



User Recommendations for 008 Top Fire Detonators

DET-3050-008
DET-3050-008C

MAN-DET-008 (R1)

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 in accordance with API RP-67, and 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 008 Top Fire 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 hollow steel carrier or scalloped gun systems in a top-fire application where the detonator has a directional output designed to initiate a bi-directional booster. The 008 detonator is intended to be used in operating conditions less than 475° F for 1 hour. Special hardware is required to house the 008 detonator and adapt it to conventional wireline tools between the CCL and the perforating gun.

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!

2.1 Inspect the specially designed detonator sub prior to inserting the detonator; the ID of the detonator sub should be 1/2 in (1.27 cm) in diameter and free of debris. Insert the detonator inside the detonator sub after removal from packaging and storage. The detonator has no wires; the detonator will remain shunted until the pin is depressed on top. The detonator sub should be mechanically attached to a shunted firing head which will insure the detonator remains shunted until a safety plug or bottom sub can be attached below the detonator sub. With the safety plug or bottom sub attached, the shunt may be removed from firing head.



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 $\pm 5\%$.

2.2 Insure the wireline cable is shunted. Mechanically connect the firing head to the wireline which will electrically connect the detonator to the wireline cable or cable connections while the detonator is still in the confined hardware. Remove the safety plug or bottom sub from the detonator sub. The ballistic arming will be completed by attaching the detonator sub to the top sub where a bi-directional booster has been installed in the top sub as a receiver; Owen recommends the detonator and bi-directional booster to be flush to 1/8 in (0.32 cm) recessed into each sub which prevents either explosive component from becoming pinched during assembly. Complete the mechanical assembly of the device and tool assembly by attaching the detonator sub to a gun top sub taking care not to force, pinch, crush, or impact the explosive components.

