

Performance Engineering ,LLC

2681 Morgan Lane
Ross, Ohio. 45013

Phone (513)738-5001
Fax (513)738-5006
Website www.perfeng.cc

Hours :
Monday-Friday 8am-5pm
Saturday 8am-12pm
Sunday Closed

BALANCE SHEET

Name Kirk Shroyer Engine Type 302 -331 Stroker

Internal Balance Yes

Flywheel / Neutral balance Balancer / Neutral balance

BALANCING SPECS.

Piston /432

Pin/ 130

Small end of rod /169

Rings/ 47+8 (Rail spacer)

Pin Locks/ 4 **TOTAL RECIP. /790**

Big end of rod X2/ 423

Bearings X2 /39

Oil/ 4 **TOTAL ROTA. /928**

NOTE: ALL TOLERANCES HELD TO WITHIN 1 GRAM

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Engine Build Specifications Sheet

Customer : Kirk Shroyer

Engine Type: 302 Ford	Cubic Inches : 332
Cylinder Bore : 4.030	Crankshaft Type : 4340 Forged Steel
Rod Length : 5.400	Compression Ratio : 10.2 to 1
Carburetor : 650 HP Holley	Intake Manifold : Victor Jr.
Cylinder Heads : AFR 185	Rocker Arm Ratio : 1.6
Pushrod Length : 6.950	Crank Stroke : 3.250
Casting Number on block : N/A	Serial Number on block : 2933 FS

Clearances:

Ring end gap : Top : .020	Second: .016
Rod Bearing : .0015	Main Bearing : .002
Deck Clearance : .005	Rod Side Clearance : .007 / .010
Valve to Piston : Intake -100 / Exhaust-140	Piston to Head : N/A
Crankshaft End Play : .007	Valve Lash : Hot .012

Torque Specs:

Mains : 1-5 7/16-65	Rods : 63	Heads : 95
Intake : 13-16	Cam Bolts : 45-50	Crank Bolts : 60
Flywheel Bolts : 75		

Cam Specs:

Lift Intake : .664	Exhaust : .661	Duration @ .050 Intake : 250
Exhaust : 258	Lobe Sep. Angle : 112	Cam Installed @ : 108
Rocker Arm Ratio : 1.6		

Capacities:

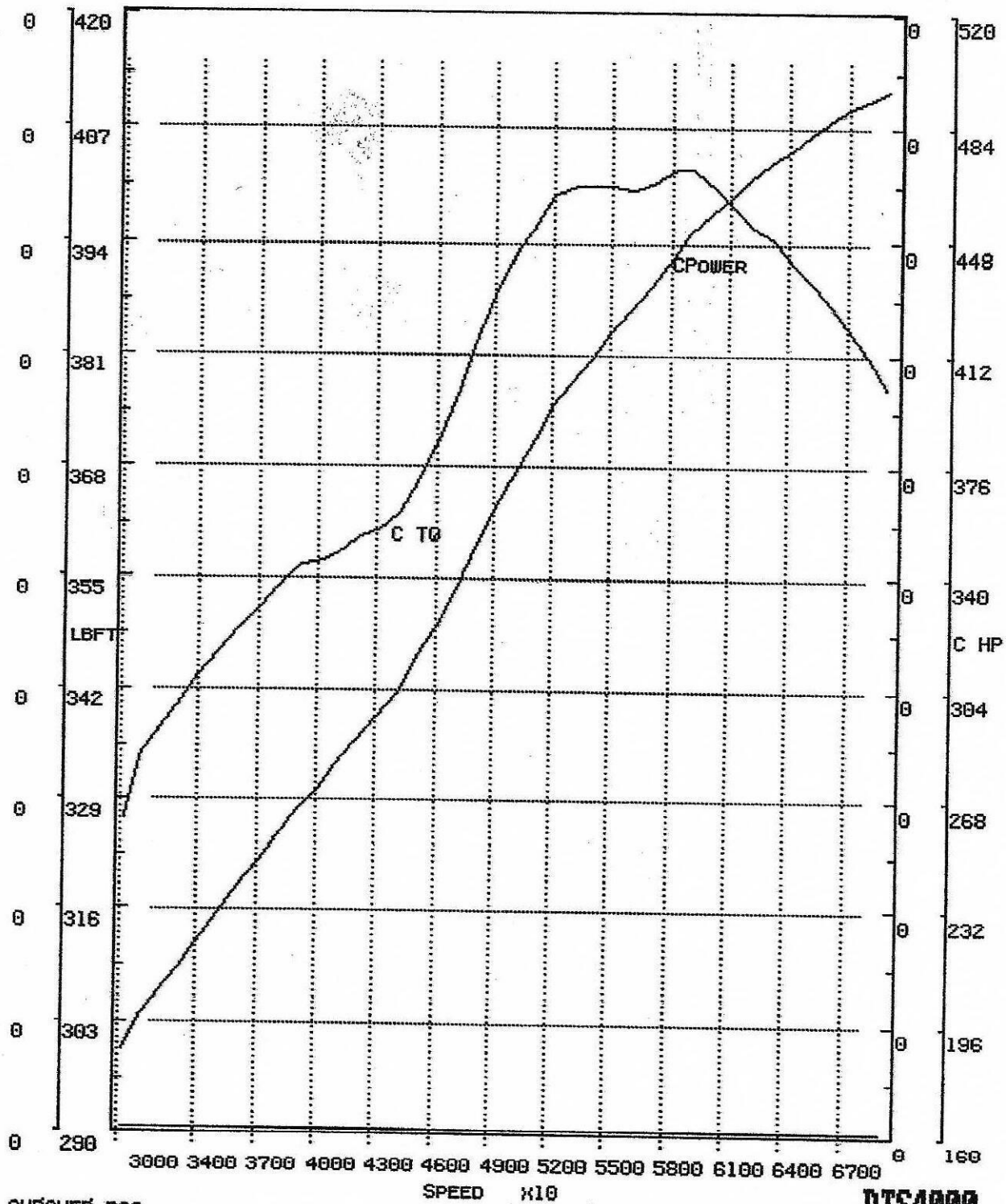
Oil Capacity (oil pan only) 9 QTS.	Anti Freeze 3.8 Gallons	Transmission Fluid 2.5 Pints
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Handy Part Numbers:

Spark Plugs	Oil Filter	Fuel Filter	Distributor Cap	Rotor Button	PCV Valve
Autolite Part # 3924	Ford Performance Parts # CM-6731-FL1A	NAPA# 3033	MSD # for 302/331-8467 for all others -8408	MSD# for 302/331-8423 for all others-8423	NAPA # 9333

Spark Plug Wire Numbers for all engines:

Black	Red	Yellow	Blue
Taylor # 73053	Taylor # 73253	Taylor # 73453	Taylor # 73653



SHROYER.D08

T16:08 D11-07

ENGINE TYPE:331DART CARB/650HP

TIMMING:34.5 JETS 72/72

CUSTOMER:SHROYER HEADS:AFR

0 @

C_TQ 401.99 lbft @5900.

0 @

DTS4000

PERFORMANCE ENGINEERING
2681 MORGAN LANE
ROSS OHIO 45013

Date 11-07-2005 Time 16:09:29

T16:08 D11-07 Engine Type:331DART CARB/650HP
 Timming:34.5 Jets 72/72 Customer:SHROYER Heads:AFR
 Valve Lash .013 hot

FileName : SHROYER.D08
 Mode : A-Sweep

Speed rpm	CPower C_HP	C_TQ lbft	A/F Left	BSFC2 lb/hphr	Water °F	Oil psi	Barom "Hg	RelHum %	C.A.T. °F
3000	186.7	326.8	12.67	.525	147	85.7	29.36	44	71
3100	197.1	334	12.39	.544	147	86.1	29.36	44	71
3200	205.7	337.6	12.36	.525	147	86.5	29.36	44	71
3300	213.9	340.5	12.42	.53	147	86.9	29.36	44	71
3400	222.4	343.6	12.42	.538	145	87.3	29.36	44	71
3500	231.1	346.7	12.43	.539	145	87.7	29.36	44	71
3600	239.6	349.6	12.4	.537	145	88.2	29.36	44	71
3700	247.7	351.6	12.37	.525	145	88.8	29.36	44	71
3800	256.3	354.3	12.48	.524	145	89.3	29.36	44	71
3900	264.7	356.5	12.5	.51	145	89.7	29.36	44	71
4000	271.8	356.9	12.28	.51	145	90.1	29.36	44	71
4100	279.4	357.9	12.26	.513	145	90.3	29.36	44	71
4200	287.5	359.6	12.3	.517	145	90.5	29.36	44	71
4300	295.3	360.7	12.28	.511	145	90.7	29.36	44	71
4400	304	362.8	12.28	.507	145	90.9	29.36	44	71
4500	313.6	366	12.38	.495	145	91.3	29.36	44	71
4600	324.7	370.7	12.42	.495	145	91.7	29.36	44	71
4700	336.8	376.3	12.58	.502	144	92.1	29.36	44	71
4800	349.3	382.2	12.61	.497	144	92.5	29.36	44	71
4900	362	388	12.66	.5	144	92.9	29.36	44	71
5000	374.2	393.1	12.68	.495	144	93.3	29.36	44	71
5100	385	396.4	12.73	.483	144	93.6	29.36	44	71
5200	395.1	399.1	12.85	.488	144	94	29.36	44	71
5300	403.8	400.1	12.78	.495	142	94.4	29.36	44	71
5400	411.3	400	12.89	.503	142	94.8	29.36	44	71
5500	419	400.1	12.94	.499	142	94.9	29.36	44	71
5600	426.1	399.6	12.86	.494	142	95.1	29.36	44	71
5700	434.9	400.8	12.93	.488	142	95.1	29.36	44	71
5800	443.8	401.9	13.13	.493	140	95.3	29.36	44	71
5900	451.6	402	13.12	.49	140	95.5	29.36	44	71
6000	457.2	400.2	13.01	.493	140	95.7	29.36	44	71
6100	462.3	398	13.03	.499	140	95.8	29.36	44	71
6200	467.3	395.8	13.18	.504	139	95.9	29.36	44	71
6300	472.9	394.3	13.06	.515	138	95.9	29.36	44	71
6400	477.3	391.7	12.93	.52	138	95.9	29.36	44	71
6500	481.8	389.3	12.96	.512	137	95.6	29.36	44	71
6600	486.2	386.9	12.88	.515	136	95.4	29.36	44	71
6700	489.5	383.7	12.86	.519	136	95.3	29.36	44	71
6800	492.3	380.3	12.74	.515	136	94.8	29.36	44	71
6900	495.1	376.8	12.75	.512	135	94.4	29.36	44	71
7000	498.6	374.1	12.69	.521	135	93.7	29.36	44	71

PERFORMANCE ENGINEERING
2681 MORGAN LANE
ROSS OHIO 45013

Date 11-08-2005 Time 14:25:06

T14:24 D11-08 Engine Type:331DART CARB/650HP
 Timming:34.5 Jets 72/72 Customer:SHROYER Heads:AFR
 Valve Lash .013 hot Melling std.

FileName : SHROYER.D13
 Mode : A-Sweep

Speed rpm	CPower C_HP	C_TQ lbft	A/F Left	BSFC2 lb/hphr	Water °F	Oil psi	Barom "Hg	RelHum %	C.A.T. °F
3000	184.6	323.2	12.52	.501	166	66.1	29.37	64	74
3100	195.8	331.7	12.25	.529	166	66.4	29.37	64	74
3200	204.9	336.3	12.07	.517	166	67	29.37	64	74
3300	213.3	339.4	12.25	.537	166	67.6	29.37	64	74
3400	221.6	342.3	12.33	.536	166	67.9	29.37	64	74
3500	230.8	346.4	12.38	.54	166	68.1	29.37	64	74
3600	239.8	349.8	12.38	.524	166	68.3	29.37	64	74
3700	248.2	352.4	12.25	.528	166	68.7	29.37	64	74
3800	256.9	355	12.28	.52	166	69.1	29.37	64	74
3900	264.2	355.7	12.22	.525	166	69.7	29.37	64	74
4000	271.1	355.9	12.18	.514	166	70.1	29.37	64	74
4100	278.5	356.8	12.13	.514	166	70.5	29.37	64	74
4200	285.5	357	12.1	.522	166	70.7	29.37	64	74
4300	293.1	357.9	12.04	.52	166	71	29.37	64	74
4400	301.5	359.9	12.01	.512	163	71.2	29.37	64	74
4500	311.6	363.7	12.02	.511	163	71.4	29.37	64	74
4600	323.3	369.1	12.09	.501	163	71.6	29.37	64	74
4700	335.6	375	12.21	.508	163	71.9	29.37	64	74
4800	348.6	381.5	12.39	.503	163	72.1	29.37	64	74
4900	361	386.9	12.47	.505	163	72.3	29.37	64	74
5000	373.4	392.2	12.56	.51	163	72.6	29.37	64	74
5100	384	395.5	12.55	.503	163	72.9	29.37	64	74
5200	393.2	397.1	12.56	.501	163	73.1	29.37	64	74
5300	401.9	398.2	12.69	.499	162	73.3	29.37	64	74
5400	410.1	398.8	12.68	.5	162	73.5	29.37	64	74
5500	418.2	399.3	12.68	.5	162	73.7	29.37	64	74
5600	425	398.6	12.7	.492	162	73.8	29.37	64	74
5700	432.2	398.2	12.78	.494	162	73.9	29.37	64	74
5800	440.3	398.7	12.88	.491	162	74.1	29.37	64	74
5900	447	397.9	12.84	.5	160	74.2	29.37	64	74
6000	453.6	397.1	12.88	.498	160	74.3	29.37	64	74
6100	459.8	395.9	12.97	.506	160	74.1	29.37	64	74
6200	465.2	394.1	12.96	.511	160	74	29.37	64	74
6300	469.6	391.4	12.87	.522	158	73.8	29.37	64	74
6400	473.2	388.3	12.81	.52	158	73.6	29.37	64	74
6500	478	386.2	12.74	.514	158	73.5	29.37	64	74
6600	482.7	384.1	12.66	.499	158	73.3	29.37	64	74
6700	485.9	380.9	12.7	.5	156	73.3	29.37	64	74
6800	489.2	377.8	12.62	.511	156	73.3	29.37	64	74
6900	492.9	375.2	12.51	.521	156	73.3	29.37	64	74
7000	496.3	372.3	12.42	.516	155	73	29.37	64	74

[Average data]

2681 Morgan Lane
 Ross, Ohio. 45013
 Phone (513) 738-5001
 Fax (513) 738-5006

Date	Invoice #
11/8/2005	1156

Bill To
Kirk Shroyer 21073 Tyee Road Mount, Vernon. WA. 98274

Ship To
Dynamic Motorsports 280 Greg Street Unit 2 Reno, NV. 89502

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
VERBAL	Due on receipt		11/8/2005			
Quantity	Item Code	Description			Price Each	Amount
1	PARTS	302-331 C.I.D Engine package with custom 3 inch. I.D. side pipes ceramic coated silver			10,000.00	10,000.00T
2	LABOR	Shop labor to remove and replace oil pump.			65.00	130.00T
1	PARTS	Fel-Pro oil pan gasket			29.75	29.75T
9	FLUIDS	20 W 50 oil			2.79	25.11T
1	PARTS	10,000 RPM clutch and flywheel and kit			895.00	895.00T
1	SHIPPING	Shipping on clutch and flywheel kit			31.70	31.70T
1	PARTS	Updated throw out bearing			75.00	75.00T
1	PARTS	302 expansion tank bracket			45.00	45.00T
	CREDIT	credit for flywheel			-225.00	-225.00
	DEPOSIT	Pre paid deposit			-6,000.00	-6,000.00
		Out-of-state sale, exempt from sales tax			0.00%	0.00

Thank you for choosing Performance Engineering, LLC

Total

\$5,006.56

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◆
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Sunday Closed

Low horsepower engine dyno sheets.

PERFORMANCE ENGINEERING
2681 MORGAN LANE
ROSS OHIO 45013

Time : 14:44:40
INF=1.39 Mode : A-Sweep

T10:53 D01-26
Timing :43

Jets :STOCK

Engine Type:302

Speed rpm	Torque lbft	Power HP	CPower C_HP	C_TO lbft	A/F Left	Water °F	Oil °F	Oil psi
3000	279	160.6	181.3	297.6	12.1	160	72	87.1
3000	279	160.6	181.3	297.6	12.1	160	72	87.1
3100	281.4	165.8	186.8	300.1	12.1	160	72	87.5
3200	282.2	171.7	192.8	300.6	11.8	160	72	88
3300	283.2	177.8	199.4	301.7	11.7	160	72	88.4
3400	284.3	183.9	206	303.1	11.8	160	72	88.9
*3500	285.7	190.2	212.7	304.6	11.9	160	72	89.4
*3600	286.8	196.8	219.7	305.8	12	160	72	90
3700	286.9	202.3	225.7	305.9	11.9	160	72	90.6
3800	286.2	207	230.7	305.2	11.8	160	72	91
3900	285.4	211.9	236	304.4	11.8	160	72	91.5
4000	284.9	217.1	241.6	303.9	11.8	161.5	72	92
4100	285.3	222.9	247.7	304.3	11.9	162	72	92.7
4200	286.6	229.4	254.7	305.7	11.8	162	72	93.4
4300	287.9	235.6	261.3	307	12	162	72	94.3
4400	289.6	242.7	268.8	308.8	11.9	162	72	95.3
4500	290.9	249.6	276.2	310.2	12.2	162	72	96.4
4600	291.1	254.9	281.8	310.4	12.2	162	72	98
4700	290.2	259.6	286.8	309.5	12.2	162	72	99.4
4800	287.7	262.8	290.4	306.9	12.3	162	73.7	100.9
4900	285.6	266.4	294.3	304.8	12.2	162	73	101.7
5000	283.5	270	298.3	302.7	12.2	162	72	103.3
5100	280.7	272.5	301.1	299.9	12.4	162	72	104.4
5200	278.5	276.3	305.3	297.6	12.2	162	72	106
5300	275.8	278.3	307.5	294.9	12.1	162	72	108.2
5400	272	279.2	308.7	291	12.2	162	72	109.7
5500	268.5	281.6	311.4	287.4	12.1	162	72	111.1
5600	265.5	283	313.1	284.4	12.4	162	72	112.7
5700	262	284.4	314.9	280.8	12	162	72	109.6
5800	258.6	285.2	315.9	277.3	12.2	162.9	72	106.5
5900	255.3	287.7	318.8	274	12	163	72	111

Average data in * band

3550 286.25 193.5 216.28 305.22 11.95 160 72 89.7

