CTT
Coil Tubing Technology, Inc.

CTT "H/H" Jar
(Patented)

Operating Instructions

Description:

The "CTT H/H Jar" presents the most advanced technology available in metering of hydraulic fluids. The "CTT H/H Jar" provides the optimum time delay and maximized velocity at detent release providing an impact force at the "fish" previously unavailable in coil tubing operations.

By utilizing the "CTT H/H Jar" the CT operator has the ability to place the tool at the optimum position in the string.

Operational Advantages:

- Minimal mechanical "drag" at detent release permits the maximum acceleration of the mass to the hammer and anvil. Fully hydraulic operation permits a wide range of overpull or setdown weight.
- Utilizing the "CTT Amplidyne" with the "CTT H/H Jar" further enhances the acceleration of the tool.
- Energy provided by the "CTT H/H Jar" requires fewer cycles to free the string thus reducing fatigue at the gooseneck.

Step 1 – Establish the working weight of the coiled tubing and jar loads desired (always considering the Jar's operating specifications).

- Determine drag of CT in the hole which is the difference of free weight shown on the weight indicator. The difference is drag of the CT in the hole.
- The working weight down will be the total pipe weight less drag. The working weight up will be the CT weight plus the drag weight.
- Example Jar Up: The CT calculates to weigh 13,000 lbs. in place and the up travel reads 15,000 lbs. or 2,000 lbs. difference (drag). If the CT string is pulled to 25,000 lbs. the jar up trip load is 10,000 lbs. up (25,000 – 15000).
- Example Jar Down: If the CT down travel indicator reads 11,000 lbs. the drag would be 2,000 lbs. (CT calculates to weigh 13,000 lbs. in place as stated above). If the CT string is slacked off to 8,000 lbs. before the jar fires the CT string load at the jar would be 3,000 lbs. down (11,000 lbs. – 8,000 lbs.).

Step 2 – Determine the direction of jarring to be desired. The "CTT H/H Jar" is a dual acting Jar that will jar in either the up or down mode as selected by the operator.

- To Jar Up: Slack off of string weight approximately 10% above the drag weight to cock the jars for up jarring - this will take approximately 60 seconds. Pull within the jars published rate and wait. The Up Jar will fire in less than 60 seconds as dictated by the amount of pull on the CT string. Repeat the cycle as required.
- To Jar Down: Allow the Up Jar to fully open (determined by free travel on weight indicator). Select a down load desired within the range of jar specifications. Slack off of the CT string as determined in step 1 and wait for the Jar to hit down.

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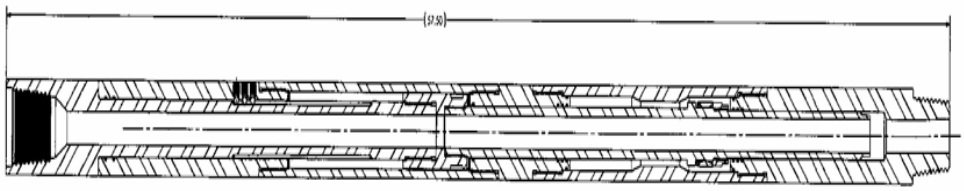
OD SIZE	STANDARD CONNECTION	LENGTH FT.	I.D.	OPER. OVERPULL	OPER SET DOWN	STROKE INCHES	TEMPERATURE °F
1.50	Available upon Request						
1.69	1" MT	57"	.562"	8K	8K	3.5"	500
2.125	1-1/2" MT	57"	.625"	26K	16K	3.5"	500
2.875	2-3/8" PAC	57"	1"	45K	25K	3.5"	500
3.125	2-3/8" PAC	57"	1"	70K	35K	3.5"	500
3.50	2-7/8" PAC	61"	1"	75K	40K	4.0"	500



	1.688 "CTT H/H Jar"	2.125 "CTT H/H Jar"	2.875 "CTT H/H Jar"	3.125" "CTT H/H Jar"	3.50" "CTT H/H Jar"
Assembly Part Number	90-1688	90-2125	90-2875	90-3125	90-3500
Outside Diameter (Inches)	1.168"	2.125"	2.875"	3.125"	3.50"
Inside Diameter (Inches)	0.562"	0.625"	1"	1"	1"
Overall Length (Closed)	57.25"	57.25"	57.25"	57.25"	61.00"
Overall Length (Open)	64.25"	64.25"	64.25"	64.25"	68.00"
Total Stroke	7"	7"	7"	7"	7"
Approximate Weight	25 Lbs.	35 Lbs.	55 Lbs.	95 Lbs.	125 Lbs.
Standard Tool Joint	1" AMMT Pin Down / Box Up	1 ½" AMMT Pin Down / Box Up	2 3/8" PAC Pin Down / Box Up	2 7/8" PAC Optional 2 3/8" REG Std. Pin Down / Box Up	2 7/8" PAC Pin Down / Box Up
Operational					
Recommended Maximum Overpull Weight (Lbs.)	28,000	46,000	65,000	90,000	95,000
Maximum Setdown Weight (Lbs.)	28,000	36,000	45,000	55,000	60,000
Torsional Yield (Ft-Lbs.)	1,500 Ft. Lbs.	5,500 Ft. Lbs.	8,000 Ft. Lbs.	14,000 Ft. Lbs.	14,000 Ft. Lbs.
Tensile Yield	56,000	76,000	105,000	300,000	400,000
Temperature Rating(F)	500 F	500 F	500 F	500 F	500 F