



Owen Oil Tools

Technical Manual

Mechanical Gun Release

Full Bore Shift Up

TC-062-2375-110

TC-062-2875-110

TC-062-3500-110

MAN-TC-062

Caution

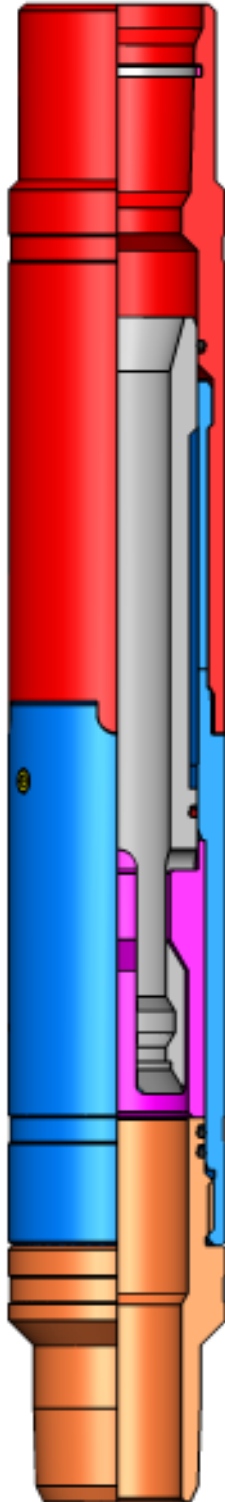
Safety Information

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 Mechanical Gun Release, Full Bore Shift Up is designed as a heavy duty separation tool for use in TCP operations where it is desirable to drop the discharged gun system. The guns may be released using a standard Model B Shifting Tool with selective keys (self releasing). After the guns have been released, the Top Sub provides a well tapered re-entry guide. The Shifting Sleeve bore size does not affect the minimum ID because the sleeve falls with the guns. All parts are contained together, simplifying future fishing operations.

After the guns have been detonated and it is desired to drop them, the Model B Shifting Tool is positioned below the Shifting Sleeve with the wireline bottom hole assembly configured to jar up. When jarring up, the shear screws break and allow the Shifting Sleeve to move upward. This allows the Collet Fingers of the Collet Sub to collapse inward and the guns to drop to the bottom. As the guns are falling, the keys of the shifting tool are squeezed and released from the bottom of the Shifting Sleeve. The only component remaining on the tubing is the Top Sub.

Features and Benefits

- Full tubing bore once guns are released eliminates the restriction of the Shifting Sleeve in conventional Shift Up Gun Releases
- Has the safety feature inherent with the Shift Up where the Drop Bar will not hit the Shifting Sleeve on the way down and release the gun prematurely
- The tool is fully sealed which allows pressure testing of the tubing string prior to shifting and also prevents fines from plugging the release mechanism
- The Top Sub acts as a wireline re-entry guide after the guns have been released
- The Shifting Sleeve may be engaged with the Model B Shifting Tool with Selective Keys
- Strong durable design with pressure ratings exceeding or near tubing ratings
- For drop bar applications, we recommend spacing this tool from the Firing Head to ensure the drop bar does not recoil after impact and shift the sleeve
- Integral torque tabs provide the ability to rotate the tubing string

Specifications

Do Not torque through this tool for makeup

	2-3/8 in (60.3 mm)		2-7/8 in (73.0 mm)		3-1/2 in (88.9 mm)	
Maximum OD	3.375 in	85.7 mm	3.668 in	93.2 mm	4.500 in	114.3 mm
Minimum ID	1.995 in	50.7 mm	2.441 in	62.0 mm	2.750 in	69.9 mm
Overall Length	23.0 in	584 mm	23.0 in	584 mm	24.75 in	629 mm
Max Pressure ¹	see table on next page					
Max Load @ Release	100,000 lbs	44 480 daN	103,000 lbs	45 814 daN	30,000 lbs	13 350 daN
Tensile	30,000 lbs	13 350 daN	30,000 lbs	13 350 daN	134,076 lbs	59 637 daN
Max. Torque (P 110)	3340 ft/lb	4520 N.m.	3680 ft/lb	4980 N.m.	4590 ft/lb	6220 N.m.
Max. Torque (L80)	2540 ft/lb	3440 N.m.	2800 ft/lb	3790 N.m.	3990 ft/lb	4730 N.m.
Min Weight to Release	150 lbs (68 kg)					
Max Temp ²	250°F (121°C)					
Connections	2-3/8 in (60.3 mm) EU Box X Pin		2-7/8 in (73.0 mm) EU Box X Pin		3-1/2 in (88.9 mm) EU Box X Pin	
Product Number ¹	TC-062-2375-XXX		TC-062-2875-XXX		TC-062-3500-XXX	
Redress Kit	TC-062-2375-099		TC-062-2875-099		TC-062-3500-099	

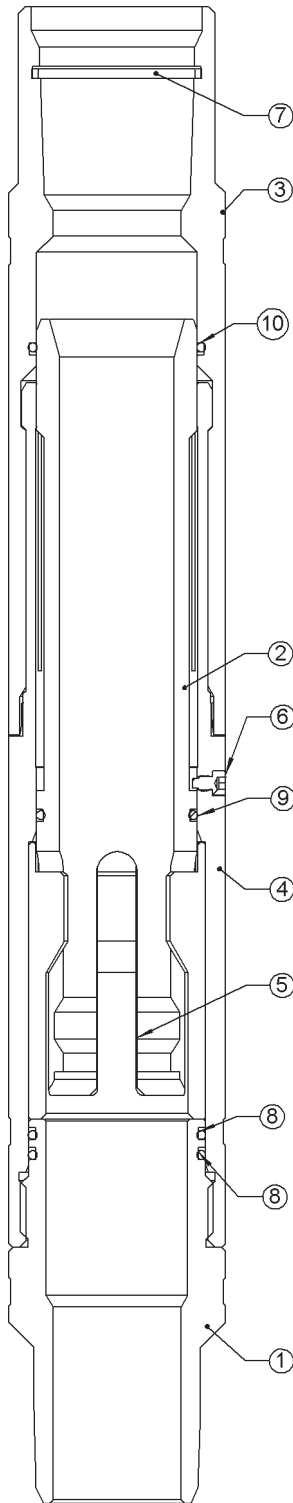
¹Sour Service (L80) versions available with an L80 Extension (TC-061-2375-187-L80)

²Maximum temperature can be increased to 450°F (230°C) by substituting the 90 durometer Nitrile O-rings with 90 durometer Viton O-rings

Mechanical Gun Release Full Bore Shift Up

TC-062

Owen Oil Tools



Item	Part Number	Qty	Description
--	TC-062-2375-	↑	--
			Mechanical Gun Release, Full Bore Shift Up 2-3/8" EU
1	TC-062-0002-000	1	Bottom Sub 2-3/8" EU
2	TC-062-0003-187	187	Shifting Sleeve 1.875" ID 2-3/8" FBSU
2	TC-062-0003-178	178	Shifting Sleeve 1.781" ID 2-3/8" FBSU
2	TC-062-0003-164	164	Shifting Sleeve 1.645" ID 2-3/8" FBSU
3	TC-062-0000-110	1	Top Sub 2-3/8" EU
4	TC-062-0001-000	1	Collet Sub
5	TC-062-0004-187	1	Release Cage 1.875" ID 2-3/8" FBSU
5	TC-062-0004-178	1	Release Cage 1.781" ID 2-3/8" FBSU
5	TC-062-0004-164	1	Release Cage 1.645" ID 2-3/8" FBSU
6	SF-050-025F-050S	3	Shear Screw 1/4" - 28 UNF x 0.5 LG.
7	MI-305-2375-000	1	2-3/8" EU Thread API Seal Ring
8,10	OOO-N569-230	3	O-Ring 90 Durometer Nitrile
9	OOO-N569-228	1	O-Ring 90 Durometer Nitrile
--	MAN-TC-062	--	Assembly Manual
--	TC-062-2375-099	--	Redress Kit 2-3/8" EU, Full Bore

Item	Part Number	Qty	Description
--	TC-062-2875-	↑	--
			Mechanical Gun Release, Full Bore Shift Up 2-7/8" EU
1	TC-062-0007-000	1	Bottom Sub 2-7/8" EU
2	TC-062-0008-231	231	Shifting Sleeve 2.310" ID 2-7/8" FBSU
2	TC-062-0008-225	225	Shifting Sleeve 2.250" ID 2-7/8" FBSU
3	TC-062-0005-110	1	Top Sub 2-7/8" EU
4	TC-062-0006-000	1	Collet Sub 2-7/8" EU
5	TC-062-0009-231	1	Release Cage 2.310" ID 2-7/8" FBSU
5	TC-062-0009-225	1	Release Cage 2.250" ID 2-7/8" FBSU
6	SF-050-025F-050S	3	Shear Screw 1/4" - 28 UNF x 0.5 LG.
7	MI-305-2875-000	1	2-7/8" EU Thread API Seal Ring
8	OOO-N569-233	2	O-Ring 90 Durometer Nitrile
9	OOO-N569-230	1	O-Ring 90 Durometer Nitrile
10	OOO-N569-232	1	O-Ring 90 Durometer Nitrile
--	MAN-TC-062	--	Assembly Manual
--	TC-062-2875-099	--	Redress Kit 2-7/8" EU, Full Bore

Item	Part Number	Qty	Description
--	TC-062-3500-	↑	--
			Mechanical Gun Release Full Bore Shift Up 3-1/2" EU
1	TC-062-0015-000	1	Bottom Sub 3-1/2" EU
2	TC-062-0017-275	275	Shifting Sleeve 2.750" OD
3	TC-062-0014-000	1	Top Sub 3-1/2" EU
4	TC-062-0016-000	1	Collet Sub
5	TC-062-0018-275	1	Release Cage 2.750" OD
6	SF-050-025F-050S	2	Shear Screw 1/4" - 28 UNF x 0.5 LG
7	MI-305-3500-000	1	Seal Ring 3-1/2" EU
8	OOO-N569-239	2	O-Ring 90 Durometer Nitrile
9	OOO-N569-236	1	O-Ring 90 Durometer Nitrile
10	OOO-N569-238	1	O-Ring 90 Durometer Nitrile
--	MAN-TC-062	--	Assembly Manual
--	TC-062-3500-099	--	Redress Kit 3 1/2" EU, Full Bore

2-3/8 in (60.3 mm)			
Shifting Sleeve Bore		Pressure Rating	
1.645 in	41.78 mm	15,000 psi	103 421 kPa
1.781 in	45.2 mm	15,000 psi	103 421 kPa
1.875 in	47.62 mm	15,000 psi	103 421 kPa
2-7/8 in (73.0 mm)			
2.250 in	57.2 mm	10,000 psi	68 950 kPa
2.310 in	58.7 mm	10,000 psi	68 950 kPa
3-1/2 in (88.9 mm)			
2.750 in	69.85 mm	12,000 psi	82 737 kPa

The Mechanical Gun Release Full Bore Shift Up is designed for use with the Model B Shifting Tool when dressed with Selective (Self Releasing) Keys.

Note:

If the Shifting Tool is not dressed with Self Releasing Keys, the Gun Release may not function properly. Only Selective Keys must be used.

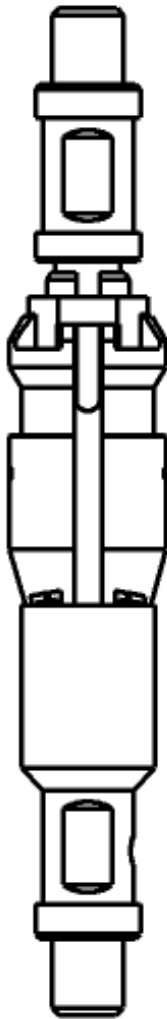
Operation

To engage the Shifting Sleeve of the Mechanical Gun Release, run the Shifting Tool past the Gun Release and pull up slowly. The self releasing keys will open into the sleeve profile as the shoulder of the keys engages the Shifting Sleeve. Several jars will be required to shear the shear pins allowing the sleeve to shift. As the sleeve is shifted, the Self Releasing Keys are suppressed, allowing the Shifting Tool to be retrieved and the guns to fall into the sump.

Shifting Tool String

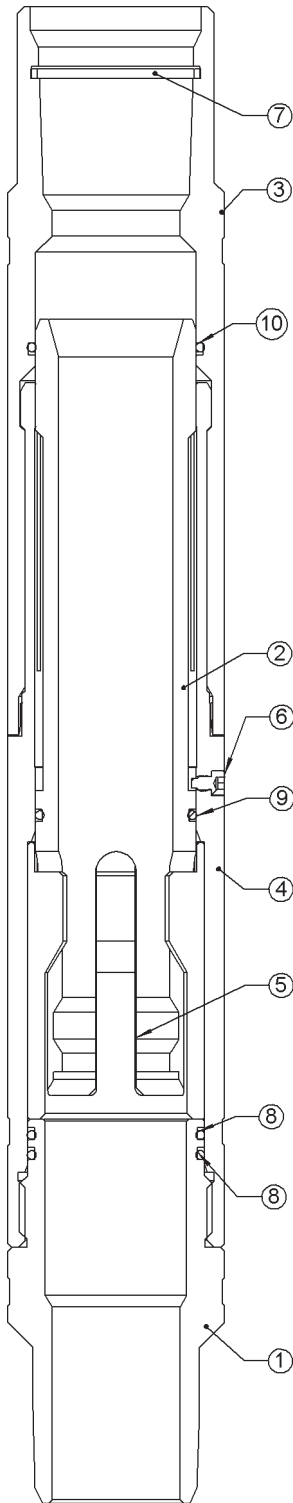
In order to maximize the effectiveness of the Shifting Tool, a typical string would be as follows:

- Cablehead
- Sinker Bar
- Knuckle Joint
- Hydraulic Jar (if available)
- Spang (or tube) jaar
- Model B Shifting Tool



Mechanical Gun Release
Full Bore Shift Up

TC-062



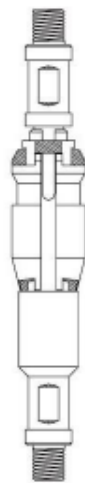
Item	Part Number	Qty	Description
--	TC-062-2375-099	--	Redress Kit 2-3/8" EU, Full Bore
6	SF-050-025F-050S	3	Shear Screw 1/4" - 28 UNF x 0.5 lg
7	MI-305-2375-000	1	2-3/8" EU Thread API Seal Ring
9	OOO-N569-228	1	O-Ring 90 Durometer Nitrile
8,10	OOO-N569-230	3	O-Ring 90 Durometer Nitrile

Item	Part Number	Qty	Description
--	TC-062-2875-099	--	Redress Kit 2-7/8" EU, Full Bore
6	SF-050-025F-050S	3	Shear Screw 1/4" - 28 UNF x 0.5 LG
7	MI-305-2875-000	1	2-7/8" EU Thread API Seal Ring
8	OOO-N569-233	2	O-Ring 90 Durometer Nitrile
9	OOO-N569-230	1	O-Ring 90 Durometer Nitrile
10	OOO-N569-232	1	O-Ring 90 Durometer Nitrile

Item	Part Number	Qty	Description
--	TC-062-3500-099	--	Redress Kit 3-1/2" EU, Full Bore
6	SF-050-025F-050S	1	Shear Screw 1/4" - 28 UNF x 0.5 LG.
7	MI-305-3500-000	1	3-1/2" EU Thread API Seal Ring
8	OOO-N569-239	2	O-Ring 90 Durometer Nitrile
9	OOO-N569-236	1	O-Ring 90 Durometer Nitrile
10	OOO-N569-238	1	O-Ring 90 Durometer Nitrile

Item	Part Number	Qty	Description
--	TC-062-3528-099	--	Redress Kit 3-1/2" x 2-7/8" EU, Full Bore
5	SF-051-031F-038SS	1	Shear Screw
9	MI-305-3500-000	1	3-1/2" EU Thread API Seal Ring
8	OOO-N569-239	2	O-Ring 90 Durometer Nitrile
9	OOO-N569-230	1	O-Ring 90 Durometer Nitrile
10	OOO-N569-232	1	O-Ring 90 Durometer Nitrile

**Model 'B' Shifting Tool
(Selective Keys)**



**Selective Keys
Set**

