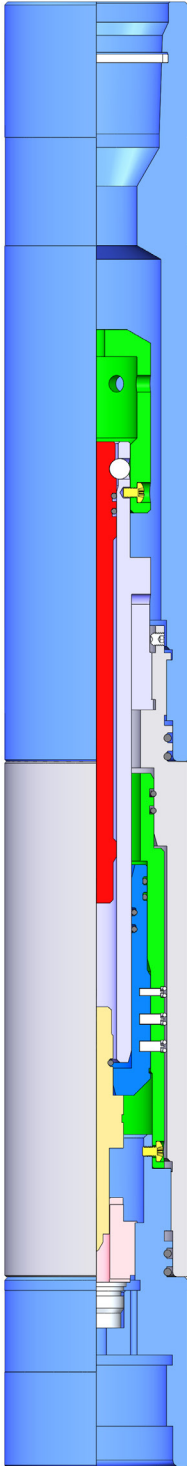


## PRODUCT INFORMATION:



### DESCRIPTIONS:

The Top Dual Redundant Firing System (TDRFS) is designed to be run on top of a TCP gun string. This firing head contains dual methods to fire the CP Initiator and detonate the perforating gun string. The dual firing methods are achieved by integrating an Impact Firing head into a pressure activated firing head. This redundancy provides operators with a choice to detonate the gun string as well as a backup method in case an activation method fails to detonate the system. The pressure activated firing section is composed of a piston and sleeve assembly utilizing precision shear pin technology with a maximum 5% variance in detonation pressure. When the predetermined shear pressure is exceeded, the shear sleeve forces the firing pin into the CP Initiator and detonates the gun string. The mechanical impact section is composed of a hydraulically driven firing rod retained in position with steel balls. When the drop bar impacts the retainer cap the balls are allowed to retract which allows pressure to force the firing rod into the firing pin and detonates the gun string.

### FEATURES AND BENEFITS:

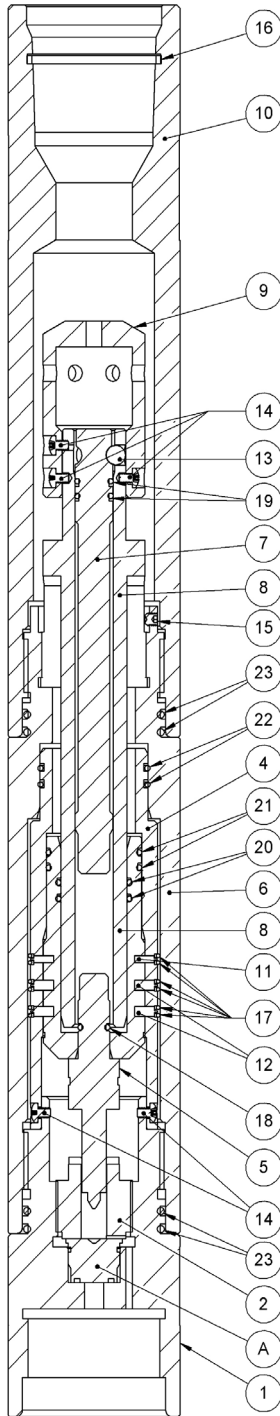
- Compact and rugged design
- Provides redundancy to ensure detonation of the TCP gun string
- Utilizes precision shear pin technology
- May be run with standard Gun Top Subs
- Operating Range: Maximum of 20,000 psi. (137.9MPa)
- May be used in conjunction with the 6 minute Time Delay System

### SPECIFICATIONS:

	TC-027-3375-000		TC-027-3688-000	
TOOL DIAMETER	3.375 in	86 mm	3.688 in	93.7 mm
OVERALL LENGTH	27 in	685.8 mm	27 in	685.8 mm
TENSILE RATING	95,933 lbf	42,673 daN	95,933 lbf	42,673 daN
PRESSURE RATING	20,000 psi	137.9 MPa	20,000 psi	137.9 MPa
TOP THREAD	2-3/8 EUE		2-7/8 EUE	
BOTTOM THREAD	2.750 Acme GO Thread			
MIN. HYDROSTATIC PRESSURE (DROP BAR)	750 psi (5.2 MPa)			
MIN. PINNING PRESSURE (PRESS ACTIVATED)	2000 psi (13.8 MPa)			

PRODUCT INFORMATION:

BILL OF MATERIALS:



ITEM	PART NUMBER	QTY.	DESCRIPTION
	TC-027-3375-000		Top Dual Redundant Firing System, 2-3/8 EUE
1	TC-027-0000-000	1	Body, Detonator
2	TC-027-0001-000	1	Retainer, Detonator
3	TC-027-0002-000	1	Shear Sleeve, Inner
4	TC-027-0003-000	1	Shear Sleeve, Outer
5*	TC-027-0004-000	1	Firing Pin, Detonator
6	TC-027-0005-000	1	Housing, Pressure
7	TC-027-0006-000	1	Firing Rod
8	TC-027-0007-000	1	Stem, Center
9	TC-027-0008-000	1	Retainer Cap
10	TC-027-0009-000	1	Housing, Top w 2-3/8 EUE
11*	SF-010-0130-045	8	Shear Pins, .130 Dia.
12*	SF-010-0189-045	16	Shear Pins, .187 Dia.
13*	ST-040-0375-000	3	Retaining Balls
14*	PF-030-019F-025B	5	Screws, Round Head, Brass
15*	PF-001-025F-025	1	Set Screw
16*	MI-305-2375-000	1	API Seal Ring, 2-3/8 EUE
17*	OOO-N569-035	6	O-ring, Nitrile 90
18*	OOO-N569-111	1	O-ring, Nitrile 90
19*	OOO-N569-113	2	O-ring, Nitrile 90
20*	OOO-N569-125	2	O-ring, Nitrile 90
21*	OOO-N569-131	2	O-ring, Nitrile 90
22*	OOO-N569-135	2	O-ring, Nitrile 90
23*	OOO-N569-230	4	O-ring, Nitrile 90
A	51-6956-3	1	CLCP Initiator
--	TC-027-3375-000V	--	Top Dual Redundant Firing System, 2-3/8 EUE, HT
--	TC-027-3375-099P	--	Redress Kit
--	TC-027-3375-199P	--	Redress Kit, HT
--	MAN-TC-027	--	Assembly Manual

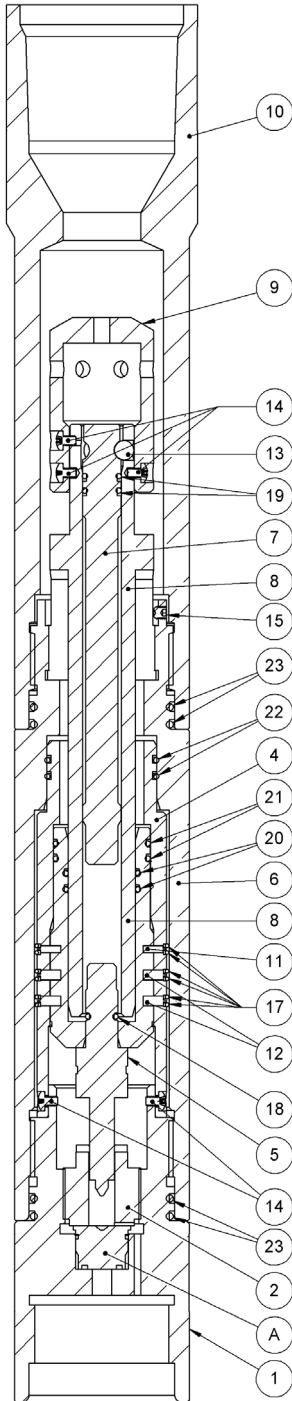
\*Denotes parts in Redress Kit.

High Temperature Firing Head and Redress Kits contain Viton 90 O-Rings.

Note: Explosives sold separately. Please contact you local Owen Oil Tools representative for more information.

PRODUCT INFORMATION:

BILL OF MATERIALS:



ITEM	PART NUMBER	QTY.	DESCRIPTION
	TC-027-3688-000		Top Dual Redundant Firing System, 2-7/8 EUE
1	TC-027-0000-000	1	Body, Detonator
2	TC-027-0001-000	1	Retainer, Detonator
3	TC-027-0002-000	1	Shear Sleeve, Inner
4	TC-027-0003-000	1	Shear Sleeve, Outer
5*	TC-027-0004-000	1	Firing Pin, Detonator
6	TC-027-0005-000	1	Housing, Pressure
7	TC-027-0006-000	1	Firing Rod
8	TC-027-0007-000	1	Stem, Center
9	TC-027-0008-000	1	Retainer Cap
10	TC-027-0009-287	1	Housing, Top w 2-7/8 EUE
11*	SF-010-0130-045	8	Shear Pins, .130 Dia.
12*	SF-010-0189-045	16	Shear Pins, .187 Dia.
13*	ST-040-0375-000	3	Retaining Balls
14*	PF-030-019F-025B	5	Screws, Round Head, Brass
15*	PF-001-025F-025	1	Set Screw
16*	MI-305-2875-000	1	API Seal Ring, 2-7/8 EUE
17*	OOO-N569-035	6	O-ring, Nitrile 90
18*	OOO-N569-111	1	O-ring, Nitrile 90
19*	OOO-N569-113	2	O-ring, Nitrile 90
20*	OOO-N569-125	2	O-ring, Nitrile 90
21*	OOO-N569-131	2	O-ring, Nitrile 90
22*	OOO-N569-135	2	O-ring, Nitrile 90
23*	OOO-N569-230	4	O-ring, Nitrile 90
A	51-6956-3	1	CLCP Initiator
--	TC-027-3688-000V	--	Top Dual Redundant Firing System, 2-7/8 EUE, HT
--	TC-027-3375-099P	--	Redress Kit
--	TC-027-3375-199P	--	Redress Kit, HT
--	MAN-TC-027	--	Assembly Manual

\*Denotes parts in Redress Kit.

High Temperature Firing Head and Redress Kits contain Viton 90 O-Rings.

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