



NT Tubing/Drill Pipe Cutters for 3.500-in - 4.000-in Drill Pipe

MAN-REC-DPC (R03)

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NT Tubing/Drill Pipe Cutters for 3.500-in - 4.000-in Drill Pipe





Overview

Description

NT Tubing and NT Drill Pipe Cutters are designed to cut tubing or drill pipe during Pipe Recovery Operations.

Operation

NT Drill Pipe and NT Tubing Cutters provide a quick and effective solution to cut drill pipe and tubing. These NT Cutters utilize unique manufacturing and packaging processes to allow easy shipment and fast delivery to the customer.

NT Drill Pipe and NT Tubing Cutters should be used when drill pipe and/or tubing becomes stuck in the well. The cutter with the largest possible diameter capable of running in the well should be chosen to achieve maximum performance. A gauge run is recommended prior to running the tool to insure the cutter can get to proper depth. This will prevent any safety concerns like sticking a live cutter in the well or spudding with explosive tools. Owen's NT Cutters are to be shot in the tubing above the stuck point, but not at the collar. To maintain the maximum allowable performance from the cutter, it should be centralized. A de-centralized cutter may result in a partial cut and/or damage to the casing. It is also recommended that tension be applied to the tubing prior to detonation of the Tubing Cutter to assist in the removal of stuck tubulars.

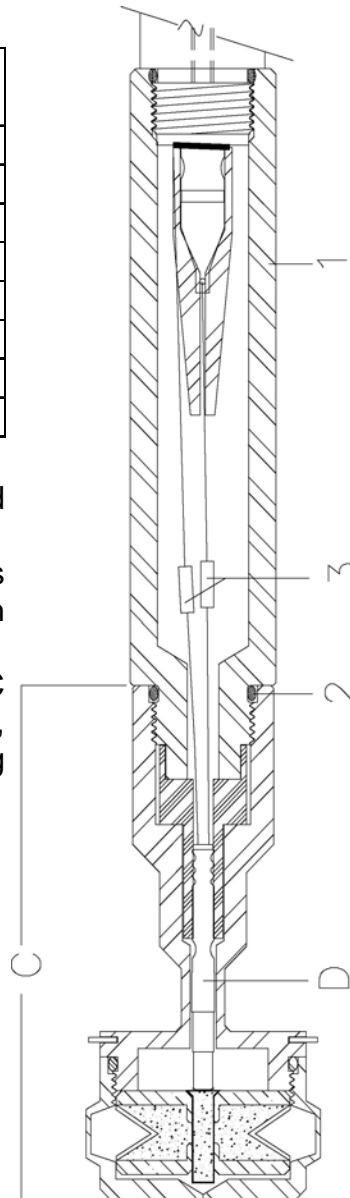
NT Drill Pipe & NT Tubing Cutters utilize explosive technology to sever tubular members when initiated by an Owen's Resistorized Bridge™ Detonator. Owen's electrical detonators adhere to API RP-67 specifications. All safety rules and regulations should be strictly followed when storing, handling, assembling, and using these cutters and/or detonators. Safety precautions should be taken in accordance with your company's safety policies, governmental regulations, and the American Petroleum Institute Recommended Practice 67 (API RP-67).

NT Cutters come standard with HMX explosive powder rated to 400° F (204° C) for 1 hour. Cutters are also available with HNS [500° F (260° C) - 1 hour] by special order.

Specifications and Schematics

Item	Description	Part Number 2.50" - 3.00"
1	Steel Extension Adapter	CUT-0100-087
	Aluminum Extension Adapter	CUT-0100-079
2	O-ring, Size -214	OOO-V569-214
3	Splice Boot	PUR-0210-001
D	Tubing Cutter Detonator	DET-3050-009L
C	2.50" NT DP Cutter	CUT-2500-402NT
	2.70" NT DP Cutter	CUT-2700-402NT
	3.00" NT DP Cutter	CUT-3000-062NT

- Items 1 - 3 and detonator must be ordered separately from cutter assembly.
- HNS Cutters are available by special order. Parts should be ordered by replacing the 402NT with 502NT, for example CUT-XXXX-502NT.
- Alternate arming assembly available using JRC style extension adapter with button contacts, CUT-0100-078, and detonator with spring contacts, DET-3050-009E.



Outer Dia. [in (mm)]	Temp [F (C)]	Pressure [psi (MPa)]	Explosive Weight [lb (kg)]	Recommended Application	Part Number
2.500 (63.5)	400 (204)	15,000 (103.4)	.119 (.054)	3 1/2", 15.5#	CUT-2500-402NT
2.700 (68.6)	400 (204)	15,000 (103.4)	.066 (.030)	3 1/2", 9.3#	CUT-2700-402NT
3.000 (76.2)	400 (204)	12,000 (82.7)	.119 (.054)	4", 15.7#	CUT-3000-062NT

1.0 Assembly of NT Drill Pipe Cutters, 2.500-in and 3.000-in

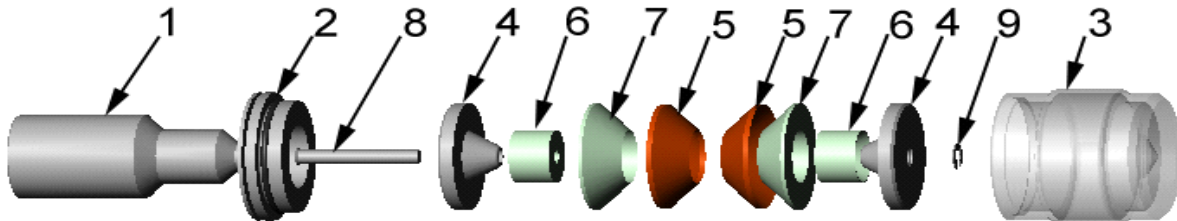


Figure 1: Exploded View, sizes 2.500-in and 3.000-in

1.1 Remove the O-ring (Item #2) from its package and visually inspect it for cuts and cracks. Lightly lubricate it with grease and install the O-ring onto the Mandrel (item #1).

1.2 Unpack the cutter Pellets and Booster Cartridge (item #s 6, 7, and 8).

1.3 Place the Backups (item #4) with the large diameter down onto a flat, non-sparking surface. Wood decking or a rubber mat is preferred.

1.4 Install an inner cutter Pellet (item #6) onto each Backup; see Figure 2.

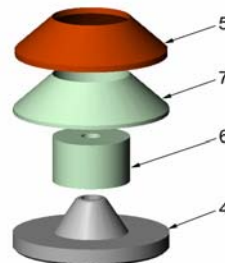


Figure 2

1.5 Stack the outer cutter Pellet (item #7) on each inner Pellet with the larger diameter downward; see Figure 2.

1.6 Place one of the Liners (item #5) onto each Pellet stack; see Figure 2.

1.7 Position explosive assemblies together with the liners facing inward along a single axis, and insert the Booster Cartridge (item #8) through the hole in the backup until the flared end seats in the hole; see Figure 3.

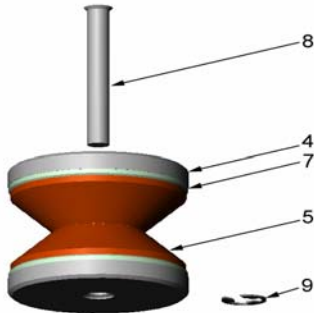


Figure 3

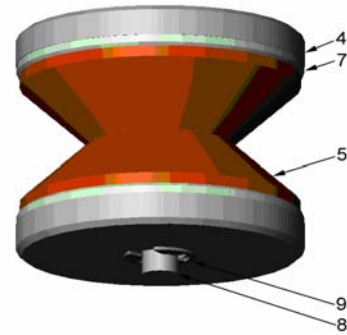


Figure 4

1.8 Secure the assembly by installing an E-clip (item #9) over the end of the Booster Cartridge; see Figure 4. Remove any slack by tightening the location of the E-clip.

1.9 Carefully place the new assembly inside the cutter Cup (item #3) with the flared end of the Booster Cartridge facing upward.

1.10 Thread the Mandrel (item #1) into the cutter Cup securely.

2.0 Assembly of NT Drill Pipe Cutters, 2.700-in

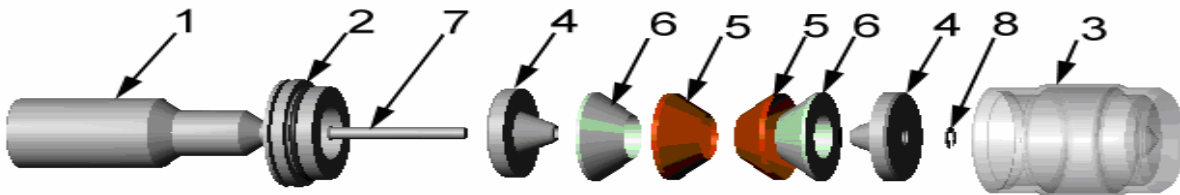


Figure 5: Exploded View, CUT-2700-402NT

2.1 Remove the O-ring (item #2) from its package and visually inspect it for cuts and cracks. Lightly lubricate it with grease and install the O-ring onto the Mandrel (item #1).

2.2 Unpack the cutter Pellets and Booster Cartridge (items #6 and #7).

2.3 Place the Backups (item #4), with the large diameter down, onto a flat non-sparking surface. Wood decking or a rubber mat is preferred.

2.4 Install one of the Pellets (item #6) onto each Backup, see Figure 6.

2.5 Place one of the Liners (item #5) onto each Pellet, see Figure 6.

2.6 Position explosive assemblies together with the Liners facing inward along a single axis and insert the Booster Cartridge (item #8) through the hole in the Backup until the flared end seats in the hole, see Figure 7.

2.7 Secure the assemblies by installing an E-clip (item #8) over the end of the Booster Cartridge, see Figure 8. Remove any slack by tightening the location of the E-clip.

2.8 Carefully place the new assembly inside the cutter Cup (item #3) with the flared end of the Booster Cartridge facing upward.

2.9 Thread the Mandrel (item #1) into the cutter Cup securely.

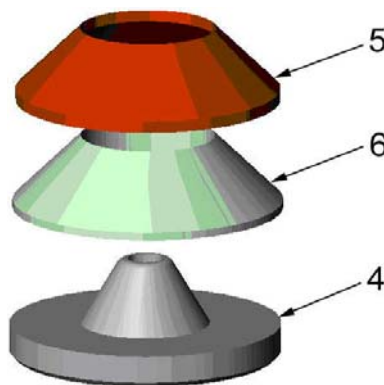


Figure 6

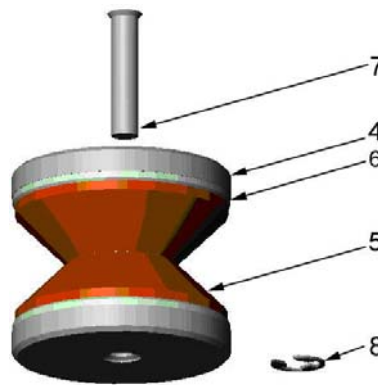


Figure 7

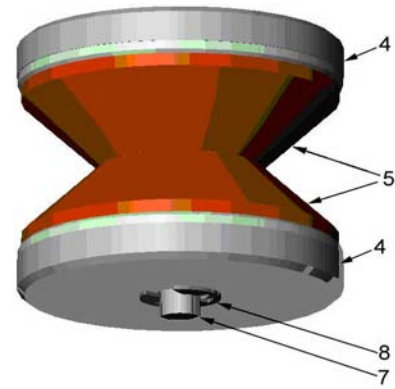


Figure 8

3.0 Arming NT Drill Pipe Cutters



Warning: Only use DET-3050-009L detonators!



Warning: Always follow API RP - 67 guidelines when arming electrical detonators!

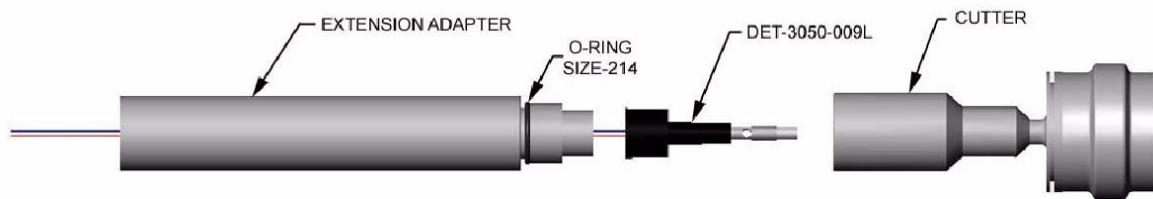


Figure 9: Arming Method for NT Drill Pipe Cutters - Exploded View

- 3.1 Remove the detonator from its package.
- 3.2 Insert the detonator into a safety shield.
- 3.3 Measure the resistance of the detonator between the two lead wires with a blaster's multimeter. The detonator should read 51 Ohms \pm 5 Ohms.
- 3.4 Remove the O-ring from its package. Inspect it visually for cuts or cracks. Lightly lubricate it with grease.
- 3.5 Install the O-ring onto the Extension Adapter.
- 3.6 Insert the detonator lead wires through the hole in the Extension Adapter.
- 3.7 Electrically connect the detonator lead wires to the wireline or toolstring.
- 3.8 Mechanically connect the Top Sub to the wireline toolstring.
- 3.9 Insure the wireline is shunted through the shooting panel.



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3.10 Remove the detonator from the safety shield and install the booted portion of the detonator over the end of the Extension Adapter.

3.11 Insert the detonator into the cutter Mandrel and thread the Cutter onto the Extension Adapter and toolstring.

3.12 The tool is armed and ready to run in hole.

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