



## Fill, Draw & Torque Sheet

Key Model of this Tool Group	Full Volume of Liner Oil in Pulse Unit (approx.)	Volume to be Removed from the Full Volume (approx.)	Torque to Tighten Liner Casing Setter (approx.)	Torque to Tighten Liner Casing Setter (approx.)	Load to Press on Rear Liner Plate	Load to Press on Rear Liner Plate
					Hydraulic Press	P.T.R.F.
Model	cc's	cc's	NM	Ft-Lbs	Tons	Ft-Lbs/Nm
U-300SD	5.0	0.15	50+/-5	37+/-4		
U-310SD / U-50EC	5.0	0.15	50+/-5	37+/-4		
U-350(S)(D)	5.0	0.15	50+/-5	37+/-4		
UAT-30D(SD)	5.0	0.19+/-0.01	85+/-5	63+/-4	1	20/27
UL-30(D)	5.0	0.31+/-0.01	85+/-5	63+/-4		
ULT-30 (D)(S)	5.0	0.30+/-0.01	85+/-5	63+/-4	1	20/27
U-410(S)(D) & 60EC	8.5	0.35	70+/-5	52+/-4		
UX-450(S)(D)	5.0	0.50+/-0.05	70+/-5	52+/-4		
U-480	9.0	0.40	70+/-5	52+/-4	3	60/81
UX-500(S)(D)(C)	5.0	0.50+/-0.05	70+/-5	52+/-4		
U-501 & 80EC	9.0	0.40	70+/-5	52+/-4	3	60/81
ALPHA-45(S)(D) & 61(D)	5.0	0.45+/-0.05	70+/-5	52+/-4		
ALPHA-50(S)(D) & L61(D)	5.0	0.50+/-0.05	70+/-5	52+/-4		
ALPHA-T40D(S), T42D(S)(P), T45(S)(D)(P), T46(D), T47(S)(D)(P), T50(D) & T52(D)	5.0		70+/-5	52+/-4		
ALPHA-50MC, 60MC & 70MC	5.0	0.45+/-0.05	70+/-5	52+/-4		
UA-40(S)(D)MC, 400AMC & UA-50(S)(D)MC, 500AMC	7.0	0.35+/-0.01	85+/-5	63+/-4	1.5	30/41
UAT-40(S)(D), UAT-50(S)(D)	5.6	0.26+/-0.01	85+/-5	63+/-4	1	20/27
UL-40(D), UL-40A(D)MC	5.0	0.35+/-0.01	85+/-5	63+/-4	1	20/27
UEP-50(D) & 50MC(D)	5.5	0.35+/-0.05	70+/-5	52+/-4	1	20/27
UL-50(S)(D) & 50(D)MC, UL-40(D)MC, UL-50A(D)MC	5.0	0.45+/-0.05	85+/-5	63+/-4	1	20/27
ULT-40(S)(D) & 50(S)(D)(C), UBP-T40 & T50, UDBP-T40 & T50	5.6	0.35 -0.04	85+/-5	63+/-4	1	20/27
UBP-65	8.0	0.70+/-0.05	85+/-5	63+/-4	3	60/81
U-610	13.0	0.55	70+/-5	52+/-4	3	60/81
U-610T	13.0	0.55	70+/-5	52+/-4	3	60/81
UX-612(S)(D)(C)(A)	6.2	0.65+/-0.05	85+/-5	63+/-4		
UX-622(D)	6.2	0.65+/-0.05	85+/-5	63+/-4		
ALPHA-T60(D) & T62(D)(MI)	6.2		85+/-5	63+/-4		
ALPHA-60(S)(D)	6.2	0.55+/-0.05	85+/-5	63+/-4		
UEP-60(D) & 60MC(D)	6.8	0.55+/-0.05	85+/-5	63+/-4	1	20/27
UDP-A60MC	5.6	0.30+0.05	85+/-5	63+/-4	1.5	30/41
UA-60(S)MC & 600AMC	8.2	0.40+/-0.01	85+/-5	63+/-4	1.5	30/41
UAT-60(S)(D)	6.2	0.35+/-0.01	85+/-5	63+/-4	1	20/27
UL-60(S)(D), 60MC, 60AMC	6.8	0.55+/-0.05	85+/-5	63+/-4	1	20/27
ULT-60(S)(D)(C) & UBP-T60, UDBP-T60	6.2	0.45+/-0.05	85+/-5	63+/-4	1	20/27
U-700 & 100EC	18.0	0.90	70+/-5	52+/-4	3	60/81
U-700T	18.0	0.90	70+/-5	52+/-4	3	60/81



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					Hydraulic Press	P.T.R.F.
Model	cc's	cc's	NM	Ft-Lbs	Tons	Ft-Lbs/Nm
UX-700(S)(D)(C) & 80EC	8.8	0.80+/-0.1	110+/-5	81+/-4	2	40/54
UX-T700, T700L & TL700	8.8	0.70+/-0.05	110+/-5	81+/-4	2	40/54
ALPHA-70(S)(C)(CH)	8.8	0.80+/-0.1	110+/-5	81+/-4	2	40/54
ALPHA-T65(S) & T70(S)(C)(CH)	8.8	0.75+/-0.05	110+/-5	81+/-4	2	40/54
UEP-70 & 70MC	8.8	0.65+/-0.05	110+/-5	81+/-4	2	40/54
UA-70(S)MC & 700AMC	10.3	0.70+/-0.05	110+/-5	81+/-4	2	40/54
UAT-70(S)	8.8	0.60+/-0.05	110+/-5	81+/-4	2	40/54
UL-70, UL-70MC, 70AMC	8.0	0.65+/-0.05	110+/-5	81+/-4	2	40/54
ULT-70(S)(C)(CH), UDBP-T70	8.8	0.70+/-0.05	110+/-5	81+/-4	2	40/54
U-800	20.0	1.00	90+/-5	67+/-4	3	60/81
U-800T	20.0	1.00	90+/-5	67+/-4	3	60/81
UX-800(S)(C) & ST800	12.0	0.80+/-0.1	135+/-5	100+/-4	2	40/54
UX-T800 & TL800	12.0	0.80+/-0.05	135+/-5	100+/-4	2	40/54
ALPHA-80	12.0	1.00+/-0.1	135+/-5	100+/-4	2	40/54
ALPHA-T80	12.0	0.80+/-0.05	135+/-5	100+/-4	2	40/54
ALPHA-80MC & 90MC	6.2	0.55+/-0.05	85+/-5	63+/-4		
UA-80AMC & 800AMC	12.0	0.80+/-0.05	110+/-5	81+/-4	2	40/54
UAT-80	12.0	0.80+/-0.05	135+/-5	100+/-4	2	40/54
UDP-A80MC	8.8	0.65+0.05	110+/-5	81+/-4	2	40/54
UL-80	14.0	0.80+/-0.05	110+/-5	81+/-4	2	40/54
UEP-80 & 80MC	14.0	0.90+/-0.05	150+/-5	110+/-4	3	60/81
ULT-80	12.0	0.85+/-0.05	110+/-5	81+/-4	2	40/54
U-900	25.0	1.25	100+/-5	74+/-4	3	60/81
U-900T	25.0	1.25	100+/-5	74+/-4	3	60/81
UX-900(S)(C) & 120EC	14.0	0.95+/-0.1	150+/-5	110+/-4	3	60/81
UX-T900 & TL900	14.0	0.95+/-0.05	150+/-5	110+/-4	3	60/81
ALPHA-90	14.0	1.00+/-0.1	150+/-5	110+/-4	3	60/81
ALPHA-T90	14.0	0.95+/-0.05	150+/-5	110+/-4	3	60/81
UA-90MC & 90AMC	15.8	0.90+/-0.05	150+/-5	110+/-4	3	60/81
UAT-90	14.0	0.90+/-0.05	150+/-5	110+/-4	3	60/81
UL-90, UL-90MC, 90AMC, 900AMC	14.0	0.95+/-0.05	150+/-5	110+/-4	3	60/81
ULT-90	14.0	1.00+/-0.05	150+/-5	110+/-4	3	60/81
U-1000	32.0	1.70	110 +/-5	81+/-4	3	60/81
U-1000T	32.0	1.70	110 +/-5	81+/-4	3	60/81
UX-1000(S)(C) & 130EC	19.0	1.50+/-0.1	185+/-10	137+/-7	3	60/81
UX-T1000 & TL1000	19.0	1.40+/-0.1	185+/-10	137+/-7	3	60/81
ALPHA-100	19.0	1.70+/-0.1	185+/-10	137+/-7	3	60/81
ALPHA-T100	19.0	1.40+/-0.1	185+/-10	137+/-7	3	60/81
ALPHA-100MC & 101MC	12.0	0.80+/-0.1	135 +/-5	100+/-4	2	40/54



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Model	cc's	cc's	NM	Ft-Lbs	Tons	Ft-Lbs/Nm
ALPHA-110MC	12.0	0.95+/-0.1	135+/-5	100+/-4	2	40/54
UEP-100 & 100MC	19	1.50+/-0.05	185 +/-10	137+/-7	3	60/81
UA-100MC, 100AMC, 1000AMC	21.7	1.50+/-0.1	185+/-5	137+/-7	3	60/81
UAT-100	21.5	1.40+/-0.1	185+/-10	137+/-7	3	60/81
UL-100	19	1.50+/-0.05	185+/-10	137+/-7	3	60/81
ULT-100, UL-100MC, 100AMC	21.5	1.60+/-0.1	185+/-10	137+/-7	3	60/81
U-1301	38.0	2.00	120+/-10	89+/-7	4	80/108
U-1301T	38.0	2.00	120+/-10	89+/-7	4	80/108
UX-1300(S), T1300 & TL1300	24.0	1.80+/-0.1	185+/-10	137+/-7	3	60/81
ALPHA 130	24.0	2.00+/-0.1	185+/-10	137+/-7	3	60/81
ALPHA-T130	24.0	1.80+/-0.1	185+/-10	137+/-7	3	60/81
ALPHA-130MC	24.0	1.80+/-0.1	185+/-10	137+/-7	3	60/81
UA-130MC, 130AMC, 1300AMC	29.4	1.50+/-0.1	185+/-10	137+/-7	3	60/81
UAT-130	24.0	1.40+/-0.1	185+/-10	137+/-7	3	60/81
UL-130	27.0	1.70+/-0.1	185+/-10	137+/-7	3	60/81
ULT-130, UL-130MC, 130AMC	24.0	1.60+/-0.1	185+/-10	137+/-7	3	60/81
UX-1400	31.5	2.00+/-0.1	200+/-10	148+/-7	3.5	70/95
UX-T1400 & TL1400	31.5	1.90+/-0.1	200+/-10	148+/-7	3.5	70/95
ALPHA-140 & 140MC	31.5	2.30+/-0.1	200+/-10	148+/-7	3.5	70/95
ALPHA-T140	31.5	1.90+/-0.1	200+/-10	148+/-7	3.5	70/95
UL-150	36.6	2.60+/-0.1	200+/-10	148+/-7	3	60/81
ULT-150	31.5	2.20+/-0.1	200+/-10	148+/-7	3.5	70/95
UX-1620	33.5	2.20+/-0.1	200+/-10	148+/-7	4	80/108
UX-T1620 & TL1620	33.5	2.10+/-0.1	200+/-10	148+/-7	4	80/108
ALPHA-160	48.0	2.40+/-0.1	260+/-10	192+/-7	4	80/108
UXR-1820	48.0	3.50+/-0.1	260+/-10	192+/-7	4	80/108
UXR-T1820 & TL1820	48.0	3.50+/-0.1	260+/-10	192+/-7	4	80/108
UXR-1820MC	48.0	3.50+/-0.1	260+/-10	192+/-7	4	80/108
ALPHA-180	48.0	4.80+/-0.1	290+/-10	214+/-7	4	80/108
ULT-180	39.0	3.30+/-0.1	260+/-10	192+/-7	4	80/108
UAT-200	81.5	5.60+/-0.1	320+/-10	236+/-7	4.5	90/122
UXR-2000(S)	84.0	7.00+/-0.2	300+/-10	221+/-7	4	80/108
UXR-T2000 & TL2000	84.0	6.00+/-0.1	300+/-10	221+/-7	4	80/108
UXR-2400S	105.0	11.00+/-0.2	650+/-10	480+/-7	5	100/74
UXR-T2400S	105.0	10.50+/-0.2	650+/-10	480+/-7	5	100/74
UXR-3000S	185.0	14.00+/-0.2	700+/-10	517+/-7	5	100/74
UXR-T3000S	185.0	13.50+/-0.2	700+/-10	517+/-7	5	100/74