Mobile Link[™] Cellular LTE Remote Monitoring Installation and User Manual



Mobile Link Customer Support http://support.mobilelinkgen.com US: 1-855-436-8439 Canada: 1-844-843-9436

SAVE THIS MANUAL FOR FUTURE REFERENCE

Generator Model:	
Generator Serial Number:	
Tether Serial Number	
Date Purchased	

Record the information found on your unit data label on this page.

When contacting an Independent Authorized Service Dealer (IASD) about parts and service, always supply the complete model and serial numbers of the unit.

Operation and Maintenance: Proper maintenance and care of the unit ensures a minimum number of problems and keeps operating expenses at a minimum. It is the operator's responsibility to perform all safety checks, to verify all maintenance for safe operation is performed promptly, and to have the equipment checked periodically by an IASD. Normal maintenance, service, and replacement of parts are the responsibility of the owner/operator and are not considered defects in materials or workmanship within the terms of the warranty. Individual operating habits and usage may contribute to the need for additional maintenance or service.

When the unit requires servicing or repairs, the manufacturer recommends contacting an IASD for assistance. Authorized service technicians are factory-trained and are capable of handling all service needs.

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CANCER AND REPRODUCTIVE HARM www.P65Warnings.ca.gov.

(000393a)

Section 1: Safety

Introduction

Thank you for purchasing this home standby generator product accessory.

Read This Manual Thoroughly

The information in this manual is accurate based on products produced at the time of publication. The manufacturer reserves the right to make technical updates, corrections, and product revisions at any time without notice.

If any section of this manual is not understood, contact the nearest Independent Authorized Service Dealer (IASD) for starting, operating, and servicing procedures.

SAVE THESE INSTRUCTIONS: The manufacturer requires that this manual and the rules for safe operation be copied and posted near the unit's installation site. Safety should be stressed to all operators and potential operators of this equipment.

SAFETY: Throughout this manual, DANGER, WARNING, CAUTION and NOTE blocks are used to alert personnel about particular operations, functions or services which may be hazardous if performed incorrectly or carelessly. Their definitions are as follows:

ADANGER Indicates a hazardous situation which, if not avoided will result in death or serious injury. (000001) AWARNING Indicates a hazardous situation which, if not avoided, could result in death or serious injury. (000002) ACAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

(000003)

NOTE: Notes provide additional information important to a procedure or component.

These safety alerts cannot eliminate the hazards which they signal. Strict compliance with these special instructions, plus common sense, are major accident prevention measures.

General Safety

WARNING

Consult Manual. Read and understand manual completely before using product. Failure to completely understand manual and product could result in death or serious injury.(000100a)

The manufacturer cannot anticipate every possible circumstance that might involve a hazard. The safety messages in this manual and on tags and decals affixed to the unit are, all-inclusive. therefore, not lf using procedure, work method or operating the technique manufacturer does not specifically recommend, verify it is safe for personnel. Also make sure the procedure, work method or operating technique utilized does not render the generator unsafe.

General Satety Hazards



Electrocution. High voltage is present at transfer switch and terminals. Contact with live terminals will result in death or serious injury. (000129)

WARNING

Accidental Start-up. Disconnect the negative battery cable, then the positive battery cable when working on unit. Failure to do so could result in death or serious injury. (000130)

Risk of injury. Do not operate or service this machine if not fully alert. Fatigue can impair the ability to service this equipment and could result in death or serious injury. (000015)

(000215)

Injury and equipment damage. Do not use generator as a step. Doing so could result in falling, damaged parts, unsafe equipment operation, and could result in death or serious injury. (000216)

For safety reasons, the manufacturer requires that this equipment be installed by an Independent Authorized Service Dealer (IASD) or other competent, qualified electrician or installation technician who is familiar with applicable codes, standards and regulations. The operator also must comply with all such codes, standards and regulations. Repair generally requires simple replacement of the assembly with a new unit, which can usually be performed by the generator owner.

 Before performing any work near the generator, remove the control panel fuse and disconnect the black (-) battery cable to prevent accidental startup. When disconnecting batterv cables. alwavs remove the black (-) cable first, then remove the red (+) cable. When reconnecting the cables, connect the red (+) cable first, and then black (-) cable.

Electrical Hazards

Electrocution. Contact with bare wires, terminals, and connections while generator is running will result in death or serious injury. (000144)



ADANGER

Electrocution. Do not wear jewelry while working on this equipment. Doing so will result in death or serious injury.

(000188)



Electrocution. Water contact with a power source, if not avoided, will result in death or serious injury.

(000104)

Automatic start-up. Disconnect utility power and render unit inoperable before working on unit. Failure to do so will result in death or serious injury.

(000191)



ADANGER

Electrocution. In the event of electrical accident, immediately shut power OFF. Use non-conductive implements to free victim from live conductor. Apply first aid and get medical help. Failure to do so will result in death or serious injury. (000145)



Moving Parts. Do not wear jewelry when starting or operating this product. Wearing jewelry while starting or operating this product could result in death or serious injury. (000115)



Electrocution. Potentially lethal voltages are generated by this equipment. Render the equipment safe before attempting repairs or maintenance. Failure to do so could result in death or serious injury.

(000187)

This product is intended to be installed in conjunction with an Automatic Standby Generator. The generator may crank and start at any time when utility is lost. When this occurs, load circuits are transferred to the STANDBY (generator) power source. Before working on this generator (for inspection, service or maintenance), to prevent possible injury, always set the generator to the OFF mode and remove the 7.5A fuse from the generator control panel.

 Verify all appropriate covers, guards and barriers are in place, secured and/or locked before operating the generator. If work must be done around an operating unit, stand on an insulated, dry surface to reduce potential shock hazard.

Explosion Hazards



Explosion and fire Fuel and vapors are extremely flammable and explosive. No leakage of fuel is permitted, Keep fire and spark away. Failure to do so will result in death or serious injury. (000192)

ADANGER

WARNING

Explosion and Fire. Fuel and vapors are extremely flammable and explosive. Store fuel in a well ventilated area. Keep fire and spark away. Failure to do so will result in death or serious injury. (000143)

Explosion and fire risk. Do not smoke near unit. Keep fire and spark away. Failure to do so could result in death, serious injury, or property or equipment damage. (000282)

- Verify no combustible materials are left in the generator compartment or on or near the generator as FIRE or EXPLOSION may result. Keep the area surrounding the generator clean and free from debris.
- Gaseous fluids, such as natural gas and liquid propane (LP) gas, are extremely EXPLOSIVE. Install the fuel supply system according to applicable fuel-gas codes. Before placing the home standby electric system into service, fuel system lines must be properly purged and leak tested according to applicable code. Inspect the fuel system periodically for leaks. No leakage can be permitted.

Section 2: General Information and Setup

Introduction

This section of the manual describes the features and controls of the Mobile Link cellular remote monitoring system. Every effort was made to ensure that the information and instructions in this manual were both accurate and current at the time the manual was written. However, the manufacturer reserves the right to change, alter or otherwise improve this product or manual at any time without prior notice.

Description

The Mobile Link cellular remote monitoring system allows generator status and operating information to be monitored from anywhere the owner has access to a cellular network. Verizon is the cellular network provider. The Mobile Link cellular unit is mounted on the outside of the generator and communicates with the generator's controller via a serial port.

After the generator is registered with www.MobileLinkGen.com, owners can log onto the website to check on the current status of the generator at any time. Registering the generator also enables the system to notify the owner of any change in operating status.

The owner will be contacted by e-mail, push notifications, or text messages if alarms or warnings occur. The delivery method and frequency of these alerts can be adjusted on the website.

NOTE: E-mail and text notifications can be managed through the website. Push notifications are also available and can be managed through the use of the Mobile Link App. See *Mobile Link Cellular App* for downloading instructions.

Verizon Cellular Network Extender

If Verizon cellular coverage is not adequate for communication signal strength, a cellular network extender is available through an IASD. Order part number #0L2824. A cellular network extender uses the home's internet connection to communicate information from the generator to the Mobile Link system.

Website Information Screens

The Mobile Link cellular unit sends messages to alert the owner when scheduled maintenance is required on the generator. The generator's total run hours can be viewed, and a log of completed maintenance can be generated.

Generator exercise time can also be checked and altered, if desired, through www.MobileLinkGen.com.

Wire Harness Part Numbers		
10000038669	Tether to EVO2 (Optimus) controller	
1000003206	Tether to pre-EVO2 Air Cooled controllers	

Mobile Link Cellular Information

See Figure 2-1 and Figure 2-2. Logging into the Mobile Link App launches an Information Screen. The Information Screen displays an overview of each generator being monitored by Mobile Link. A picture of the generator appears on screen against a color-coded background (A). Background color indicates at-a-glance operating status:

- Green: Generator is ready to operate.
- Blue: Generator is currently operating.
- Yellow: Generator requires maintenance, but is otherwise ready to operate.
- **Red:** Generator has a functional problem and requires immediate service.
- Gray: Generator not connected to Mobile LInk.

An instrument cluster displays total generator running time, time on backup power, time on exercise, battery voltage, and fuel level (diesel units only).

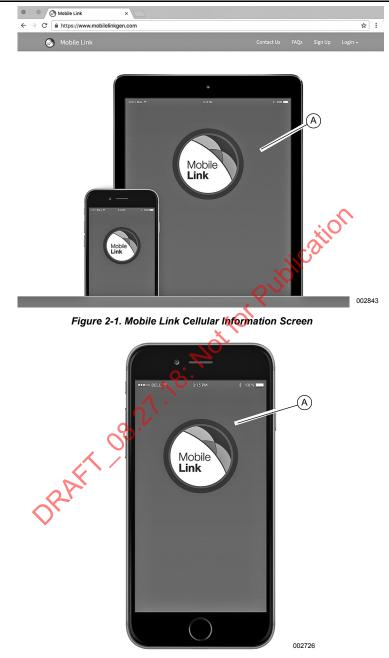


Figure 2-2. Mobile Link App Interface

Section 3: Installation, Operation, and Troubleshooting

Mobile Link Kit Numbers

There are two distinct kits for Mobile Link Cellular devices. One kit is designed for concurrent installation with a new generator. The other kit is designed for retrofit on existing generators which may or may not be equipped with an older Mobile Link Cellular unit.

Verify the kit number is correct for the installation before proceeding:

PART NO.	DESCRIPTION	
G0071690	New installations Mobile Link Cellular LTE Device	
G0072020	Retrofit Mobile Link Cellular LTE Device	

Installation

NOTE: Verify proper generator operation and performance before adding Mobile Link cellular during a new generator installation.

Disable Wi-Fi

Generators with Evolution 2.0 controllers are equipped with a Wi-Fi module on the rear panel. Wi-Fi functionality (if enabled) must be disabled before installing Mobile Link Celluar Follow the procedure below to disable Wi-Fi:

 See Figure 3-3. With the generator operating, enter the Wi-Fi menu by selecting "WIFI" on the controller display.

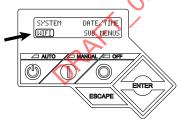


Figure 3-1. Enter Wi-Fi Menu

NOTE: "WIFI" may not appear on the controller display. In either of the following cases, proceed to *Main Circuit Breaker Locations*:

- Blank space in this area indicates the generator is not equipped with Wi-Fi.
- "WiFi Setup?" indicates the generator is equipped with Wi-Fi, but functionality is already disabled or has not been set up.

 See Figure 3-2. Use the arrow keys to toggle between "Yes" and "No." Select "No" and press ENTER.

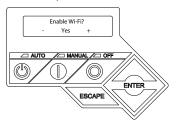


Figure 3-2. Enable/Disable Wi-Fi

3. Press ESCAPE to return to the default controller display.

NOTE: To enable WIFI:

- 1. Re-enter the Wi-Fi menu.
- 2. Toggle the "Enable Wi-Fi" option to "Yes."
- 3. Press ENTER.
- 4. Press ESCAPE to return to the default controller display.

Main Circuit Breaker Locations

See *Figure 3-3*. Depending on the generator model, the main circuit breaker is located either in an external breaker box (A), or internally near the Controller (B).

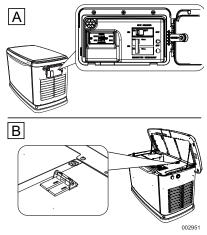


Figure 3-3. Main Circuit Breaker Locations

Prepare Generator (New Installations)

- 1. Unlock both locks, open generator lid, and remove front panel.
- See Figure 3-4. If generator is equipped with an internal breaker near the Controller, remove end panel from right side. Otherwise, proceed to Step 3.

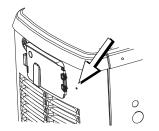


Figure 3-4. Removing End Panel (Internal Breaker)

 Turn generator OFF. Remove generator panel fuse.

NOTE: There are different Controller configurations for various model years.

- 4. Turn main utility disconnect breaker in home's electrical panel to OFF or OPEN.
- 5. Using an appropriate fuse puller, remove T1 fuse from transfer switch.
- Disconnect battery negative (–) cable, then positive (+) cable.
- If generator is equipped with an external breaker box, remove controller sheet metal cover and fasteners.
- See Figure 3-5. 2013 and later models have a pre-positioned dimple on the end panel. The dimple marks the center of the mounting hole to be drilled.



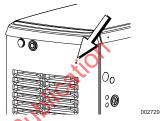


Figure 3-5. Pre-Positioned Dimple

 Inspect area behind external breaker box to verify all wires are moved out of the way to prevent damage during drilling.

DETE: Models equipped with an internal breaker mounted near the Controller will already have the end panel removed at this point. Carefully place the end panel face up on a clean, smooth, flat surface to avoid damaging the paint.

- 10. Drill a 1-1/8 in (29 mm) diameter hole with the dimple as the center point.
- 11. Proceed to Connect New Mobile Link Unit.

Prepare Generator (Equipped with Existing Mobile Link Unit)

- 1. Unlock both locks, open generator lid, and remove front panel.
- See Figure 3-4. If generator is equipped with an internal breaker near the Controller, remove end panel from right side. Otherwise, proceed to Step 3.



Figure 3-6. Removing End Panel (Internal Breaker)

 Turn generator OFF. Remove generator panel fuse.

NOTE: There are different Controller configurations for various model years.

- 4. Set main utility disconnect breaker in home's electrical panel to OFF or OPEN.
 - Using an appropriate fuse puller, remove T1 fuse from transfer switch.
 - 6. Disconnect battery negative (-) cable, then positive (+) cable.
 - 7. Disconnect wire harness from Mobile Link Cellular unit.

NOTE: Existing wire harness will be used to connect new Mobile Link Cellular unit, so leave remaining harness connections in place.

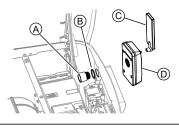
- 8. Unscrew, remove, and discard Mobile Link Cellular unit and plastic fitting.
- If generator is equipped with an external breaker box, remove controller sheet metal cover and fasteners.
- 10. Inspect area behind external breaker box to verify all wires are moved out of the way to prevent damage during drilling.

NOTE: Models equipped with an internal breaker mounted near the Controller will already have the end panel removed at this point. Carefully place the end panel face up on a clean, smooth, flat surface to avoid damaging the paint.

11. Proceed to Connect New Mobile Link Unit.

Connect New Mobile Link Unit

 See *Figure* 3-7. Push eight pin connector through supplied plastic fitting (A).



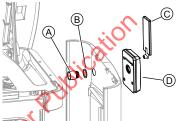


Figure 3-7. Mobile Link Cellular Installation

Place green gasket (B) on threaded end of plastic fitting. Push threaded end through controller end panel.

 Thread antenna (C) into Mobile Link cellular unit (D). Rotate antenna clockwise until secure. Position antenna pointing up.

NOTE: Do not overtighten antenna. Hand tighten only.

- Insert four-pin harness connector into Mobile Link cellular unit. Connector will only fit one way. DO NOT force into place.
- See Figure 3-8. With connector installed, tighten plastic fitting to secure Mobile Link cellular unit against generator wall.
 - · Align antenna vertically.
 - Verify Mobile Link logo is at left side.

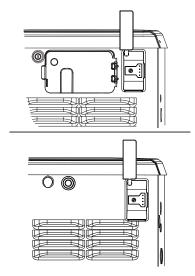


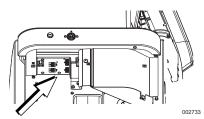
Figure 3-8. Mobile Link Cellular In Place

NOTE: Hold Mobile Link cellular unit firmly and tighten nut during installation to avoid damage to unit wiring harness.

 Route wire harness to back side of controller. Wherever possible, bundle harness with other wire looms to provide additional support.

Continue Installation Process

- If this a new installation, proceed to Step 7.
- If this is a retrofit installation, proceed to Complete Unit Installation (New and Retrofit).
- (New installations only): Locate accessory port. Accessory port is an eight-pin connector on underside of controller.
 - On models equipped with an external breaker box, lift controller to gain access to accessory plug location.
 - See Figure 3-9. On models equipped with an internal breaker mounted near the controller, accessory port is visible from battery compartment when end panel is removed.



- Figure 3-9.Accessory Port (Internal Breaker) NOTE: If there is a decal labeled "Port 1" or "Accessory Prt 1," remove decal to locate connector.
- 8. Install eight pin connector harness into open socket on controller.

NOTE: The connector will only fit one way. DO NOT force.

 For units equipped with Evolution 1.0 controllers or earlier: See Figure 3-10. Loosen and remove nuts (A) from both positive (+) and negative (-) terminal screws on battery cables. Slide harness power wires (B) over terminal screws and replace nuts. Tighten securely.

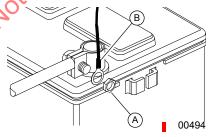


Figure 3-10. Attach Harness Power Wires

NOTE: Harness power wires consist of a black negative (–) wire and a fused red positive (+) wire.

Complete Unit Installation (New and Retrofit)

- 1. Install end panel, controller, or sheet metal controller cover. Install and tighten retaining fasteners.
- 2. Verify generator is OFF.
- 3. Install generator controller fuse.
- 4. Install T1 fuse into transfer switch using an appropriate fuse puller.
- 5. Turn main breaker in the home electrical panel to ON. On generator control panel, follow installation wizard and validate correct date, time, etc.
- 6. Place generator in AUTO.

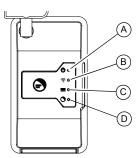


Figure 3-11. Mobile Link Cellular LEDs

A	Power LED Illuminates if Mobile Link Cellularis receiving power from generator battery.
В	Cellular Network LED Indicates cellular signal strength. • Steady ON indicates strong signal. • Flashing indicates variable or weak signal. • OFF indicates no signal.
С	 Connection to Controller LED Indicates status of connection to generator controller. Steady ON indicates generator controller has been identified. Flashing indicates generator controller is communicating with Mobile Link Cellular but has not yet been identified OFF indicates no connection
D	 Server Connection LED Indicates status of connection to Generac servers. Steady ON indicates verified server connection. Flashing indicates server connection established but not verified. OFF indicates no connection.

Verizon Cellular Network Extender Installation

In the US, if cellular coverage is not adequate for communication signal strength, a network extender is available through an IASD.

 Place network extender near the most centrally located window. For best results, place extender in an elevated location such as the top of a bookshelf or tall cabinet. If already using a Wi-Fi[®] router, keep extender at least 2 ft (61 cm) away.

NOTE: Wi-Fi[®] is a registered trademark of the Wi-Fi Alliance[®].

- 2. Connect one end of the provided Ethernet cable to an open port on the router and connect the other end to the WAN port located at the rear of the network extender.
- Plug the power supply into the 12VDC power port located at the rear of the network extender and plug the supply into an available wall outlet.

Problem	Cause	Correction
All LEDs OFF	No power to Mobile Link cellular unit	Check wire harness connections: Evolution 1.0 controller: Mobile Link cellular unit receives power from battery connections. Evolution 2.0 controller: Mobile Link cellular unit receives power directly from controller.
		Verify harness is properly connected to battery.
		Reset connector to Mobile Link cellular unit.
Power LED (A) OFF	No power to Mobile Link cellular unit	Check thermal safety device (fuse, in-line circuit breaker, or thermal coupler) in harness.
		Verify harness is properly connected to battery.
		Reset connector to Mobile Link cellular unit.
Power LED (A)	Loose electrical connection to Mobile	Verify harness is properly connected to battery.
flickering	Link cellular unit	Reset connector to Mobile Link cellular unit
Cellular Network LED (B) flashing	Variable or weak connection to cellular	Reset connector at generator controller and Mobile Link cellular unit.
	network	Replace cable.
		Wait for situation to resolve itself. LED should stop flashing within 10 minutes. If not
		Purchase an extender antenna Purchase a Verizon wireless range extender Contact Customer Support NOTE: Cellular coverage may be intermittent. Verify Verizon cellular coverage strength by trying to make a phone cell from a Verizon-supported mobile phone near Mobile Link cellular unit.
Connection to	Mobile Link cellular unit not enrolled	Enroll Mobile Link cellular unit at www.MobileLinkGen.com
Controller LED (C) OFF		Verify Mobile Directory Number (MDN) is enrolled on www.MobileLinkGen.com and enrolled number matches Mobile Directory Number (MDN) of Mobile Link cellular unit
	Mobile Link cellular unit not connected to generator controller.	Check thermal safety device (fuse, in-line circuit breaker, or thermal coupler) in harness.
		Verify harness is properly connected to battery.
	D'	Reset connector to Mobile Link cellular unit.
Connection to Controller LEP (C) flashing	Generator controller communicating with Mobile Link Cellular, but has not yet been identified.	Verify controller is compatible with Mobile Link Cellular unit
Server Connection LED (D) OFF	Mobile Link cellular unit not connected to Generac server.	Server may be down. Wait for server response, or contact Generac Technical Support at
	Poor connection to controller	Check wire harness and (if applicable) battery connections; tighten if necessary
	Unsupported controller	Verify controller is Evolution 1.0 or Evolution 2.0.
	Mobile Link cellular unit in "Suspended" mode.	Contact Customer Service for assistance: (US) 1-855-GEN-VIEW (1-855-436-8439)
Server Connection LED (D) flashing	Mobile Link cellular unit connected to Generac servers, but connection is not verified	Server connection pending. Wait for server response. Connection process may last as long as 10 minutes.

Troubleshooting

Section 4: Registration

Once the Mobile Link cellular unit has been installed, it should be registered and activated to obtain full benefits of product capabilities.

Gather the following information prior to initiating registration process:

- E-mail address
- Mobile Link Serial Number located on label on bottom of unit. A second label on packaging also includes the serial number.
- Generator serial number located on label plate, near control panel console.
- Mailing address
- Valid credit card
- Address of generator location (if different than mailing address)

Go to **www.MobileLinkGen.com** to complete the registration process. The welcome screen is shown in *Figure 4-1*.

- 1. Click "Sign Up" (A).
- 2. Enter requested information when prompted, then click "Sign Up."
- 3. Enter requested generator enrollment information when prompted, then click "Enroll."

NOTE: The Mobile Link serial number is located on the bottom of the device and on the device packaging. The generator serial number is located on or in the area of the control panel.

 Select the types of alerts to receive, how often to receive them, and whether the alerts should be sent as text messages, email messages, or both.



Figure 4-1. Mobile Link Cellular Information Screen

Jot for Publication

- Text alert settings can be configured to deliver notifications of any or all changes in generator status.
- Status changes include such events as faults, warnings, exercise confirmations, or maintenance reminders.
- **5.** An enrollment summary screen appears. Select "Submit" to continue.
- Connect the Mobile Link cellular account to a preferred Independent Authorized Service Dealer (IASD). This enables Mobile Link cellular to automatically deliver maintenance notifications and alarms to the IASD.

NOTE: Contact the IASD for help in establishing a connection between them and the Mobile Link account.

Test Verizon Network Connection

- Turn utility disconnect switch OFF to simulate a power outage. Generator should turn ON. Allow to run for approximately 30 seconds, then turn utility disconnect switch back to ON or CLOSED to restore utility service. Transfer switch will transfer back to utility. Generator will cool down and then shut down.
- See Figure 3-11. Cellular Network LED (B) and Connection to Controller LED (C) remain dark until registration is complete. The following events then occur:
 - Cellular Network LED (B) flashes when unit connects to the Verizon network.
 - Connection to Controller LED (C) flashes and eventually illuminates steadily when unit connects to Generac servers.

Section 5: Mobile Link Cellular App

Download the Mobile Link Cellular for Generators app:



See *Figure 5-1*. The Mobile Link cellular app provides generator data optimized for your mobile device:

- View current generator status and upcoming maintenance needs.
- Remotely set the generator's exercise time.
- Review generator's run and maintenance history.
- Receive generator status change messages, alarms, or warnings through email, push notifications, or text messages.



Figure 5-1.Mobile Link Cellular for Generators App DRAFT-08.21.18: Notfor Publication

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