

## HTG lake race ported F1000, D&D single vs D&D twin pipes

Dead 1 Dave Craiglow is an old pal of DynoTech, and an even older pal of HTG Rob Schooping. Rob offered to experimentally grind on the cylinders of Dave's then-new Arctic Cat F1000, which Dave agreed to. Last fall, Dave's ported F1000 was over 200 HP with a stock single and D&D Ypipe. And Dave being pals with Dan and Dale from D&D, when they developed their F1000 single pipe, Dave installed one and made the following excellent HP with marginal pump gas compression, 2 degree key and leaned out Boondocker settings. Dave ran the HTG engine with D&D single very successfully for most of the winter lakeracing in western and central NY.

D&D Y & Single	STPTrq	STPPwr	FulA-B	TsTim2	BSFA-B	Air1+2	FuelP	A/FA-B
EngSpd RPM	Clb-ft	CHp	lb/hr	second	lb/hph	scfm	psig	Ratio
5600	111.0	118.3	65.1	0	0.57	192	43.7	13.54
5700	110.4	119.8	64.9	0.3	0.56	193	43.7	13.61
5800	112.8	124.5	64.9	0.9	0.54	196	43.8	13.86
5900	111.6	125.4	65.1	1.1	0.54	197	43.7	13.87
6000	114.5	130.8	66.6	1.6	0.53	202	43.7	13.91
6100	114.7	133.3	66.6	1.8	0.52	203	43.7	13.97
6200	115.6	136.5	68.3	2.1	0.52	205	43.7	13.75
6300	117.3	140.7	68.1	2.5	0.50	210	43.7	14.12
6400	118.6	144.5	70.8	2.7	0.51	214	43.7	13.86
6500	120.7	149.4	90.4	3.2	0.63	233	43.1	11.78
6600	120.9	151.9	95.8	3.4	0.66	240	43.1	11.47
6700	121.7	155.3	99.3	3.5	0.66	246	43.2	11.35
6800	124.3	160.9	101.2	3.6	0.65	253	43.2	11.43
6900	131.7	173.0	103.8	4.4	0.62	271	43.2	11.95
7000	135.5	180.6	103.0	4.7	0.59	276	43.1	12.26
7100	138.1	186.7	104.2	5.1	0.58	282	43.1	12.38
7200	138.6	190.0	103.5	5.3	0.57	284	43.1	12.55
7300	140.6	195.5	102.8	5.9	0.55	291	43.1	12.95
7400	140.9	198.5	102.6	6.0	0.54	292	43.2	13.02
7500	144.0	205.6	105.0	6.4	0.53	294	43.1	12.84
7600	146.6	212.1	106.3	6.8	0.52	294	43.1	12.67
7700	145.1	212.7	106.8	7.3	0.52	296	43.0	12.71
7800	143.1	212.5	109.0	7.6	0.53	298	43.1	12.50
7900	138.2	207.9	113.2	8.3	0.57	296	43.6	11.98
8000	131.8	200.8	110.4	8.8	0.57	297	43.0	12.33

Late winter 07, D&D developed the F1000 twin pipes, which we featured in the D&D F1200 data posted above this. Dave acquired a set of the twins and

picked up midrange and top end HP. And for you torque aficionados we saw over 151 lb/ft a whopping 500 rpm below the HP peak (= flat easy to clutch HP curve). Note that airflow is higher throughout the powerband, necessitating higher Boondocker settings which we perfected quickly on the dyno. Also note in observing the graph that with the twin pipes, the exhaust valves opened a bit early, causing that slight blip in the HP curve. Dave reports that in the field the dip is unnoticeable, his sled pulls more clutch weight, and to the chagrin of some of the sledders he's been running against on the lakes, is noticeably quicker with the twins.

D&D twins EngSpd RPM	STPTrq Clb-ft	STPPwr CHp	Fuel A lb/hr	BSFA-B lb/hph	A/FA-B Ratio	Air1+2 scfm	AirTmp degF	BaroP in/Hg
6000	120.8	138.0	69.8	0.52	14.82	226	40	29.29
6100	120.7	140.1	70.3	0.51	14.82	228	40	29.29
6200	126.0	148.7	74.7	0.51	14.48	236	40	29.29
6300	125.8	150.9	75.2	0.51	14.45	237	39	29.29
6400	127.5	155.4	76.9	0.51	14.23	239	40	29.29
6500	120.1	148.7	99.9	0.69	11.38	248	41	29.28
6600	120.8	151.8	103.7	0.70	11.09	251	42	29.28
6700	123.7	157.9	105.4	0.68	11.07	255	42	29.28
6800	128.1	165.8	108.1	0.67	10.99	259	41	29.28
6900	133.8	175.8	112.6	0.65	10.86	267	41	29.28
7000	138.1	184.1	115.6	0.64	10.95	277	41	29.28
7100	142.6	192.8	117.5	0.62	11.28	289	41	29.28
7200	146.6	201.0	116.3	0.59	11.97	304	40	29.28
7300	148.5	206.3	117.4	0.58	12.12	311	40	29.28
7400	151.3	213.1	115.0	0.55	12.50	314	39	29.28
7500	150.4	214.8	114.1	0.54	12.66	316	39	29.28
7600	149.6	216.5	114.0	0.54	12.69	316	39	29.28
7700	149.4	219.1	116.3	0.54	12.38	314	39	29.28
7800	147.6	219.2	119.4	0.56	12.15	317	39	29.28
7900	146.6	220.5	124.8	0.58	11.55	315	41	29.28
8000	141.8	216.0	123.5	0.58	11.82	319	41	29.28

Finally, with Rob Schooping at the dyno observing he suggested a drag run like one would do on the lake—a cold dyno stab that brought the engine to HP peak in a few seconds. This showed that these D&D twin pipes don't need long periods of heating to work well. Also note here that with identical

Boondocker settings, fuel flow was higher indicating possibly that the ECU was still partially on “choke” mode.

twins cold  
stab

EngSpd RPM	STPTRq Clb-ft	STPPwr CHp	Fuel A lb/hr	BSFA-B lb/hph	A/FA-B Ratio	Air1+2 scfm	TsTim2 second	AirTmp DegF
7300	151.2	210.2	118.4	0.57	11.86	307	0	33
7400	150.9	212.6	118.3	0.56	12.07	312	0.7	32
7500	151.4	216.1	119.1	0.56	12.34	321	1.1	32
7600	153.3	221.8	120.6	0.55	12.15	320	2.1	31
7700	152.3	223.3	123.2	0.56	11.70	315	2.8	31
7800	149.4	221.9	126.2	0.57	11.79	325	3.4	28

