User Recommendations for Go-Style Power Charge Igniter

DET-5306-074

MAN-DET-074 (R03)

Please check Owen website at www.corelab.com/owen/ to confirm latest revision of User Manual

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Warning: use of owen equipment contrary to manufacturer's specifications or operating instructions may result in property damage, serious injury or fatality. If you are not trained in the handling and use of explosive devices, do not attempt to use or assemble any owen perforating systems or owen firing devices.

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Warning: ***Explosives are destructive by nature! Do not attempt to disassemble or alter the detonator in any manner! Do not crush, hammer, pinch, impact, pull wires or abuse the detonator or any explosive!***

Warning: ***Be sure to follow safe operating practices as found in API RP-67 in accordance with governmental regulations, company policies and manufacturer's recommendations!***

Owen Oil Tools' Resistorized Bridge Igniters are designed to ignite when an electrical current greater than 0.2 amps is applied. The Go-Style Power Charge Igniter is a resistorized electrical igniter manufactured to API RP-67 recommendations and employs a 51 Ohm resistor in the firing circuit. It is designed to be used in "Go-Style" firing heads for setting tools where the igniter provides a hot burning flame output to initiate the burn of a power charge. The Go-Style Power Charge Igniter is intended to be used in operating conditions up to 400°F for 1 hour. For best reliability, the Go-Style Power Charge Igniter should only be used with Owen Power Charges.

The user should satisfy themselves, as to the suitability of this product for the user's application. Please refer to the Owen Oil Tools' "Technical Specifications" sheet (Owen Document # DET-5306-074-DS) for more information.

1.0 Procedures for Panel Setup and Firing Resistorized Bridge Igniters

1.1. Prior to arming or gun make up:

- Short circuit the toolstring so that the current output from the panel can be measured with a digital blasters multi-meter at the cablehead, CCL, or Quick-Change. Verify a minimum of 1.0 Amp can be applied when power is applied from the firing panel.

Note: *Mark the location of the needle on the current meter panel when 1.0 Amp is applied to the multi-meter. This location will indicate that you are applying 1.0 Amp to the gun string.*

1.2. Reset the panel to safe mode.

1.3. Continue proper assembly of toolstring.

1.4. When ready to fire the igniter downhole, increase the power to the firing circuit from 0 Amps to the marked needle location that corresponds to 1.0 Amp. The igniter will typically fire around 0.75 Amps to 0.85 Amps.

Note: *The user should see both current and voltage being applied to the igniter when ramping up on the rheostat dial. If neither or only one of the two dials is increasing, then this will indicate that power is not properly being applied to the igniter.*

2.0 Arming

Warning: ***Igniters should only be removed from their storage and individual packaging in the loading/arming area at the time of arming! Always insert the igniter inside an Owen Detonator Safety Tube (Part # DET-2000-000) after removal from packaging and storage if it is not to be used immediately!***

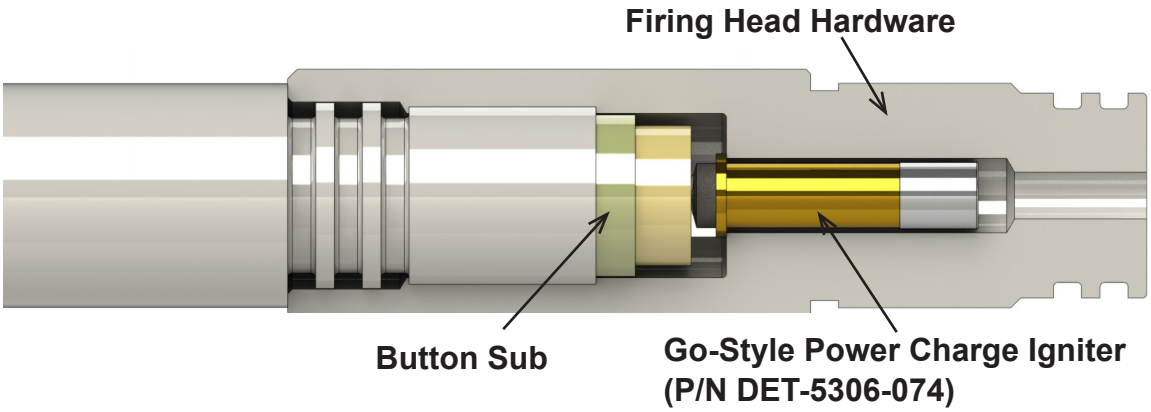
2.1. Remove the Go-Style Power Charge Igniter (Owen P/N DET-5306-074) from its packaging or storage. When igniter is ready to be installed, disconnect the igniter's ground wire from the spring and wrap it around the body of the igniter. The ground wire is connected to the brass body, and it is used as a secondary grounding contact when installed inside the hardware.

2.2. Inspect the firing head hardware prior to inserting the igniter inside. The ID of the firing head should be approximately 1/2 in. (1.27 cm) in diameter. It is crucial that the hardware is clean and free of any debris or leftover residue since the igniter's brass body is designed to make an electrical connection with the hardware.

2.3. After inspecting and cleaning the hardware, insert the igniter (output end first) into the firing head hardware until the igniter is firmly seated inside the firing head. The brass shoulder should bottom out against the hardware, and the grounding wire should not be seen above the shoulder.

2.4. Mechanically connect a shunted button sub to the hardware by threading it on until the shoulder bottoms out on the firing head as shown in the figure below. The firing head will compress the igniter's spring to make a positive connection. The shunt may be removed from the firing head in order to electrically check the resistance of the firing circuit. When using a blasters multi-meter, the overall circuit resistance should measure approximately 60 Ω. If a reading much higher than this is measured, then this is an indication of a bad connection. Re-check the igniter and clean out the hardware, if needed.

Note: *The Go-Style Power Charge Igniter will measure 51 Ω ± 2.5 Ω by itself. When measuring the circuit resistance through the hardware, additional circuit resistance will be measured. This is due to the resistance of the metal hardware that is being measured in addition to the igniter.*



2.5. Ensure that the wireline cable is shunted, and mechanically connect the button sub to the wireline. The igniter is now electrically connected to the wireline cable.

2.6. Attach the firing head assembly to the setting tool by threading it on while taking care not to force, pinch, crush, or impact the explosive components. The igniter is now ballistically armed and ready for use.