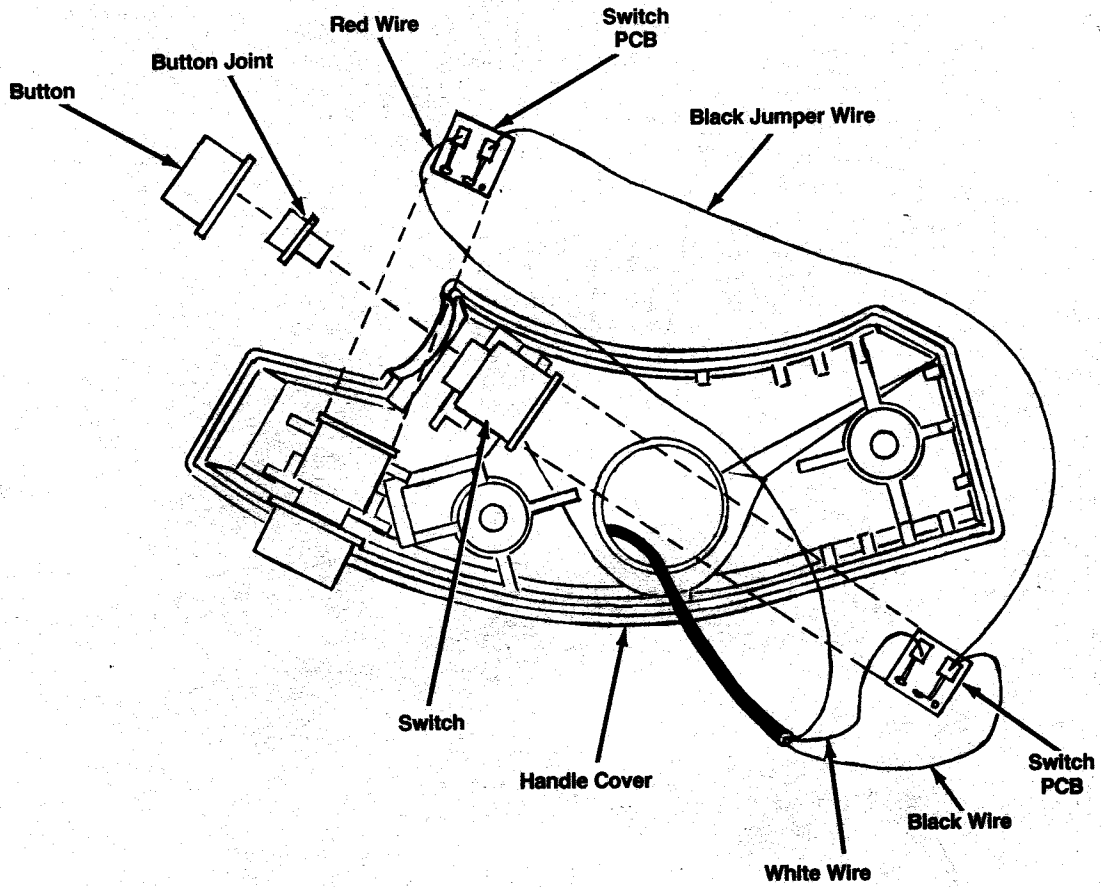
### Installing the Harness Assembly

Perform the following procedure to install the harness assembly to the RTC steering control.

1. If necessary, remove the handle covers as described under *Removing the Handles*.
2. Guide the harness wires into the spur-gear end of the hollow steering-assembly shaft. The wire routing on both micro-

switches should be as shown in Figure 2.

3. Route and solder the wires to the switches. Note that either wire bundle can go to either handle.
4. Install the wire tie, optical coupler PCB connector, and the ground clip. Make sure the wires do not interfere with the gears when the steering control is mounted.



**Figure 2 Wire Routing on Handle Switches**

For technical assistance, call Atari Customer Service at  
(408) 434-3950 (Monday-Friday, 7:30 am-4:00 pm Pacific time)

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