



User Recommendations for O-86 Detonators

DET-3050-115

MAN-DET-O86 (R2)

Owen Oil Tools

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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 Detonators are designed to detonate when an electrical current greater than 0.2 amps is applied. The O-86 Detonator is a resistorized electrical detonator manufactured to API RP-67 recommendations and employs a 51 Ohm resistor in the firing circuit. It is designed to be used in exposed conditions where the operation environment should not exceed 450° F and 15,000 psi for 1 hour.

The user should satisfy themselves, as to the suitability of this product for the user's application.

1.0 Procedures for Panel Setup and Firing Resistorized Bridge Detonators

1.1 Before attaching a gun or detonator to the wireline cable:

- Short circuit the toolstring below the CCL.
- Apply DC voltage and adjust the rheostat to achieve 0.80 amps.
- Mark the rheostat location, then return the rheostat to zero.

1.2 When ready to fire a gun or detonator downhole, increase the power to the firing circuit from 0 to the 0.80 amp rheostat position over 4-6 seconds until the detonator fires.



Note: If an alternative firing technique is used, do not surge the firing circuit with power as it may cause the detonator to fail and a mis-run to occur.

2.0 Arming



Warning: Detonators should be removed from their packaging and storage in the loading/arming area at the time of arming! Always insert the detonator inside a safety tube after removal from packaging and storage!



Note: An electrical check of the detonator's firing circuit may be conducted while the detonator is confined within a safety tube. Using electrical detonator circuit testing instruments, Owen's 51 Ohm Resistorized Bridge Detonators will measure a resistance of 51 Ohms $\pm 5\%$.

2.1 First, insert the detonator into a detonator safety tube, then insure the wireline cable is shunted. Now electrically connect the detonator to the wireline cable while the detonator is still in the safety tube. The blue insulated wire must be ground as it is electrically connected to the body of the detonator internally. Next, remove the detonator from the tube, then insert the detonator in the toolstring. Complete the mechanical assembly of the device, and tool assembly taking care not to force, pinch, crush, or impact the explosive components or wiring. Owen recommends using a plumb bob when using the O-86 Detonator for dump bailer applications. The plumb bob (DMP-3500-025), is designed to cover all but the output end of the detonator. The plumb bob contains the detonation and directs the output downward to break the dump bailer bottom and reduce damage to the dump bailer and detonator sub.



Note: The plumb bob should be installed over the detonator prior to electrically connecting the detonator to the wireline.

