



Tandem Booster Kit Long

TC-251

MAN-TC-251 (R05)

OWEN OIL TOOLS

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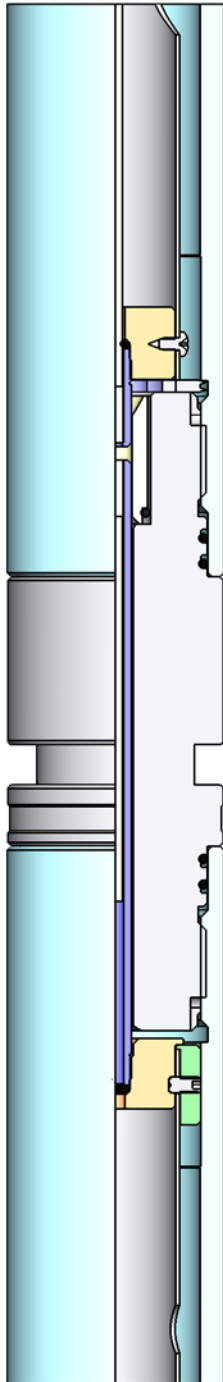
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Description

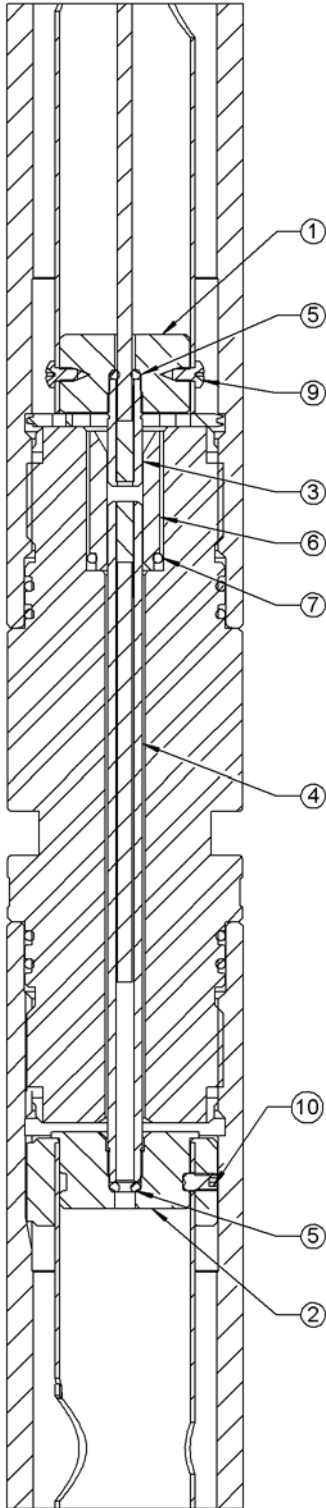
The Tandem Booster Kit is designed to ensure accurate placement of the bi-directional HMX boosters within a standard Tandem Sub. This system ensures that detonation is efficiently transferred between multiple gun assemblies in a tubing conveyed perforating string. This is accomplished by utilizing inserts fixed into each charge tube as well as threaded booster holders to eliminate bending of the primacord. The boosters are secured in place by retaining each detonating cord with an O-Ring.

The kit consists of thermoplastic inserts for the charge tube and alignment collar, a booster retainer as well as seals and fasteners. **Please note that this kit is ordered by gun and charge tube size.**

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

Tandem Sub Booster Kit Chart

Tandem Sub Booster Kit Chart				
Gun Size	Part No.	Booster Kit	Tandem Shot to Shot	Sub Length
2.750" (70 mm)	30-070-0002-0L	TCP-0100-375L	18.46" (469 mm)	9.96" (253 mm)
2.875" (73 mm)	30-073-0002-0L	TCP-0100-375L	18.46" (469 mm)	9.96" (253 mm)
3.125" (79 mm)	30-079-0002-0L	TCP-0100-375L	19.20" (488 mm)	9.96" (228 mm)
3.375" (86 mm)	30-086-0002-0L	TCP-0100-375L	19.20" (488 mm)	9.96" (253 mm)
4.000" (101 mm)	30-101-0002-0L	TCP-0100-375L	18.40" (467mm)	9.90" (251 mm)
4.500" (114 mm)	30-114-0002-0L	TCP-0100-375L	17.90" (455 mm)	9.90" (251 mm)
5.000" (127 mm)	30-127-0002-0L	TCP-0100-375L	17.90" (455 mm)	9.90" (251 mm)



Tandem Sub Booster Kit 1.625" (041 mm) Strip	
Part No.	Description
^{1,2} TC-251-1625-041	Charge Tube Insert (Puck) Kit
¹ TCP-0100-375L	Booster Kit

Tandem Sub Booster Kit 2.125" (054 mm) Strip	
Part No.	Description
^{1,2} TC-251-2125-054	Charge Tube Insert (Puck) Kit
¹ TCP-0100-375L	Booster Kit

Tandem Sub Booster Kit 1.750" (045 mm) Strip	
Part No.	Description
^{1,2} TC-251-1750-045	Charge Tube Insert (Puck) Kit
¹ TCP-0100-375L	Booster Kit

Tandem Sub Booster Kit 2.250" (057 mm) Strip	
Part No.	Description
^{1,2} TC-251-2250-057	Charge Tube Insert (Puck) Kit
¹ TCP-0100-375L	Booster Kit

Tandem Sub Booster Kit 1.875" (048 mm) Strip	
Part No.	Description
^{1,2} TC-251-1875-048	Charge Tube Insert (Puck) Kit
¹ TCP-0100-375L	Booster Kit

Tandem Sub Booster Kit 2.500" (064 mm) Strip	
Part No.	Description
^{1,2} TC-251-2500-064	Charge Tube Insert (Puck) Kit
¹ TCP-0100-375L	Booster Kit

Tandem Sub Booster Kit 2.000" (051 mm) Strip	
Part No.	Description
^{1,2} TC-251-2000-051	Charge Tube Insert (Puck) Kit
¹ TCP-0100-375L	Booster Kit

Tandem Sub Booster Kit 2.750" (070 mm) Strip	
Part No.	Description
^{1,2} TC-251-2750-070	Charge Tube Insert (Puck) Kit
¹ TCP-0100-375L	Booster Kit

Tandem Sub Booster Kit 3.000" (076 mm) Strip	
Part No.	Description
^{1,2} TC-251-3000-076	Charge Tube Insert (Puck) Kit
¹ TCP-0100-375L	Booster Kit

Note:

1. TCP-0100-375L and TC-251-XXXX-XXX must be ordered separately.
2. Contains Items 1, 2, and 9. See Tandem Sub Booster Puck Kit Chart Table below for details.

Charge Tube and Collar Chart				
Part No.	Strip Size	Charge Tube Insert for Owen Subs Only	Alignment Collar Insert	Wood Screw
		Item 1	Item 2	Item 9
TC-251-1625-041	1.625" (41 mm)	TC-251-0045-000	TC-261-0053-000	PF-034-0019-050
TC-251-1750-045	1.750" (45 mm)	TC-251-0044-000	TC-261-0061-000	PF-034-0019-050
TC-251-1875-048	1.875" (48 mm)	TC-251-0046-000	TC-261-0054-000	PF-034-0019-050
TC-251-2000-051	2.000" (51 mm)	TC-251-0047-000	TC-261-0055-000	PF-034-0019-050
TC-251-2125-054	2.125" (54 mm)	TC-251-0048-000	TC-261-0056-000	PF-034-0019-050
TC-251-2250-057	2.250" (57 mm)	TC-251-0049-000	TC-261-0057-000	PF-034-0019-050
TC-251-2500-064	2.500" (64 mm)	TC-251-0050-000	TC-261-0058-000	PF-034-0019-050
TC-251-2750-070	2.750" (70 mm)	TC-251-0051-000	TC-261-0059-000	PF-034-0019-050
TC-251-3000-076	3.000" (76 mm)	TC-251-0052-000	TC-261-0060-000	PF-034-0019-050

All Kits come with manual MAN-TC-251

Booster Kit TCP-0100-375L		
Item	Part No.	Description
3	TCP-0100-247	Booster Retainer
4	TCP-0100-271L	Booster Tube 9.75" long
5	OOO-N568-201	O-Ring
6	TCP-0100-263	Alignment Insert
7	OOO-N569-211	O-Ring

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

Item 10 - Shown for clarity - comes with Strip Assembly



Description

The Owen Long Tandem Booster Kit consists of the following components:

- 1 Charge Tube Insert complete with two wood screws #10 x 1/2" long
- 1 Alignment Collar Insert
- Note: the above item coincide with the Charge Tube sizes**
- 1 Basic Tandem Booster Kit which consist of the following:
 - 1 Booster Retainer
 - 1 Alignment Insert
 - 1 Booster Tube
 - 2 O-ring 201 - 70 Durometer
 - 1 O-ring - 211 90 Durometer
 - 1 Technical Manual, Man-TC-251
 - 2 Wood screws #10 x 1/2" long

The purpose of the Tandem Booster Kit is to centralize the detonating cord and bi-directional booster while minimizing the booster to booster gap in the tandem sub. This is accomplished with the booster retainer on the bottom of the top gun and with the booster tube on the top of the lower gun. The booster tube is located in the bore of the tandem sub.

Both the Booster Retainer Insert and the Booster Tube are manufactured from 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 (refer to Figure 1 Exploded View)

Load the Charge Tube as usual and ensure that there is an excess of Detonating Cord left at each end of the Charge Tube. A minimum of 0.4 m (16 inch) should be left at the top of the gun and 0.2 m (8 inch) should be left at the bottom. This excess is required for the proper installation of the Booster Kit.

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

Bottom End:

Begin assembly at the bottom of the first gun section by sliding the Charge Tube insert (item 1) over the Detonating Cord and into the Charge Tube.

Note

- the Charge Tube insert (Item 1) must be oriented so that the small hole end is inserted into the Charge Tube
- the Charge Tube insert (Item 1) must be pushed into the Charge Tube so that it is flush with end of the Charge Tube

Secure the Charge Tube insert to the Charge Tube with the two self threading screws (Item 9) provided in the kit. These screws should be inserted in the holes provided in the Charge Tube.

Once the Charge Tube insert (item 1) is securely fastened, slide the O-ring (item 5) over the detonating cord and into the Charge Tube insert. From the end of the Charge Tube, cut the detonating cord, leaving approximately 1 inch (25mm). This will leave enough detonating cord to allow the cord to be held while the Booster is being crimped. Slide the Bi-Directional Booster over the detonating cord and crimp into place.



With the Bi-Directional Booster crimped on the detonating cord and the O-ring (item 5) properly inserted, place the Booster into the Booster Retainer (item 3) until it bottoms out. Do not force the Booster into the Booster Retainer. Thread the Booster Retainer into the Charge Tube insert until finger tight making sure the Booster is at the end of the Booster Retainer after tightening. This completes the bottom end of the gun. Proceed to the top of the next gun.

Top End:

Verify that the Alignment Collar is the correct size for the gun being used. Back out the 3 set screws (item 10) from the Alignment Collar just enough to allow installation of the insert. Slide the Alignment Collar Insert (item 2) 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 5) 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 4) 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 4). 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 Tandem Sub into the Carrier.

Final Step:

Put the O-ring (item 7) over the Alignment Insert (item 6) and carefully push the Alignment Insert into the bore at the top end of the Tandem Sub and over the Booster Tube. The top gun can now be threaded onto the Tandem Sub.

