Universal Upgrade Kit Instructions

040-0180-01 Rev. A

Read this manual before use.
Keep this manual with the machine at all times.

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Introduction

This document describes the steps for upgrading a non-motion cabinet running any previous version of *Need for Speed™* to *Need for Speed™ Carbon*. The Upgrade Kit includes Software, Game Dongle, and Artwork.

If your cabinet was never upgraded to *Need for Speed™ Underground*, you may wish to order the following hardware options to enhance the gameplay experience for your customers. Contact Technical Support to order (see page 3).

- **6-Speed Shifter** - Lets players select a manual transmission for precise control of their cars. The older Up/Down shifter will not work with *Need for Speed™ Carbon* and will be ignored by the software. (It can be removed if desired, even if you do not install the 6-speed shifter. You can disable the Select Transmission screen.)

- **Players’ Card Reader** - Lets players use a magnetic-stripe card or a GLOBAL VR Players' SmartCard to login quickly. The Card Reader is **not** required for login. Player data is saved in the game software, not on the card.
Technical Support
Need Help? Need a Part? Contact Technical Support:

- Hours: 7:00AM–5:00PM Pacific Time, Monday–Friday
- Phone: 408.597.3435
- Fax: 408.597.3437
- E-mail: techsupport@globalvr.com
- Website: http://service.globalvr.com
- Extended Service Hours: Monday–Friday 5pm—Midnight Saturday & Sunday 7:00am—Midnight Pacific Time

Upgrade Kit Contents

- System Recovery Disk (1 CD)
- Game Install Disks (5 CDs)
- Game Dongle
- Dongle Return Envelope
- Cabinet Artwork
- NOS Button Legend and Blue Cover
- New Game Sign
- Documents:
  - This Instruction Document
  - Operation Manual
  - Checklist for Optimal Cabinet Operation
  - Need for Speed™ Common Repairs

Tools Required

- Exacto® Knife (or similar) and sharp blades
- Screwdriver with assorted Phillips & Torx® security bits (typically T-9, T-15, T-20, & T-25)
- Squeegee for smoothing graphics
- Stepladder for changing the 39" Deluxe Cabinet Marquee

Test and Clean Before Upgrade

Installing new software will not fix existing hardware problems. Refer to the checklist included in the kit, and perform the steps below to make sure your cabinet is in optimal operating condition before the upgrade. If you need to make repairs, see the document Need for Speed™ Common Repairs included in this kit.

1. Open the Controls screen in the Operator Menu. Check the following and fix any problems:
   a. Make sure the leader light, brake lights, and START button blink when you open the Controls screen.
   b. Make sure all buttons work properly, including the E-brake.
   c. Turn the steering wheel left and right. Make sure the numbers above the graphic show full left position as about "−127" and full right position as about "127". Make sure the numbers change in a smooth and linear manner. A sudden jump in the numbers, or a different range of numbers, can indicate a bad pot.

   Note: If force-feedback frequently fails at the location, and you have a dual PCB system, see ESD Shock Protection for Dual PCB Systems in Need for Speed™ Common Repairs.
Test and Clean Before Upgrade

d. Check the numbers displayed near the brake pedal. When the pedal is not pressed, the top and middle number should be about the same. The middle number should not change when the brake pedal is not being pressed; if it does you need to replace the pot. If the top number is zero (0), or the bottom number is 255, you need to adjust the pot.

Step on the brake pedal and make sure the middle number increases. When the pedal is full down, the middle and bottom numbers should be about the same. The difference between the full up and full down values should be about 80 (±5). Make sure the numbers change in a smooth and linear manner. A sudden jump in the numbers can indicate a bad pot.

Note: Pots are a very common replacement item on driving cabinets. If you suspect a pot may be wearing out, it should be replaced.

e. Repeat the previous step for the gas pedal.

f. If installed, make sure the 6-speed shifter works in each gear, and will stay in each gear. If the shifter will not stay in gear, replace the spring on the shifter assembly (see Need for Speed™ Common Repairs).

g. Test the card reader and card dispenser, if installed.

h. Test both coin mechs, coin meter, and bill validator (if installed).

2. From the Sound Test screen, make sure all speakers work and sound comes from the correct speakers. Check the wiring for any speaker that does not work.

3. Make sure the monitor image is bright and clear. Contact Wells-Gardner® for help with adjusting older monitors (see www.wellsgardner.com for contact information).

4. For linked games, verify all games are linking by observing that the Attract Movies are synchronized. It may take one movie cycle for games to synchronize after powering on or using the Operator Menus.

If games are not linking, see Cabinet Linking Troubleshooting at the end of the Need for Speed Carbon Operation Manual included in the Upgrade Kit.

5. Disconnect the cabinet AC power cord and remove the rear door.

⚠️ CAUTION: To prevent electrostatic discharge (ESD) damage, handle PCBs by the edges only and use a grounding wrist strap or similar precaution.

6. Use compressed air to blow dust and dirt away from PCBs mounted in the cabinet and the monitor chassis. If dirt or debris has accumulated in the cabinet, clean it out. Vacuum around the PC and wipe the PC with a soft cloth to ensure good airflow.

7. Inspect the steering belt and gears and replace components if worn or teeth are broken.

8. Make sure all vents are clear of debris and all cabinet fans are working.

9. Remove the side cover from the PC and use compressed air to blow dust and debris out of the PC. Make sure all PCB cards in the PC are seated properly and all connections are secure.

10. Power on the PC and verify all fans are clean and spin properly. (There is usually one fan in the front, one in the power supply, one on the CPU, and one on the video card.) Disconnect power and replace and secure the PC side cover.

11. Check all wire connections in the cabinet and make sure they are secure. Make sure all ground wires are secure.
12. Check dual force-feedback PCB systems for the ESD Shock Protection fix described in *Need for Speed™ Common Repairs*. This fix involves soldering ground wires to the back of the PCBs.

13. Make sure the Force-Feedback PCB connects directly to the PCI USB card in the computer. The USB I/O PCB and Card Reader (if installed) can use a hub to connect to a PCI USB port.

14. Inspect the exterior of the cabinet. Make sure all screws are secure. Repair any obvious damage. Clean the cabinet with a mild cleaner and soft cloth.

15. Reconnect the power cord and power on the game. Repeat step 1 to verify everything is still working properly.

16. Open the CD Drive and inspect the tray. If it is dirty, gently wipe it with a clean, soft cloth. It is a good idea to use a CD Laser Lens Cleaner, available at electronics and music stores, and even drugstores, to clean the lens in the CD drive to help ensure it reads the software disks properly.

**Software Installation**

To save time, you will probably want to install the software while you are upgrading the cabinet artwork. Be careful not to bump or jar the cabinet while the software installation is running.

For 39" Deluxe Cabinets, it is recommended that you install the Marquee Artwork before beginning the software install (see page 12).

**Important:** When you run the System Recovery Disk, you will erase all game settings and audits. Open the Operator Menu and write down anything that you want to remember.

Total software installation time is typically 30—45 minutes.

**Unregister Cabinet, as Applicable**

If the cabinet is online or registered, do the following steps before installing the software. This will unregister the cabinet and stop billing for online services:

1. With the phone or broadband Internet line connected, press the Operator Button to open the Operator Menu, and select **Registration Options** from the menu at the left side of the screen. The Registration Options menu will open.

2. Highlight the button that says **Unregister Cabinet** and press the ♪ button, and then confirm when prompted.

3. The cabinet will call in to GLOBAL VR and unregister itself. Once this is done, the screen will say "Status: Unregistered."

4. Disconnect the phone line or broadband Internet connection. *Need for Speed™ Carbon* does not use any online features.

**Install the Game Dongle**

1. Remove the back door from the cabinet, and remove the old Game Dongle from the computer.

2. Insert the new USB Game Dongle from the kit in the same USB Port on the system computer.

3. **Please return the old dongle to GLOBAL VR for recycling:**

   Mail dongles to: Dongle Returns, GLOBAL VR, 2350 Zanker Road, San Jose CA 95131

   For your convenience, a pre-addressed envelope is included in the kit. (You can also use the envelope to return any other old dongles you may have.)
Run the System Recovery CD

Note: Be careful not to scrape the CDs as you put them in the tray. Dirt or scratches on the surface of a CD can cause the software installation to fail.

1. If the cabinet is linked, disconnect the Ethernet cable from the back of the cabinet.

2. Insert the System Recovery Disk in the CD-ROM drive and power the cabinet OFF and then ON. When the computer reboots, the CD should run automatically (wait about 30 seconds). You will see messages onscreen as files are copied to the hard drive.

3. After about 5 minutes, you will be prompted to remove the CD and reboot the computer. Do not insert a Game CD yet! Wait for about 6 minutes while the software finishes the installation. When the Operating System installation is complete, you will be prompted to insert Game Disk 1. Proceed to Run the Game Install CDs.

Run the Game Install CDs

Important: All linked cabinets must run the same software Comm version, displayed in the Machine Info screen of the Operator Menu. (For best results, install the same software version on all linked cabinets.)

1. With the cabinet powered ON, insert the CD labeled Game Install Disk 1 of 5. The CD will automatically run (wait about 30 seconds). You will see a series of onscreen messages as the software copies components and files to the hard drive.

2. After about 3—4 minutes, the computer will eject the CD and prompt you to insert Disk 2. Insert Game Install Disk 2 of 5.

3. For each remaining Game Install Disk, the computer will eject the disk and prompt you to insert the next one. Each disk takes about 3 minutes to run. The computer will automatically reboot when Disk 5 finishes running. After about 3 minutes more you will be prompted to remove the CD and press START. It may take another minute or so for the Attract Movie to start.

4. Keep the CDs in a safe place in case you need them in the future.

5. When the game starts, the steering will self-calibrate (do not touch the wheel while it is calibrating). When prompted, press and hold the gas and brake for five seconds to set the calibration limits. Once calibration is complete, the attract movie will begin. Play one game to finalize hardware calibration.

Note: If you get a CRC Error message, you will have to start over with the System Recovery CD. If this happens inspect the disk for any surface damage or blemishes.

If you have problems running the software disks, make sure your drive is clean (see page 5, step 16). If you have continued problems, you can replace the drive with a plug-and-play compliant IDE CD or DVD-ROM drive.
Test and Set Up

See your Operator Manual for details on using the Need for Speed™ Carbon Operator Menus to set up your game, and instructions for setting up linked play if your cabinets were not previously linked.

1. Once the software is installed, press the Operator button and set the sound volume levels, cabinet Link ID Numbers, and any other desired cabinet settings.

2. Upright Cabinets Only: From the Operator Machine Settings: Settings menu, set Sound Configuration to Stereo. (Cabinets with seats and rear speakers should be set to Surround.)

3. Cabinets without 6-Speed Shifter: From the Operator Game Settings: Settings menu, set Shifter Control to Disable.

4. For each linked cabinet, reconnect the Ethernet cable after setting the Link ID Number.

5. Play a game and verify that everything is working properly.

Replace Horn Button with NOS (as Applicable)

If the cabinet was not previously running Need for Speed™ Underground, it will have a Horn button on the dash. This button is used for NOS by the Need for Speed™ Carbon software. The kit includes a legend and blue plastic cover to convert the Horn button to NOS.

To change the button, remove the two Torx screws from the button plate on the left side of the driving control panel. Disassemble the Horn button and remove the plastic lens and Horn graphic. Replace them with the blue plastic lens and NOS graphic from the kit.

If you prefer, you can gently pry the plastic cap off of the Horn button with a small screwdriver or similar tool, and then press the new cap, with NOS graphic, into place. If you do this, be careful, as it is easy to damage the button.

Artwork Installation

Look at the pictures in the following subsections to determine which cabinet you have, and follow the instructions for that cabinet.

The decals you use will vary depending on your cabinet. You also will need to cut the marquee and some of the other artwork to fit your cabinet. Be careful not to cut through any logos or cars.

Important: EA Games™ has changed their logo. Please be sure to paste the new EA logo decals from the kit over the existing EA logos. Besides complying with EA's requirements, this will help your customers see that you have a new EA game.

Note: You will not use all of the decals in the kit.
27" Flat CRT Monitor Cabinet Artwork

This cabinet is the Dedicated Need for Speed™ Underground cabinet. See Figure 2 for graphics placement.

1. Remove the eight (8) Torx security screws that secure the marquee artwork and clear plastic in place. Remove the artwork and clear plastic, and clean the clear plastic.

2. Place the clear plastic over the marquee artwork as shown below, and use it as a template to cut the artwork to fit. Use a sharp Exacto knife. Also cut out the eight (8) screw holes.

3. Reinstall the clear plastic with the new marquee artwork.

4. Remove the six (6) Torx security screws that hold the bezel artwork and clear plastic in place. Remove the artwork and clear plastic, and clean the clear plastic.

5. Place the clear plastic over the bezel artwork from the kit, as shown in Figure 1, and use it as a template to cut the artwork to fit. Use a sharp Exacto knife to cut the artwork. Also cut out the six (6) screw holes. Reinstall the clear plastic with the new artwork.

6. Remove the four (4) screws that secure the seat-back artwork in place. You can use this screened plastic artwork as a template for cutting the new decal; the decal also has pale lines to use as a guide for cutting. Cut the decal to fit with a sharp Exacto knife. Carefully apply the decal to the seat back artwork and cut out the four screw holes. Re-install the seat back artwork.

7. Refer to Figure 2 and apply two of the larger EA™ logo decals on the side panels, the smaller EA™ logo decal on the shifter housing, and the Pedestal Back Decal, as shown below.

8. Write the Upgrade Date in the space provided on the serial number label in the kit, and place it next to the old serial number label on the back of the cabinet (do not remove the old label).
Figure 2. Graphics Placement (27” Flat CRT Monitor Cabinet)
27" Curved CRT Monitor Cabinet Artwork

1. Remove the six (6) Torx security screws that hold the marquee artwork and clear plastic in place. Remove the artwork and clear plastic, and clean the clear plastic.

2. Place the clear plastic over the marquee artwork from the kit, as shown below, and use it as a template to cut the artwork to fit. Use a sharp Exacto knife to cut the artwork. Also cut out the six (6) screw holes.

3. Reinstall the clear plastic with the new marquee artwork.

4. Remove the six (6) Torx security screws that hold the bezel artwork and clear plastic in place. Remove the artwork and clear plastic, and clean the clear plastic.

5. Place the clear plastic over the bezel artwork from the kit, as shown in Figure 3 above, and use it as a template to cut the artwork to fit. Use a sharp Exacto knife to cut the artwork. Also cut out the six (6) screw holes. Reinstall the clear plastic with the new artwork.

6. Remove the two (2) Torx security screws that hold the seat pedestal rear artwork and clear plastic in place. Remove the artwork and clear plastic, and clean the clear plastic.

7. Place the clear plastic over the seat pedestal decal from the kit, as shown in Figure 3 above, and use it as a template to cut the artwork to fit, being careful not to cut any of the logos. Also cut out the two (2) screw holes. Reinstall the clear plastic with the new artwork.

8. Remove the four (4) screws that secure the seat-back artwork in place. You can use this screened plastic artwork as a template for cutting the new decal; the decal also has pale lines to use as a guide for cutting. Cut the decal to fit with a sharp Exacto knife. Carefully apply the decal to the seat back artwork and cut out the four screw holes. Re-install the seat back artwork.

Figure 3. Trimming the Artwork (27" Curved CRT Monitor Cabinet)
9. If the cabinet has two NOS buttons, refer to Figure 4 and place the NOS Panel Decal over the upper part of the existing NOS panel decal.

10. Place two of the larger EA™ Logo Decals over the logos on the pedestal sides as shown.

11. Place a Logo Overlay Decal over the logo on each side panel. Trim the edges with a sharp Exacto knife.

12. Write the Upgrade Date in the space provided on the serial number label in the kit, and place it next to the old serial number label on the back of the cabinet (do not remove the old label).
39" Deluxe Cabinet Artwork

Refer to Figure 9 for the locations of graphics on the Deluxe (39" monitor) cabinet.

Marquee Artwork Upgrade (39" Deluxe)

Note: GLOBAL VR recommends using two people for the marquee artwork upgrade.

Two methods of accessing the marquee artwork are described below. You can try replacing the marquee artwork using Method 1, but in most cases you will have better access by removing the bezel, as described in Method 2.

Method 1

1. Refer to Figure 5. Using a 3/8" nut driver or large, flat-blade screwdriver, remove the nine (9) hex screws with washers that secure the hinged rear marquee cover plate to the back of the plastic bezel assembly. Do not remove the three screws that secure the hinge to the cabinet.

   Caution: The bezel will be loose and can fall forward. It is strongly advised to have a second person hold the bezel in place while you work inside the marquee.

2. Tilt the Hinged Rear Marquee Cover back on its hinge. (The florescent fixture is mounted to the Rear Cover.) You may need a stepladder to access the marquee interior.

3. Continue with step 9 of Method 2 below.

   Figure 5. Installing the Marquee Artwork (39" Deluxe)

Method 2

1. Turn off the cabinet and disconnect the power cord.

2. Remove the four (4) Torx bolts from each side of the seat, as shown in Figure 6, and slide the seat away from the cabinet so that you can reach the harnesses.

3. Disconnect the harnesses and move the seat assembly out of the way.

4. Locate the two (2) Torx bolts on each side of the driving console, located low on the side panels near the main cabinet. Remove these bolts and slide the driving console away from the main cabinet so that you can reach the harnesses.

5. Disconnect the harnesses and move the driving console away from the main cabinet.
6. Remove the three (3) bolts that secure the metal mounting bracket to the cabinet below the bezel.  
   **Caution:** To prevent the bezel from falling forward. It is strongly advised to have a second person hold the bezel in place while you remove the screws and disconnect the speakers.

7. On top of the cabinet, use a 3/8" nut driver or large, flat-blade screwdriver to remove the nine (9) hex screws with washers that secure the hinged rear marquee cover plate to the back of the plastic bezel assembly. **Do not** remove the three screws that secure the hinge to the cabinet.

8. Pull the bezel outward enough to disconnect the speaker wires, and then remove the bezel from the cabinet.

9. Using a Phillips screwdriver, remove the retainer blocks (two at the top, two at the side, and one at the bottom) that hold the artwork and clear plastic in place inside the marquee. Remove the artwork and clear plastic, and clean the clear plastic.

10. Place the clear plastic over the marquee artwork as shown below, and use it as a template to cut the artwork to fit. Use a sharp Exacto knife to cut the artwork.

11. Reverse the removal steps to re-assemble the bezel with the new artwork, and reassemble the consoles, if separated.

12. If you separated the consoles, power on the game and verify proper operation.
Apply Decals (39" Deluxe)

Refer to Figure 9 and Figure 10 for decal placement.

1. Remove the four (4) screws that secure the seat-back artwork in place. You can use this screened plastic artwork as a template for cutting the new decal; the decal also has pale lines to use as a guide for cutting. Cut the decal to fit with a sharp Exacto knife. Carefully apply the decal to the seat back artwork and cut out the four screw holes. Re-install the seat back artwork.

2. Two types of seat assembly were used with the 39" Deluxe Cabinet. If your cabinet has Type 1, as shown in Figure 9, do the following steps:
   i. Remove the two (2) Torx security screws that hold the seat pedestal rear artwork and clear plastic in place. Remove the artwork and clear plastic, and clean the clear plastic.
   j. Place the clear plastic over the seat pedestal decal from the kit, as shown in Figure 8 below, and use it as a template to cut the artwork to fit. Also cut out the two (2) screw holes. Reinstall the clear plastic with the new artwork.
   k. Place two of the larger EA™ Logo Decals over the existing logos on the seat pedestal.

3. If your cabinet has Seat Type 2, as shown in Figure 10, do the following steps:
   a. Apply the smaller EA™ logo decal on the shifter housing.
   b. Apply the Pedestal Back Decal to the back of the seat pedestal.

4. Place the Left and Right Dash Decals, Card Reader Decal (if used), and two of the larger EA™ Logo Decals as shown in Figure 9.

5. If your cabinet has game logos on the side, cover them with the Need for Speed™ Carbon Logo Overlay Decals from the kit, as shown below. Trim the edges with a sharp Exacto knife.

6. Write the Upgrade Date in the space provided on the serial number label in the kit, and place it next to the old serial number label on the back of the cabinet (do not remove the old label).
Figure 9. Graphics Placement (39" Deluxe)

Figure 10. Seat Type 2 (39" Deluxe)
Upright Cabinet Artwork

Refer to Figure 12 for graphics placement.

1. Remove the three (3) Torx security screws that secure the top retaining bracket over the marquee and remove the bracket.

2. Remove the marquee artwork and clear plastic. (If the artwork is held tightly, you may need to remove the speaker cover below the marquee. It is secured in place by two screws.).

3. Place the clear plastic over the marquee artwork as shown below, and use it as a template to cut the artwork to fit. Use a sharp Exacto knife to cut the artwork.

4. Reinstall the clear plastic with the new marquee artwork.

5. Your cabinet will either have game logos or EA™ logos on the side panels, as shown in Figure 12.
   - If it has game logos, cover them with the *Need for Speed™ Carbon* Logo Overlay Decals from the kit, and trim the edges with a sharp Exacto knife.
   - If it has EA™ logos, cover them with two of the larger EA™ Logo Decals from the kit.

6. Write the Upgrade Date in the space provided on the serial number label in the kit, and place it next to the old serial number label on the back of the cabinet (do not remove the old label).
Install New Game Sign (All Cabinets)

The NEW GAME sign has adhesive strips on the front so that it can be installed behind the marquee. Peel the protective covering and place the sign so that it can be seen above the marquee.