

DNE Performance 1725 four cylinder two stroke radar run engine.

Don and Curtis Emery operate DNE Performance in Orillia, Ontario Canada (705-326-2121). Last year they built a 1563cc or thereabouts 809 based four cylinder engine for radar run madman Tommy McConkey that dyno'd here at 344 HP as then NA King HP.

That sled “only” ran 172 mph at the North Bay Radar Runs (www.radar-runs.com) and Tommy wanted more, so this year DNE constructed a massive 1725cc four cylinder two stroke engine. Based upon a three cylinder 809 SkiDoo engine modified into four-cylinder format. This monstrous thing has a bottom end that is a collaboration between DNE, Harrison Powersports, and HotRods.

The huge cylinders were provided by Price Performance cast to DNE specs, then bored to size and plated with Nicasil by AAB.

Vforce reeds are fitted to the crankcase intake ports. This is my first experience on the dyno with huge Cutler oval bore carbs and I like them. These billet oval bore carbs closely match the oval shape of the reed cages, and have a series of horizontally oriented power jets that feed fuel at various throttle openings. DNE was using some notoriously (here) difficult to vaporize Torco race gas, but the Cutler carbs performed burble-free at low coolant temp on the dyno, like excellently vaporizing Lectrons/ Megatrons do. It took Don and Curtis only a few tweaks of the top powerjet to achieve max HP.

The 304 stainless steel tuned quad pipes were designed and welded by GCB exhaust technologies.

I was understandably leery of dyno testing this thing—my 1.25” diameter rubber dampened (with Lord and Lovejoy couplers) dyno drive shaft protects itself and the engines from self destructing from extreme torsional vibrations, but something like this surely makes my armpits wet. But to my surprise this solid mounted monster was as smooth as silk; at 9000 RPM I could put a full teacup on the cylinder head and we would probably not spill a drop. As you can see from the following data, fuel flow is smooth and dandy.

Here's our new all-motor record holder. Let's hope Tommy and DNE set a Radar Run record with this awful thing on the ice this winter.

EngSpd	STPTrq	STPPwr	Fuel B	TsTim2	BSFC B	AirTmp	BMEP	STPCor
RPM	Clb-ft	CHp	lb/hr	second	lb/hph	degF	psi	Factor
6800	160.8	208.2	132.6	0	0.659	56	110.7	1.031
6900	163.2	214.4	135.1	0.2	0.653	57	112.2	1.031
7000	171.2	228.2	143.1	0.7	0.649	56	117.9	1.031
7100	172.1	232.6	144.8	0.9	0.644	56	118.5	1.031
7200	176.8	242.4	144.2	1.1	0.616	56	121.7	1.029
7300	179.2	249.1	143.8	1.7	0.598	56	123.4	1.031
7400	180.9	254.9	139.3	1.8	0.566	56	124.5	1.031

7500	186.6	266.4	185.7	2.4	0.721	55	128.6	1.029
7600	187.9	271.9	185.7	2.6	0.706	55	129.5	1.029
7700	192.7	282.5	182.8	2.9	0.669	55	132.8	1.029
7800	192.9	286.5	180.2	3.2	0.651	56	132.8	1.029
7900	196.8	296.1	169.9	3.7	0.594	55	135.6	1.029
8000	196.8	299.8	162.5	3.9	0.561	55	135.6	1.029
8100	196.8	303.5	162.9	4.1	0.554	54	135.8	1.028
8200	202.2	315.7	167.8	4.7	0.548	52	139.8	1.026
8300	201.7	318.8	172.6	4.9	0.558	52	139.5	1.026
8400	203.1	324.8	176.7	5.1	0.561	52	140.4	1.026
8500	209.1	338.5	183.4	5.3	0.563	54	144.3	1.028
8600	214.6	351.5	193.3	5.8	0.569	55	148.1	1.029
8700	214.7	355.6	195.1	6.1	0.567	55	148.4	1.029
8800	220.9	370.2	206.1	6.5	0.575	54	152.5	1.028
8900	220.6	373.8	208.7	6.8	0.577	55	152.3	1.029
9000	221.7	379.8	200.7	7.2	0.547	56	152.6	1.031
9100	219.9	381.1	198.3	7.7	0.538	55	151.5	1.029
9200	216.1	378.5	198.1	8.2	0.541	55	148.9	1.029
9300	210.3	372.3	194.6	8.7	0.541	55	144.8	1.029

Tommy McConkey's DNE 1725cc quad two-stroke

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