



# **Owen Oil Tools**

## Technical Manual

### Top Sub Booster Transfer Kit

TC-261

MAN-TC-261

#### **Caution**

##### **Safety Information**

**If you are not properly trained in the handling, and use of explosives devices, do not attempt the assembly of any Owen Oil Tools Perforating Systems or Firing Devices.**

##### **Technical Assistance**

**For technical assistance, please call or contact your local support station.**

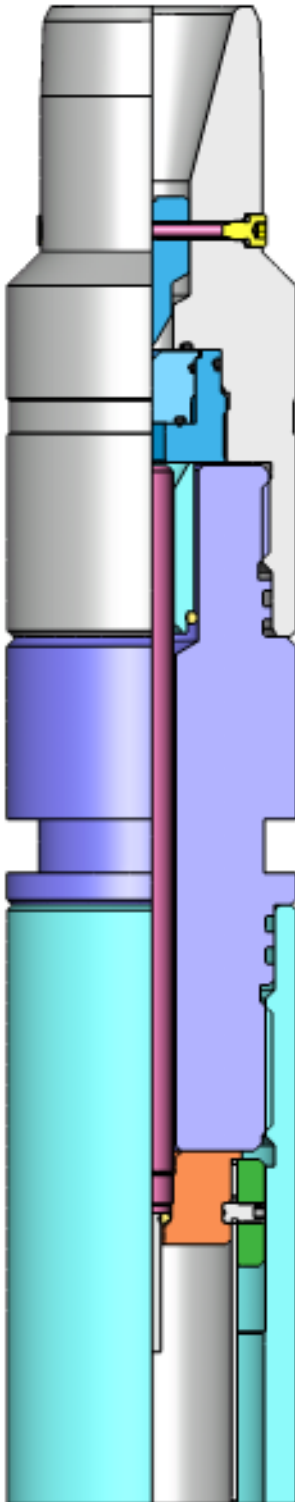
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**Description**

The Top Sub Booster Transfer Kit is designed to ensure accurate placement of a bi-directional HMX booster to an initiator within a Firing Head. This system ensures that detonation is efficiently transferred between the firing head and top sub in a tubing conveyed perforating string. This is accomplished by utilizing inserts fixed into the charge tube as well as a threaded booster holder to eliminate bending of the primacord. The booster is secured in place by retaining the detonating cord with a Retaining Rubber.

The kit consists of thermoplastic inserts for the alignment collar as well as seals and fasteners.

The kits are available for standard service up to 450°F (230°F) continuous working temperature.



**Top Sub Booster Kit Chart**

Top Sub Booster Kit Chart			
Gun Size	Part No.	Booster Kit	Sub Length
2.750" (70 mm)	30-070-0001-75	TCP-0100-375	8.00" (203 mm)
3.125" (79 mm)	30-079-0001-75	TCP-0100-375	8.00" (203 mm)
3.375" (86 mm)	30-086-0001-75	TCP-0100-375	8.03" (204 mm)
4.000" (101 mm)	30-101-0001-75	TCP-0100-375	8.00" (203 mm)
4.500" (114 mm)	30-114-0001-75	TCP-0100-375	8.00" (203 mm)
5.000" (127 mm)	30-127-0001-75	TCP-0100-375	8.00" (203 mm)

**Top Sub Booster Puck Chart**

Alignment Collar Insert		
Part No.	Strip Size	Alignment Collar Insert
Item 1		
TC-261-1625-041	1.625" (41 mm)	TC-261-0053-000
TC-261-1750-045	1.750" (45 mm)	TC-261-0061-000
TC-261-1875-048	1.875" (48 mm)	TC-261-0054-000
TC-261-2000-051	2.000" (51 mm)	TC-261-0055-000
TC-261-2125-054	2.125" (54 mm)	TC-261-0056-000
TC-261-2250-057	2.250" (57 mm)	TC-261-0057-000
TC-261-2500-064	2.500" (64 mm)	TC-261-0058-000
TC-261-2750-070	2.750" (70 mm)	TC-261-0059-000
TC-261-3000-076	3.000" (76 mm)	TC-261-0060-000
All Kits contain a manual MAN-TC-261		

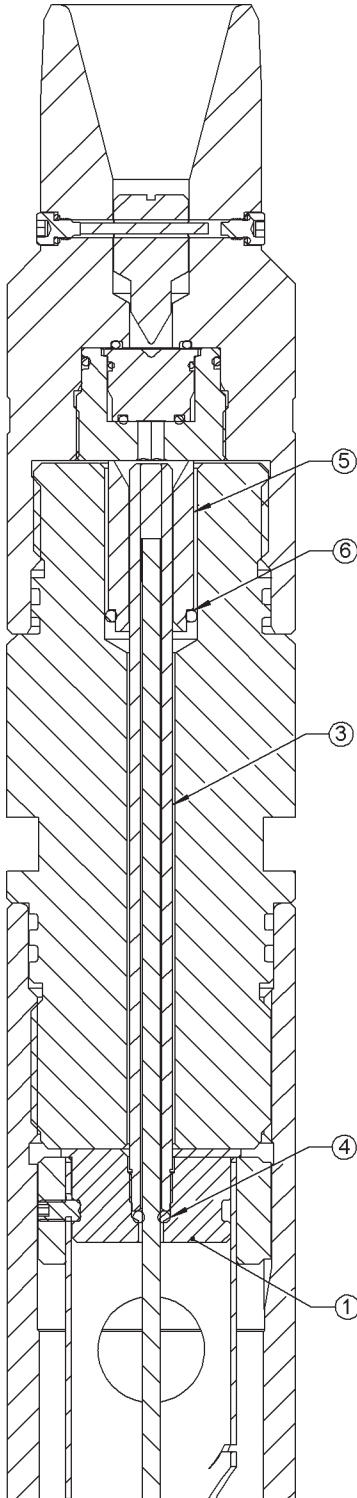
# Top Sub Booster Transfer Kit

Owen Oil Tools



## TC-261

75 series Top Subs  
30-XXX-0001-75



**Note:**  
**\*\*TCP-0100-375**  
**and**  
**TC-261-XXXX-XXX**  
**must be ordered**  
**separately**

Top Sub Booster Kit 1.625" (041 mm) Strip	
Part No.	Description
**TC-261-1625-041	Alignment Collar Insert (Puck) Kit
**TCP-0100-375	Booster Kit
Top Sub Booster Kit 1.750" (045 mm) Strip	
Part No.	Description
**TC-261-1750-045	Alignment Collar Insert (Puck) Kit
**TCP-0100-375	Booster Kit
Top Sub Booster Kit 1.875" (048 mm) Strip	
Part No.	Description
**TC-261-1875-048	Alignment Collar Insert (Puck) Kit
**TCP-0100-375	Booster Kit
Top Sub Booster Kit 2.000" (051 mm) Strip	
Part No.	Description
**TC-261-2000-051	Alignment Collar Insert (Puck) Kit
**TCP-0100-375	Booster Kit
Top Sub Booster Kit 2.125" (054 mm) Strip	
Part No.	Description
**TC-261-2125-054	Alignment Collar Insert (Puck) Kit
**TCP-0100-375	Booster Kit
Top Sub Booster Kit 2.250" (057 mm) Strip	
Part No.	Description
**TC-261-2250-057	Alignment Collar Insert (Puck) Kit
**TCP-0100-375	Booster Kit
Top Sub Booster Kit 2.500" (064 mm) Strip	
Part No.	Description
**TC-261-2500-064	Alignment Collar Insert (Puck) Kit
**TCP-0100-375	Booster Kit
Top Sub Booster Kit 2.750" (070 mm) Strip	
Part No.	Description
**TC-261-2750-070	Alignment Collar Insert (Puck) Kit
**TCP-0100-375	Booster Kit
Top Sub Booster Kit 3.000" (076 mm) Strip	
Part No.	Description
**TC-261-3000-076	Alignment Collar Insert (Puck) Kit
**TCP-0100-375	Booster Kit

Booster Kit TCP-0100-375		
Item	Part No.	Description
3	TCP-0100-271	Booster Tube 8.75" Long
4	OOO-N568-201	O-Ring
5	TCP-0100-263	Alignment Insert
6	OOO-N569-211	O-Ring

Alignment Collar Insert		
Part No.	Strip Size	Alignment Collar Insert
		Item 1
TC-261-1625-041	1.625" (41 mm)	TC-261-0053-000
TC-261-1750-045	1.750" (45 mm)	TC-261-0061-000
TC-261-1875-048	1.875" (48 mm)	TC-261-0054-000
TC-261-2000-051	2.000" (51 mm)	TC-261-0055-000
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TC-261-2500-064	2.500" (64 mm)	TC-261-0058-000
TC-261-2750-070	2.750" (70 mm)	TC-261-0059-000
TC-261-3000-076	3.000" (76 mm)	TC-261-0060-000

All Kits contain a manual MAN-TC-261

Item	Part No.	Description
8	PF-001-025C-050S	Set Screw SO 1/4"-20 UNC x 1/2" Lg

Item 8 - Shown for clarity - comes with Strip Assembly



## Description

The Top Sub Booster Transfer Kit consists of the following components:

- 1 Alignment Collar Insert

**Note: the Alignment Collar Insert coincides with the Charge Tube size**

- 1 Basic Top Sub Booster Kit which consist of the following:
  - 1 Alignment Insert
  - 1 Booster Tube
  - 2 O-ring 201 - 70 Durometer
  - 1 O-ring-211 90 Durometer
  - 1 Crimp Sleeve

The purpose of the Alignment Collar Insert is to centralize the detonating cord and booster inside of the Charge Tube. The detonating cord is terminated at the end of the Booster Tube with a bi-directional booster. An O-ring is compressed between the Alignment Collar Insert and the Booster Tube, which holds the detonating cord in place.

The Alignment Collar Insert (Item 1) is a polyamide material which is virtually chemically inert and will not contribute significantly to the debris created by the gun detonation. Standard material is suitable for long term exposure to temperatures of 230°C (450°F).

## Assembly Procedures

Load the Charge Tube as usual and ensure that there is an excess of detonating cord left at the top end of the Charge Tube. A minimum of 0.4 m (16 inch) should be left at the top of the gun. This excess is required for the proper installation of the Top Sub Booster Transfer Kit.

Remove all of the Top Sub Booster Transfer Kit items from the shipping pouch and compare them to the parts list to verify that the needed components are present.

**Verify that the Alignment Collar is the correct size for the gun being used.** Back out the 3 set screws (item 8) from the Alignment Collar just enough to allow installation of the insert. Slide the Alignment Collar Insert (item 1) over the detonating cord and into the Charge Tube. When the insert shoulders out, the groove on the insert will line up with the 3 set screws in the Alignment Collar. Ensure the Alignment Collar key is aligned with the top charge hole in the strip and then re-tighten the set screws, which will hold the insert in place. Slide the O-ring (item 4) over the detonating cord and into the Alignment Collar, pushing it in as far as possible. Cut the detonating cord to the same length that the Booster Tube (item 3) will stick out of the Alignment Collar Insert [approximately the length of the Booster Tube less 0.5 inch (12.5mm)]. Crimp the Booster onto the detonating cord. Insert the Booster and detonating cord into the Booster Tube, ensuring the Booster does not protrude out from the top end of the Booster Tube (item 3). Thread the Booster Tube into the Alignment Collar Insert until finger tight; ensuring the Booster is flush with the end of the Booster Tube. Thread the Top Sub into the Carrier. Put the O-ring (item 6) over the Alignment Insert (item 5) and carefully push the Alignment Insert into the bore in the top of the Top Sub.

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75 series Top Subs  
30-XXX-0001-75

