

Two very excellent trail mod Firecats—one F7 and one F8 single pipe

Here are two very excellent Firecat trailmods worthy of display here. After having dyno tuned several 100 F7s with various bores/ cylinders/ pipes I enjoy seeing engines that stand out, and enjoy giving credit where it's due.

The F7 is owned by Gary Benencasa who lives near Albany NY. He bought ported F7 cylinders and a billet head from Bikeman along with a Boondocker and Bikeman mod stock pipe. He also had the D&D Ypipe which is usually good for 1-3 HP, and Vforce reed cages which we really haven't done a back to back on. Also Gary had a 2.5 deg offset ket. We used his Boondocker to tweek two settings for him—one for all around trail riding lake blasting, and one for 1000 ft dragraces. 93 octane is suggested. All of these runs are with hot engine, 20 seconds at WOT on pump gas, no sign of deto.

The only thing Gary must watch is his coolant temp; having 160+ HP with a cooling system designed for 135 is a recipe for deto WHEN (not if) water gets hot. Yes there's some failsafe deal when water temp his about 180 or thereabouts but on this engine that may be too late. Running hard at 80 deg F- 130 deg F coolant should be dandy but if it creeps much above that Gary would be wise to relax until temp subsides.

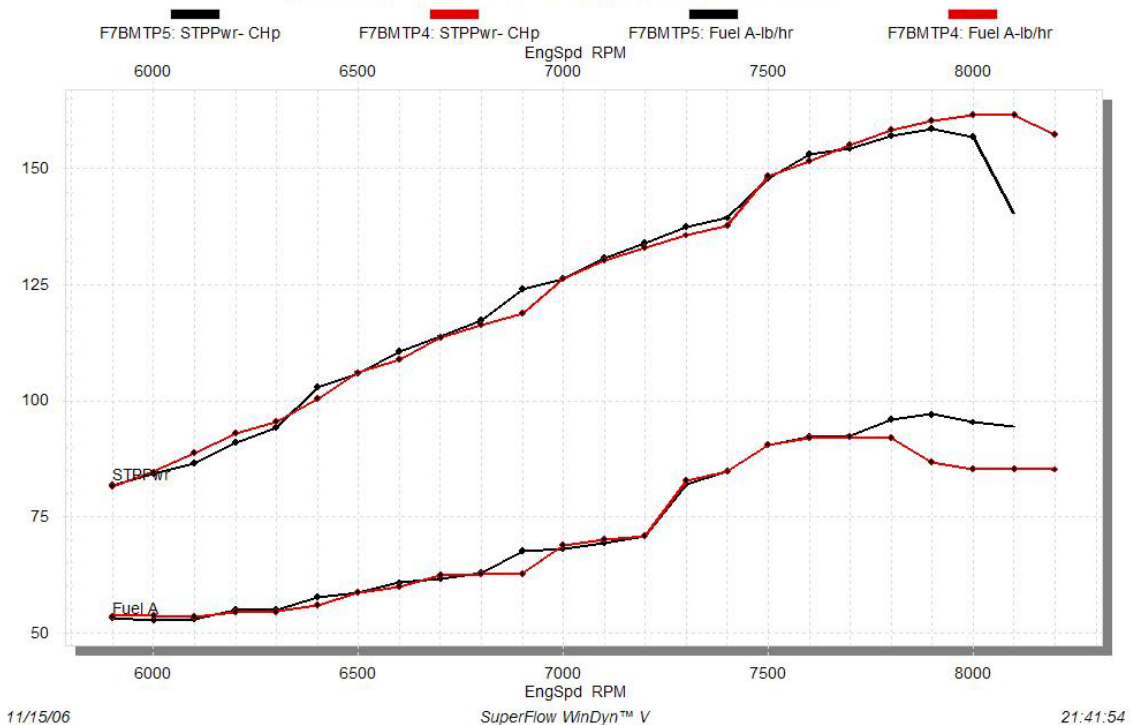
EngSpd	STPTrq	STPPwr	AirTmp	Fuel A	A/FA-B	Air1+2	BSFC	FuelP	TsTim2
RPM	Clb-ft	CHp	degF	lb/hr	Ratio	scfm	lb/hph	psig	second
5900	72.8	81.8	61	53.2	13.26	154	0.7	42.5	0
6000	73.7	84.2	61	52.6	13.51	155	0.672	42.5	1.1
6100	74.5	86.5	61	52.8	13.53	156	0.657	42.5	1.2
6200	77.1	91.1	62	54.8	13.35	160	0.648	42.5	2.3
6300	78.5	94.2	62	54.9	13.41	161	0.628	42.4	2.4
6400	84.4	102.9	61	57.6	13.23	166	0.602	42.4	3.8
6500	85.5	105.8	61	58.5	13.24	169	0.595	42.4	4.2
6600	88.1	110.6	61	60.7	13.11	174	0.591	42.4	5.1
6700	89.1	113.7	61	61.6	13.21	178	0.582	42.3	5.7
6800	90.6	117.3	61	62.8	13.14	180	0.575	42.3	6.2
6900	94.4	124.1	60	67.6	12.64	187	0.585	42.2	6.9
7000	94.8	126.4	60	68.1	12.72	189	0.578	42.2	7.5
7100	96.7	130.8	62	69.4	12.78	194	0.571	42.2	8.2
7200	97.7	133.9	61	70.9	12.81	198	0.569	42.2	8.9
7300	98.9	137.4	61	82.1	11.51	206	0.641	41.9	9.7
7400	98.9	139.3	61	84.8	11.26	209	0.654	41.9	9.8
7500	103.6	147.9	61	90.4	11.04	218	0.657	41.9	10.7
7600	105.8	153.1	61	92.2	11.09	223	0.647	41.8	11.8
7700	105.2	154.2	61	92.3	11.11	224	0.643	41.8	12.1
7800	105.8	157.1	62	95.8	10.86	227	0.656	41.7	12.7
7900	105.5	158.6	63	97.1	10.91	231	0.659	41.9	13.6
8000	103.1	156.9	62	95.3	11.31	235	0.654	41.7	14.4
8100	91.1	140.4	60	94.5	11.63	240	0.723	41.3	15.9

EngSpd	STPTrq	STPPwr	AirTmp	Fuel A	A/FA-B	Air1+2	BSFC	FuelP
RPM	Clb-ft	CHp	degF	lb/hr	Ratio	scfm	lb/hph	psig
5900	72.5	81.4	62	53.5	13.13	153	0.708	42.5

6000	74.1	84.6	63	53.6	13.21	155	0.683	42.5
6100	76.3	88.6	63	53.4	13.45	157	0.649	42.5
6200	78.7	92.9	62	54.4	13.55	161	0.631	42.6
6300	79.5	95.4	62	54.5	13.61	162	0.615	42.6
6400	82.5	100.5	61	55.8	13.54	165	0.597	42.5
6500	85.6	106.1	62	58.7	13.23	170	0.596	42.4
6600	86.6	108.9	61	59.8	13.21	172	0.591	41.9
6700	89.1	113.6	61	62.3	12.97	176	0.589	42.2
6800	89.8	116.3	62	62.6	13.16	180	0.579	42.3
6900	90.4	118.7	62	62.7	13.23	181	0.568	42.3
7000	94.7	126.2	61	68.9	12.63	190	0.587	42.1
7100	96.4	130.3	61	70.1	12.81	196	0.578	42.1
7200	97.1	133.1	61	70.8	12.85	199	0.572	42.1
7300	97.6	135.6	62	82.7	11.44	207	0.656	41.9
7400	97.8	137.8	62	84.6	11.25	208	0.661	41.9
7500	104.1	148.5	62	90.5	11.02	218	0.655	41.8
7600	104.8	151.7	62	92.1	10.99	221	0.652	41.8
7700	105.7	155.1	62	92.1	11.12	224	0.639	41.8
7800	106.6	158.3	63	91.9	11.31	227	0.625	41.8
7900	106.6	160.3	63	86.7	12.21	231	0.582	41.9
8000	106.1	161.6	63	85.3	12.67	236	0.569	41.9
8100	104.8	161.6	63	85.2	12.76	237	0.568	41.9
8200	100.7	157.3	63	85.1	12.94	240	0.583	41.9

Bikeman trail port F7, DDypipe, Bikeman mod stock pipe

Black Jim's chicken safe fuel flow, Red Gary's lake race Boondocker setting



Our second incredible Firecat engine this week is Rod Rimko's trail mod F8, created out of stock cylinders by Trevor Bovard and porting maven John Adams at Best Performance in Mercer, PA (between Erie and Pittsburgh), tsbovard@yahoo.com, who've cut their teeth modding two-stroke minisprints for oval racing many years. This

one had a billet head from Speedwerx, don't know compression ratio but it was fine, as you can see for 20 seconds at WOT on pump gas. This one had a Bikeman stamped Fatazz single stamped pipe which exceeded our Bikeman modified stock pipe (we keep here for dyno testing) by one HP. Also the stock muffler was used. Our first test is with stock pipe stock early fat fuel map. The second test shown is with Bikeman Fatazz single Boondocked down a bit, but surely pump gas safe (1/2 mile or thereabouts = 20 seconds).

As you can see from the following data, the airflow CFM is incredibly high compared to other F8s tested here (except a few twin pipers) and I couldn't find any single pipe F8 in my database that matched this one. Like Gary's sled above, this sled will require diligent attention to coolant temp. Being even 10 HP more than the F7 above, coolant temp is even more critical. Hot engine are most prone to detonate, cool engines are the safest possible. Forget hotlapping on the lakes, let it cool while your competitors drool over your "stocker", no twin pipes, stock cylinders. Impressive. First dyno sheet is with the stock F7 pipe, the second is the stamped Bikeman Fatazz pipe with tweaking of the Boondocker to create a hot trail/lakerace map.

stock pipe								
EngSpd	STPTRq	STPPwr	TsTim2	Fuel A	A/FA-B	Air1+2	BSFC	FuelP
RPM	Cib-ft	CHp	second	lb/hr	Ratio	scfm	lb/hph	psig
5300	72.7	73.3	0	52.2	13.57	155	0.737	42.1
5400	72.5	74.5	0.2	51.7	13.63	154	0.718	42.1
5500	73.8	77.3	0.4	50.9	13.85	154	0.682	42.2
5600	75.6	80.6	1.6	52.6	13.65	157	0.675	42.1
5700	77.6	84.2	1.7	52.7	13.75	158	0.647	42.1
5800	83.1	91.8	3.1	55.6	13.73	167	0.627	42.1
5900	86.5	97.2	4.2	57.3	13.78	172	0.609	41.9
6000	87.1	99.5	4.7	57.9	13.72	173	0.601	41.9
6100	88.7	103.2	5.2	59.5	13.41	174	0.598	41.8
6200	90.5	106.9	5.9	61.9	13.03	176	0.599	41.7
6300	92.5	111.1	6.7	63.6	12.86	179	0.592	41.7
6400	93.5	114.1	7.4	64.7	12.76	180	0.587	41.6
6500	95.4	118.1	8.1	66.5	12.61	183	0.582	41.6
6600	95.7	120.3	8.6	66.1	12.83	185	0.567	41.6
6700	97.1	123.8	9.8	66.5	13.01	189	0.555	41.5
6800	97.6	126.3	10.1	65.9	13.19	190	0.541	41.5
6900	98.1	128.7	10.4	66.3	13.25	192	0.533	41.5
7000	100.6	134.1	11.1	68.1	13.34	198	0.526	41.4
7100	101.1	136.6	11.7	70.1	13.25	203	0.531	41.4
7200	101.7	139.4	11.9	70.7	13.28	205	0.525	41.3
7300	107.1	148.8	12.9	91.5	11.31	226	0.636	40.1
7400	109.4	154.2	13.4	95.7	11.15	233	0.642	40.1
7500	110.1	157.1	13.9	98.7	10.96	236	0.651	39.8
7600	111.5	161.3	14.9	104.3	10.65	243	0.668	39.5
7700	111.4	163.3	15.6	106.2	10.58	245	0.672	39.4
7800	110.6	164.3	16.2	106.1	10.65	247	0.668	39.4
7900	109.8	165.1	16.9	103.6	11.06	250	0.649	39.5
8000	108.7	165.6	17.6	101.2	11.53	255	0.632	39.8
8100	107.1	165.1	18.7	98.5	12.17	262	0.617	39.7
8200	102.4	159.8	19.4	97.4	12.39	264	0.631	39.8

Bikeman
 Fatazz
 stamped
 single
 pipe

EngSpd	STPTRq	STPPwr	TsTim2	Fuel A	A/FA-B	Air1+2	BSFC	FuelP
RPM	Clb-ft	CHp	second	lb/hr	Ratio	scfm	lb/hph	psig
5400	81.2	83.5	0	56.2	13.07	160	0.695	41.9
5500	83.2	87.1	0.7	56.1	13.42	164	0.663	41.9
5600	85.1	90.6	1.3	57.2	13.29	166	0.651	41.8
5700	86.1	93.3	2.1	57.5	13.46	169	0.637	41.8
5800	87.1	96.2	2.7	58.6	13.51	173	0.629	41.7
5900	88.8	99.8	3.7	61.6	13.02	175	0.637	41.6
6000	89.1	101.8	4.2	62.6	12.84	176	0.633	41.6
6100	89.6	104.1	5.1	65.1	12.41	176	0.645	41.5
6200	90.2	106.4	5.7	65.9	12.25	176	0.639	41.5
6300	90.2	108.2	6.5	67.1	12.12	178	0.641	41.5
6400	90.2	109.9	6.8	67.9	12.02	178	0.638	41.4
6500	91.2	112.9	7.9	68.5	12.03	180	0.627	41.4
6600	90.6	113.8	8.1	68.6	12.07	181	0.622	41.4
6700	93.3	119.1	8.8	68.7	12.41	186	0.596	41.4
6800	93.3	120.8	9.2	68.5	12.61	189	0.586	41.8
6900	95.5	125.4	9.9	69.9	12.74	195	0.576	41.3
7000	96.3	128.4	10.5	71.7	12.65	198	0.578	41.2
7100	97.6	132.1	11.1	72.9	12.73	203	0.571	41.1
7200	98.5	135.1	11.2	73.3	12.77	204	0.561	41.1
7300	99.9	138.9	11.3	76.7	12.33	207	0.571	41.1
7400	105.8	149.1	12.2	88.4	11.57	223	0.613	40.3
7500	111.3	158.9	13.3	92.8	11.62	236	0.604	40.1
7600	112.9	163.4	14.1	95.3	11.72	244	0.603	40.1
7700	114.7	168.1	15.1	96.1	11.99	252	0.591	39.9
7800	115.1	170.8	15.7	98.2	11.92	256	0.595	39.8
7900	115.3	173.4	16.4	100.1	11.89	260	0.597	39.7
8000	113.9	173.5	17.1	99.8	12.13	264	0.595	39.7
8100	110.4	170.3	18.1	98.3	12.63	271	0.597	39.8
8200	102.5	160.1	19.1	98.1	12.81	275	0.635	39.8

Best Performance F8 stock cylinder kit, stock muffler pump gas

black stock pipe stock 04 fuel flow, red Bikeman fataazz pipe Boondockered fuel flow

