



1-11/16" 6 Minute Time Delay Transfer System, TDI XL

TC-039-1688-450
TC-039-1688-450H

MAN-TC-039-1688-450 (R03)

OWEN OIL TOOLS

12001 Cr 1000
Godley, Texas, 76044, USA
Phone: +1 (817) 551-0540
Fax: +1 (817) 551-1674
www.corelab.com/owen

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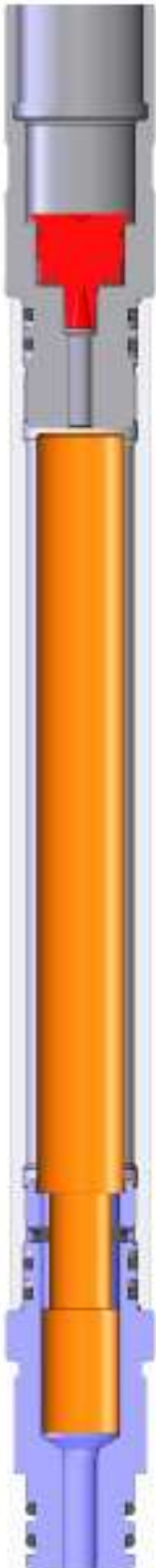
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1-11/16" 6 Minute Time Delay Transfer System, TDI XL

PRODUCT INFORMATION:



DESCRIPTION:

The 1-11/16" 6 Minute Time Delay Transfer System was developed to be used in-conjunction with the new Pyrotechnic Igniter, TDI XL. The TDI XL is a percussion style igniter that outputs a pyrotechnic flame to ignite 6 Minute Time Delay Fuses. An input of 12.4 ft-lb (all fire) is required to activate the TDI XL. This input is achieved by a mechanical impact or from a high order explosive output. By utilizing the high order explosive output you eliminate the need for traditional mechanical firing pins to activate 6 Minute Time Delay Fuses. Before and after detonation the TDI XL maintains a bulk head of 20,000 psi.

The Time Delay Fuse allows for a time of 6 minute interval between the activation of the Dual Fire System and the detonation of the perforating guns. This time interval allows bleeding off of the pressure to establish an underbalance condition or to perform another needed operation prior to perforation. In the event that more time is required, extra fuses may be incorporated into the system using additional hardware.

The system can be threaded into the top of either style Dual Fire System or standard 1-11/16" TCP box connection (i.e. Det. Body, AGR, and etc.).

ADVANTAGES:

- TDI XL: 7.4 ft-lb (No-Fire), 12.4 ft-lb (All Fire).
- TDI XL: Maintains Bulk Head up to 20,000 psi.
- Used with either Owen's Dual Fire Systems "Victory Firing System".
- Used with other TCP auxiliary equipment.
- Eliminate the need for traditional mechanical firing pins.
- Increase operational time by the addition of 6 Minute Time Delay Fuses.
- Save running length for addition of 6 Minute Time Delay Fuses.

SPECIFICATIONS:

	TC-039-1688-450	TC-039-1688-450H
O.D.	1.688in (42.9mm)	
MAKE-UP LENGTH	15.63in (397.0mm)	
MAXIMUM TEMPERATURE ¹	250°F (121°C)	400°F (204°C)
MAXIMUM HYDROSTATIC	17,000 psi (117 MPa)	
TENSILE STRENGTH (@72°F, 22°C)	30,000 lbf (13 340 daN)	
TOP CONNECTION	1-11/16in TCP	
BOTTOM CONNECTION	1-11/16in TCP	

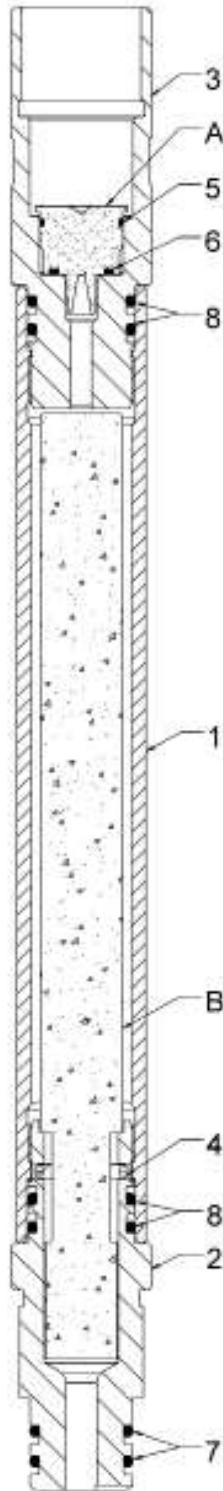
¹The maximum temperature can be increased to 400°F (204°C) by substituting the 90 durometer Nitrile O-Rings with 90 durometer Viton O-Rings. Refer to the Time vs Temperature chart for Explosives to confirm any explosive requirements.



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PRODUCT INFORMATION:

BILL OF MATERIALS: B - 2.375 Tubing, 3.125 TAG (300°F for 1 hr)



ITEM	PART NUMBER	QTY	DESCRIPTION
--	TC-039-1688-450	--	Assembly, 6-Min. Time Delay Transfer, 1-11/16", TDI XL
--	TC-039-1688-450H	--	Assembly, 6-Min. Time Delay Transfer, 1-11/16", TDI XL, High Temp
1	TC-039-0014-001	1	Housing, 6-Min TD, 1-11/16", TDI XL
2	TC-039-0015-002	1	Support Block, 6-Min, 1-11/16", TDI XL
	TC-039-0015-001**		Support Block w/ Ext, 6-Min, 1-11/16", TDI XL, Dual Fire System Only
3	TC-039-0016-001	1	Housing, TDI XL, 1-11/16", TDI XL
	TC-039-0016-PX1**		Housing, PX1, TDI XL, 1-11/16", TDI XL
4*	PUR-0600-038	1	Set Screw, 10-32 x 3/16" Long
5*	OOO-N569-020	1	O-Ring 020, Nitrile
6*	OOO-N569-113	1	O-Ring 113, Nitrile
7*	OOO-N569-214	2	O-Ring 214, Nitrile
8*	OOO-N569-215	4	O-Ring 215, Nitrile
-	TC-039-1688-099XL		Redress Kit, Low Temp., 1-11/16" Time Delay Transfer, TDI XL
-	TC-039-1688-199XL	--	Redress Kit, High Temp., 1-11/16" Time Delay Transfer, TDI XL
A	2-350620-1	1	Igniter, TDI XL (explosive component sold separately)
B	51-8200-4	1	6-Minute Time Delay Fuse (explosive component)
	2-450060-1	1	6-Minute CLCP Time Delay Fuse (explosive component)
-	MAN-TC-039-1688-450	--	Procedure Manual, 1-11/16" Time Delay Transfer, TID XL

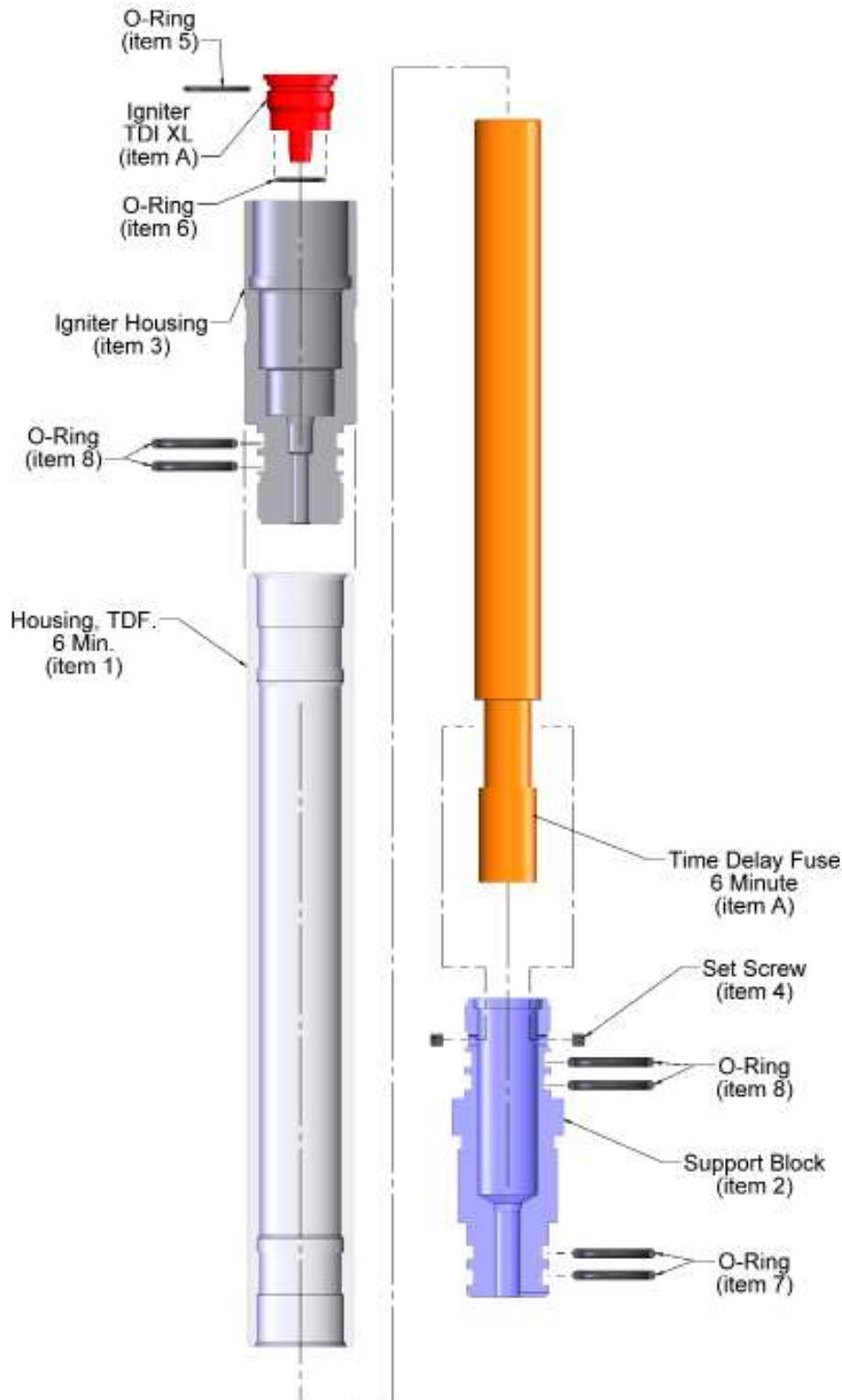
* Denotes parts in redress kits.

** Denotes items sold separately from TC-039-1688-450 assembly.

NOTES:

TC-039-1688-450H comes with High Temp. O-Rings Viton (FKM)

Exploded View





Warning: *The assembly of this tool requires the handling of an Explosive Device and all safety precautions must be adhered to and observed! Only personnel trained in explosive handling procedures should be allowed to arm this assembly*



Note: *Check all items against the parts list to be sure of having the correct parts and quantities.*



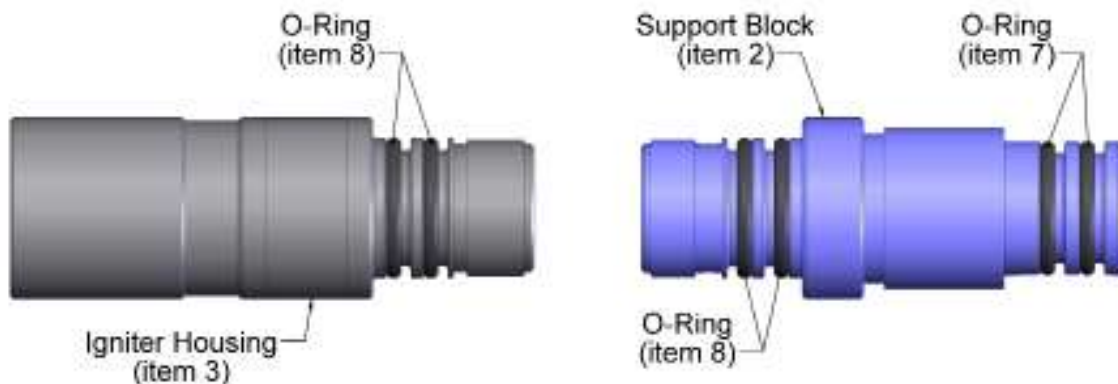
Note: *Check for any damage to the parts which would prevent the part from being assembled correctly, easily and safely.*



Note: *Each Time Delay Fuse has a burn time of approximately 6 minutes @72°F (22.2°C). Refer to the Delay Time vs. Temperature chart in the manual.*

1.0 Assembly

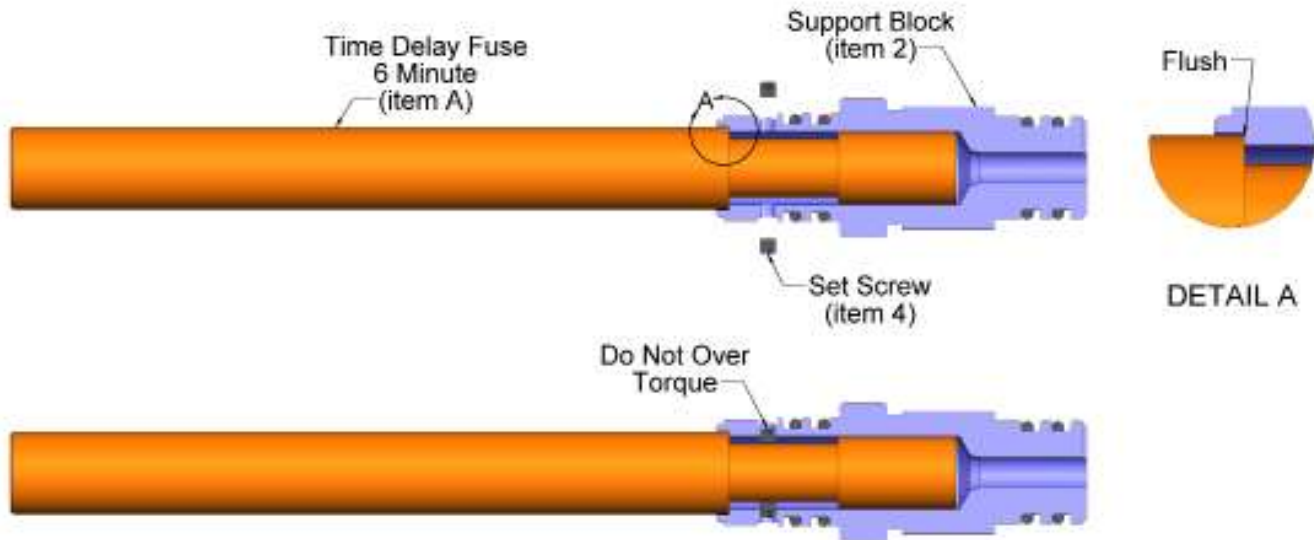
- 1.1 Install O-Rings (item 7 and 8) onto the Support Block (item 2) and Igniter Housing (item 3). Set aside.



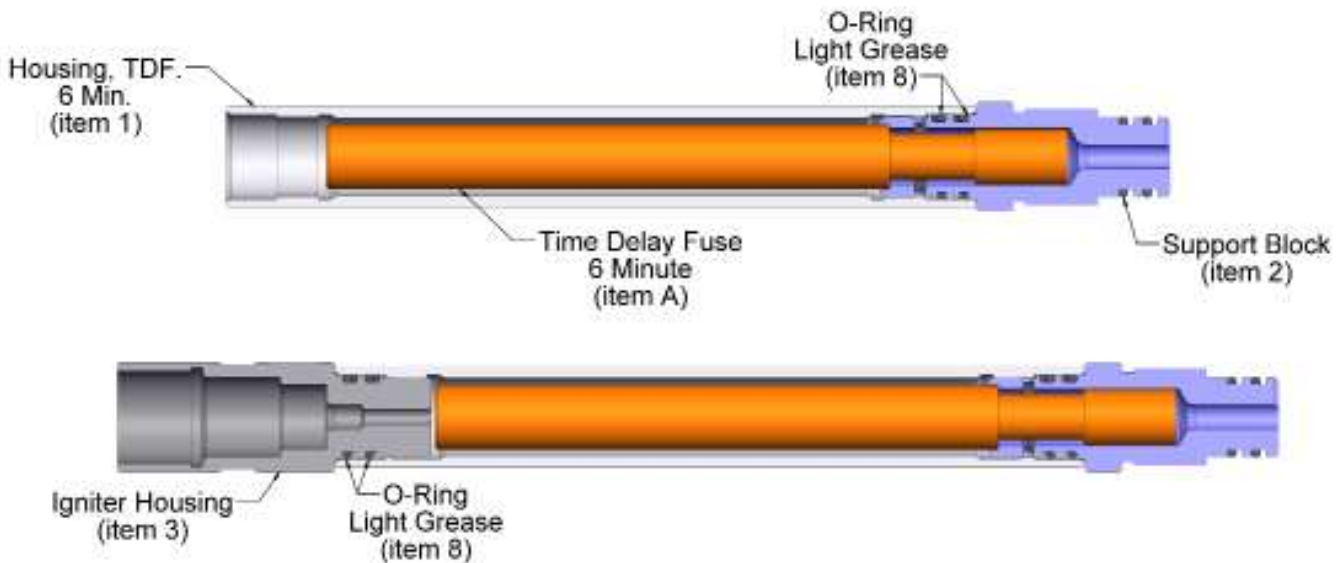
- 1.2 Remove the 6 - Minute Time Delay Fuse (item A) from its shipping packing. Insert the threaded section of the TDF into the Support Block (item 2). The O.D. of the TDF will rest on the interior bore of the Support Block. Thread the two set screws (item 4) into in the Support Block until they make contact with the TDF. The set screws will sit below the thread relief of the Support Block.



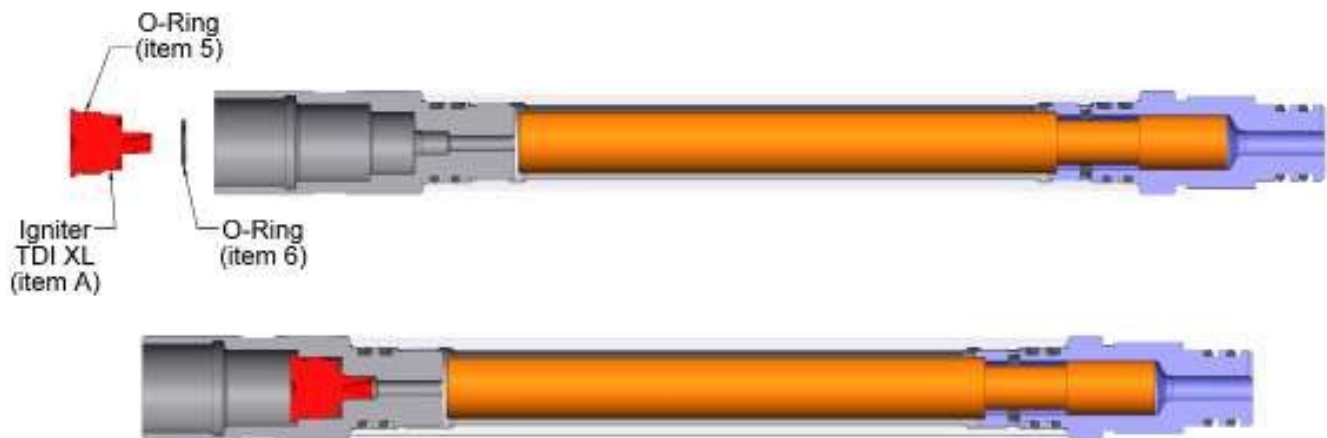
Warning: Do not over torque the set screws. Apply no more than 5 ft-lb. (7 Nm).



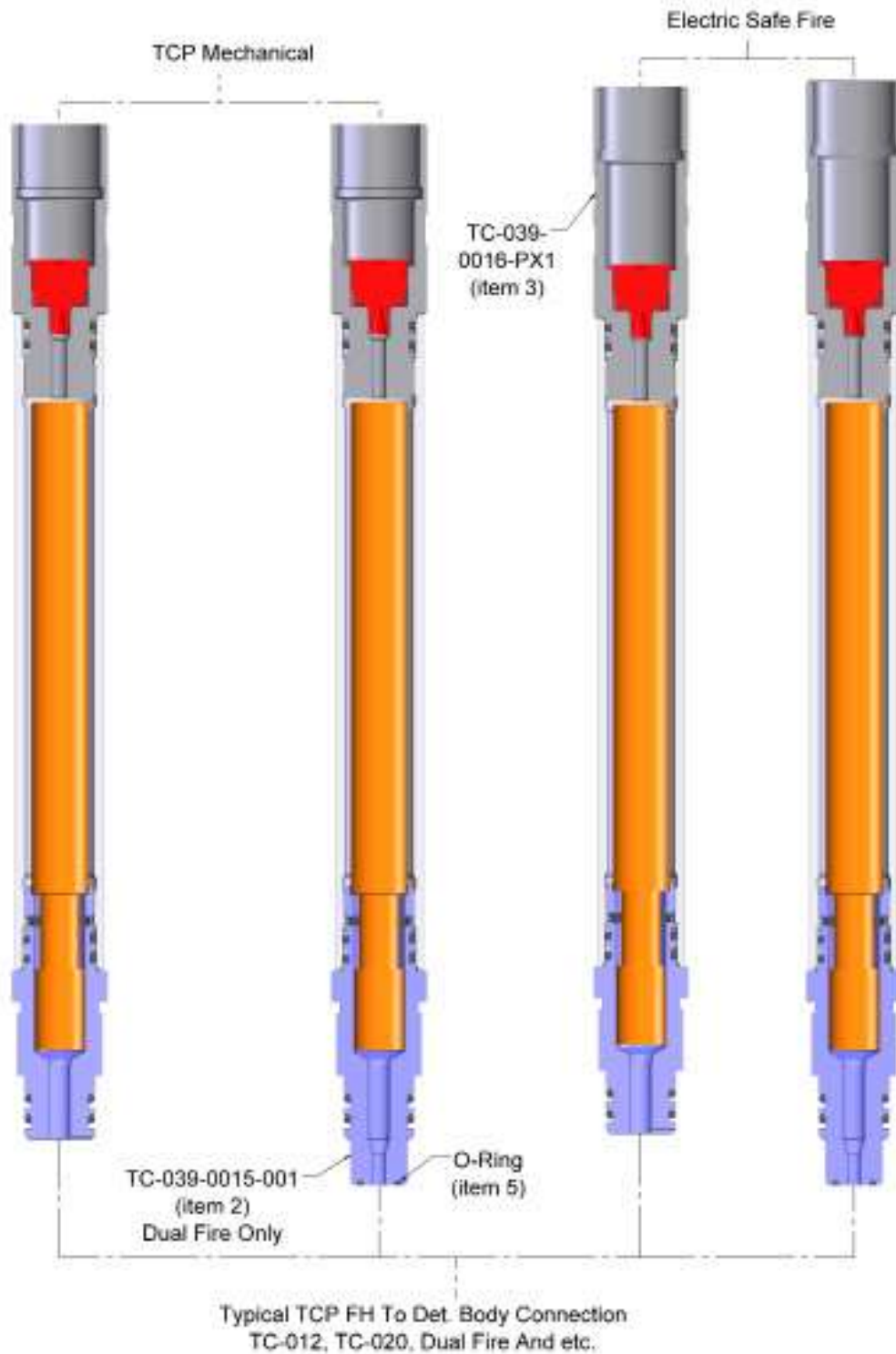
- 1.3 Apply a light amount of grease to the O-Rings (item 8) on the Support Block (item 2). Thread the Housing (item 1) onto the pin connection of the Support Block. Both ends of the Housing are identical. Apply a light amount of grease to the O-Ring (item 8) on the Igniter Housing (item 3). Thread the Igniter Housing into the open end of the Housing (item 1).



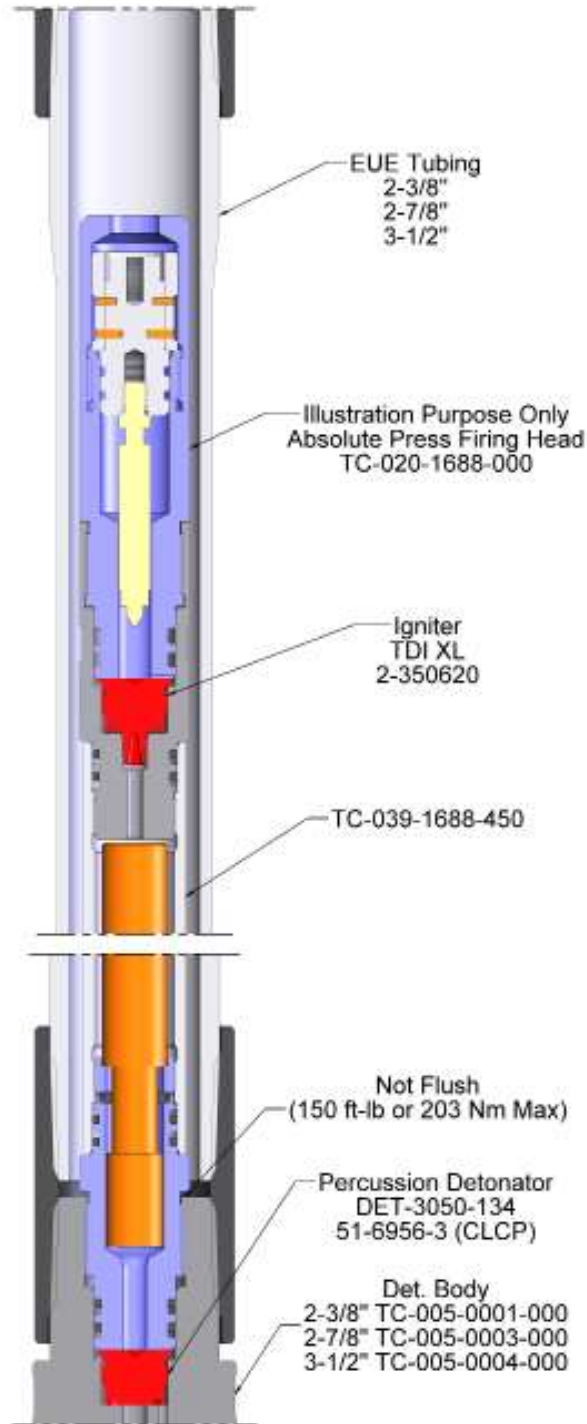
- 1.4 These next steps are to be used only when the Time Delay Transfer System is ready to be used prior to running into the wellbore. Remove the TDF Igniter (item A) from its shipping packing. Install the O-Rings (item 5 and 6) onto the groove of the Igniter. Insert the Igniter into the bore of the Igniter Housing (item 3). The CT Transfer System is ready to be attached to the auxiliary equipment. The next section contains examples of different configurations.



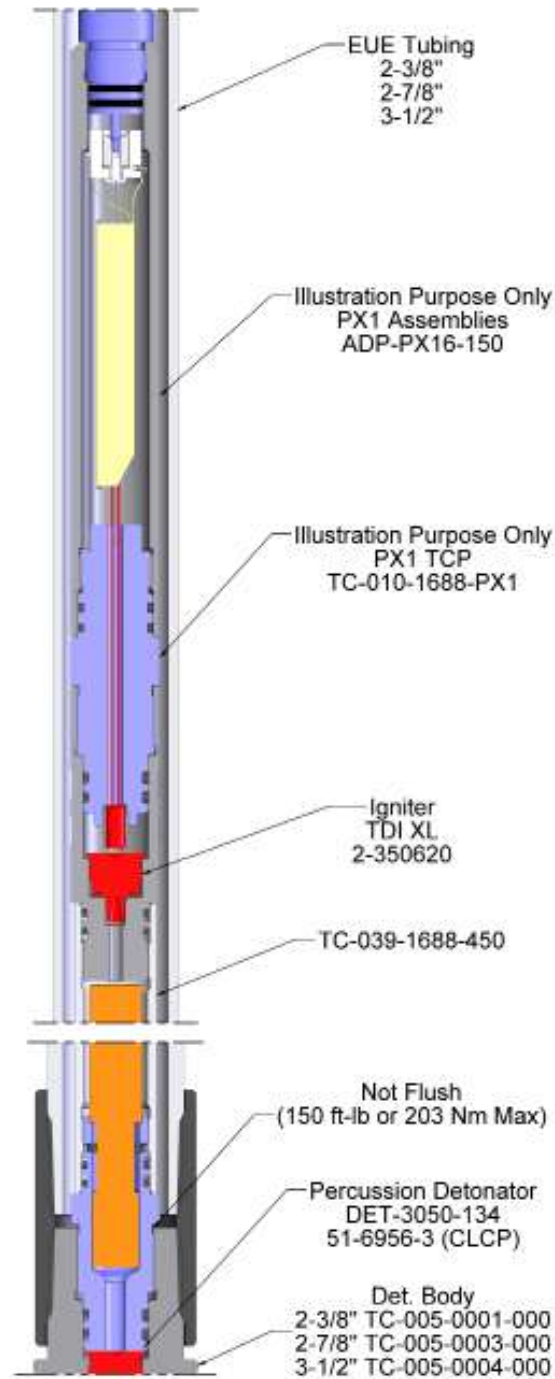
Assembly Views



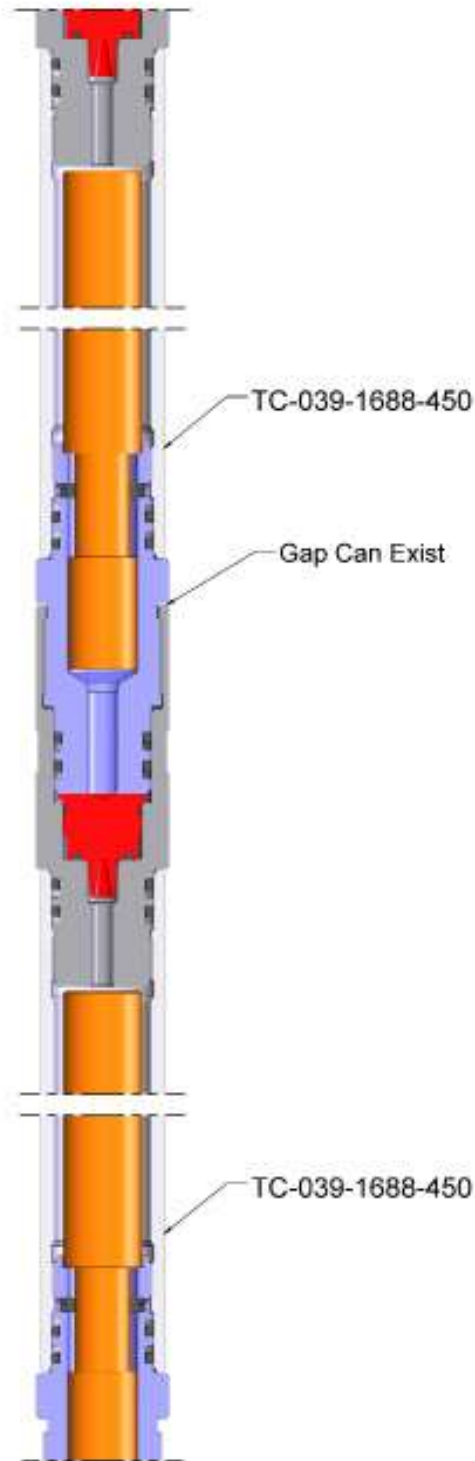
Assembly View: Mechanical



Assembly View: Electric Safe Fire



Extended Assembly View 6, 12,.....,etc. Minutes





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2.0 Delay Time vs. Temperature Chart

