

Lotus 47/GT/09

Lotus Twin Cam engine # 9445

1600cc displacement

Bore = 3.2933" (83.65 mm)

Stroke = 2.8640" (72.746 mm)

Rod length = 5.230" (Narrow, 0.932", big end width)

J.E. domed pistons

Compression ratio = 13.6:1

Input cam: Megacycle Cams # 90189

Lift = 0.520"

Intake open = 31.5° BTDC (measured at 0.050")

Intake close = 59.0° ABDC (measured at 0.050")

Duration = 270.5° (measured at 0.050") (31.5°+59.0°+180°)

LOC = 103.75° ((duration / 2) - 31.5°)

Intake lash = 0.010"

Exhaust cam: Megacycle Cams # 90086

Lift = 0.465"

Exhaust open = 56.75° BBDC (measured at 0.050")

Exhaust close = 27.75° ATDC (measured at 0.050")

Duration = 264.5° (measured at 0.050") (56.75°+27.75°+180°)

LOC = 104.5° ((duration / 2) - 27.75°)

Exhaust lash = 0.012"

Lucas mechanical fuel injection

Timed at 40 degrees BTDC coming up to start the intake stroke,
(per Kinsler Fuel Injection, Inc., "Adjusting the Metering Unit").

Idle shuttle stroke = 0.008"

WOT shuttle stroke = 0.080"

Ignition:

Lucas AB14 ignition module.

MSD Ignition Soft Touch rev limiter PN 8728.

Timing set to 36 degrees.

Transaxle

Hewland FT200

Final drive ratio = 3.444:1 (31/9)

1st gear = 2.917:1 (35/12)

2nd gear = 2.429:1 (34/14)

3rd gear = 1.938:1 (31/16)

4th gear = 1.667:1 (30/18)

5th gear = 1.444:1 (26/18)

MEGACYCLE CAMS

90 MITCHELL BLVD. SAN RAFAEL, CA 94903 (415) 472-3195

TIMING CARD

MAKE & MODEL: LOTUS TWIN CAM

CAM # 90086

TIMING AT .040" LIFT AT VALVE
TIMING CHECKED WITH ZERO CLEARANCE
(see running clearance - lash below)

	INTAKE	EXHAUST
OPEN:	33° BTC	65° BBC
CLOSE:	57° ABC	25° ATC
VALVE LIFT:	.465"	.465"
DURATION:	270°	270°
LOBE CENTER:	102°	110°
LASH or RUNNING CLEARANCE (cold)	.008"	.010"

SPECIAL INSTRUCTIONS

1/9/18

SCAN TO email

laurn@ssctv.net

Lauren Langhofer

T.D.C. LIFT WITH LASH

intake .181"

exhaust .140"

At stated Lobe centers

MEGACYCLE CAMS

90 MITCHELL BLVD. SAN RAFAEL, CA 94903 (415) 472-3195

TIMING CARD

MAKE & MODEL: Lotus Twincam

CAM # 90189 COMBINATION .520/277° intake

$\phi . \phi 50$ "

TIMING AT .040" LIFT AT VALVE
TIMING CHECKED WITH ZERO CLEARANCE
(see running clearance - lash below)

90189
INTAKE

90086
EXHAUST

OPEN:	31.5° BTC	56.75° BBC
CLOSE:	59° ABC	27.75° ATC
VALVE LIFT:	.520"	.465"
DURATION:	270° @ $\phi . \phi 50$ "	264.5° @ $\phi . \phi 50$ "
LOBE CENTER:	103.75°	104.5°
LASH or RUNNING CLEARANCE (cold)	.016"	.012"

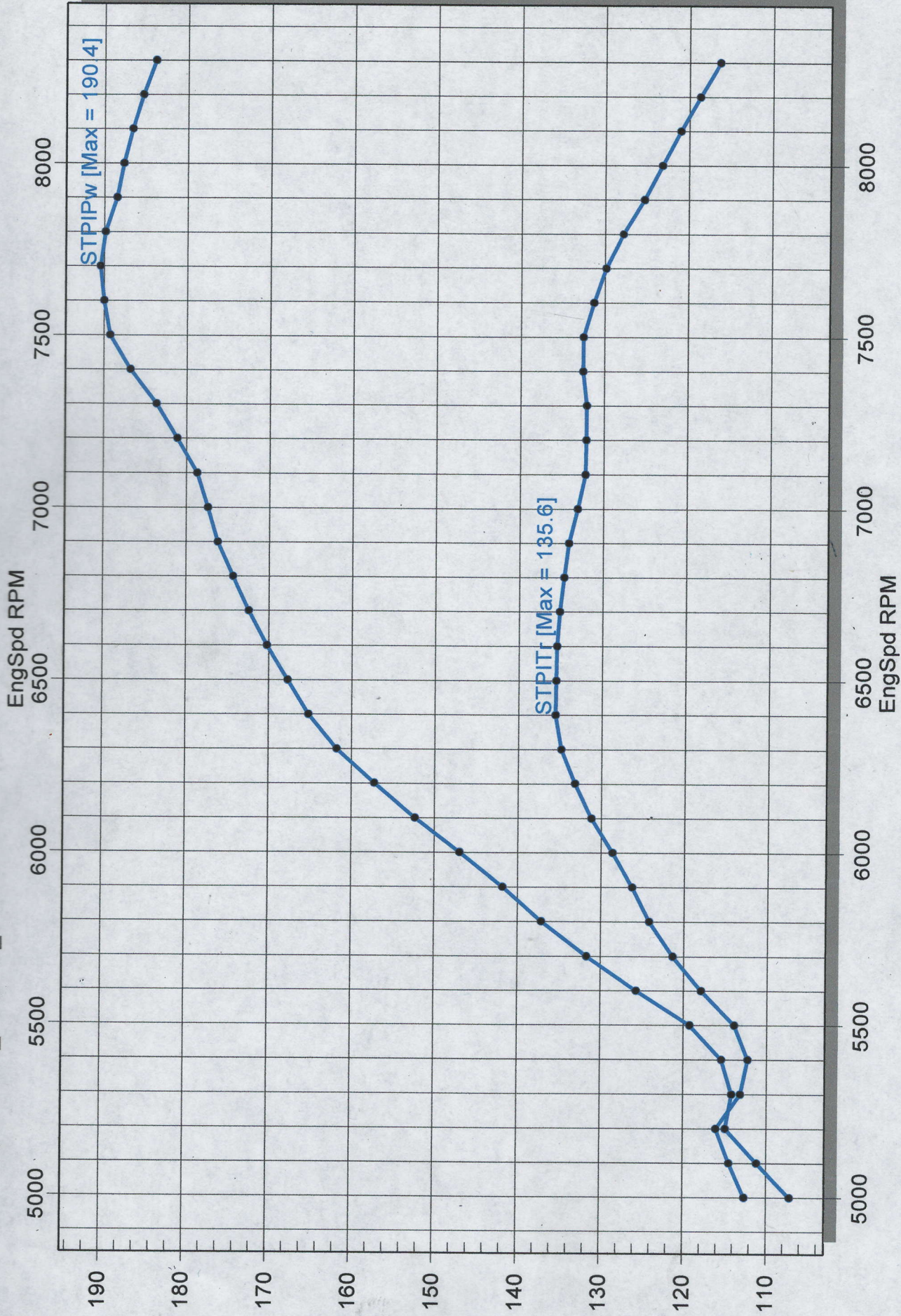
SPECIAL INSTRUCTIONS

TDC LIFT	Intake	eXH
102° LC	.209"	.211"
104° LC	.199"	.200"
106° LC	.189"	.188"
108° LC	.179"	.178"
110° LC	.169"	.167"
112° LC	.158"	.156"

STP J-607 Corrected Power with Interia Correlation

Jay Embree_Lotus 47_11,

Jay Embree_Lotus 47_11



Huffaker Engineering, Inc.

29601 Arnold Dr

Sonoma, CA 95476

707.935.0533

www.HuffakerEngineering.com

"STP J-607 Corrected Power with Interia Correlation" from test Jay Embree_Lotus 47_11.sfd

Test Information:

File name: Jay Embree_Lotus 47_11.sfd (HuffDTS.cfa)

Data page: STP J-607 Corrected Power with Interia Correlation - 34 lines total

Tested on:

Test Description:

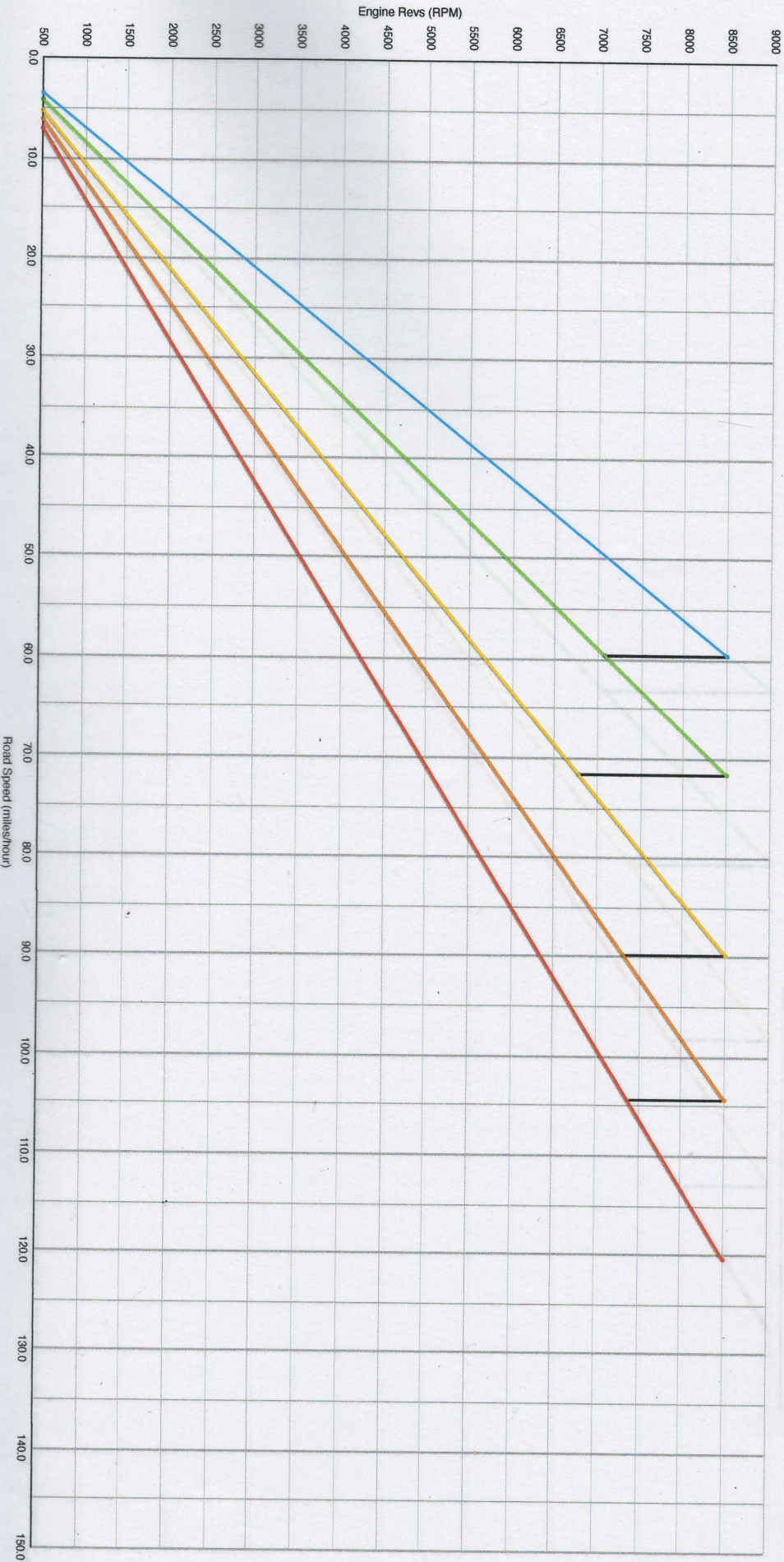
Timing 36 deg Fuel middle

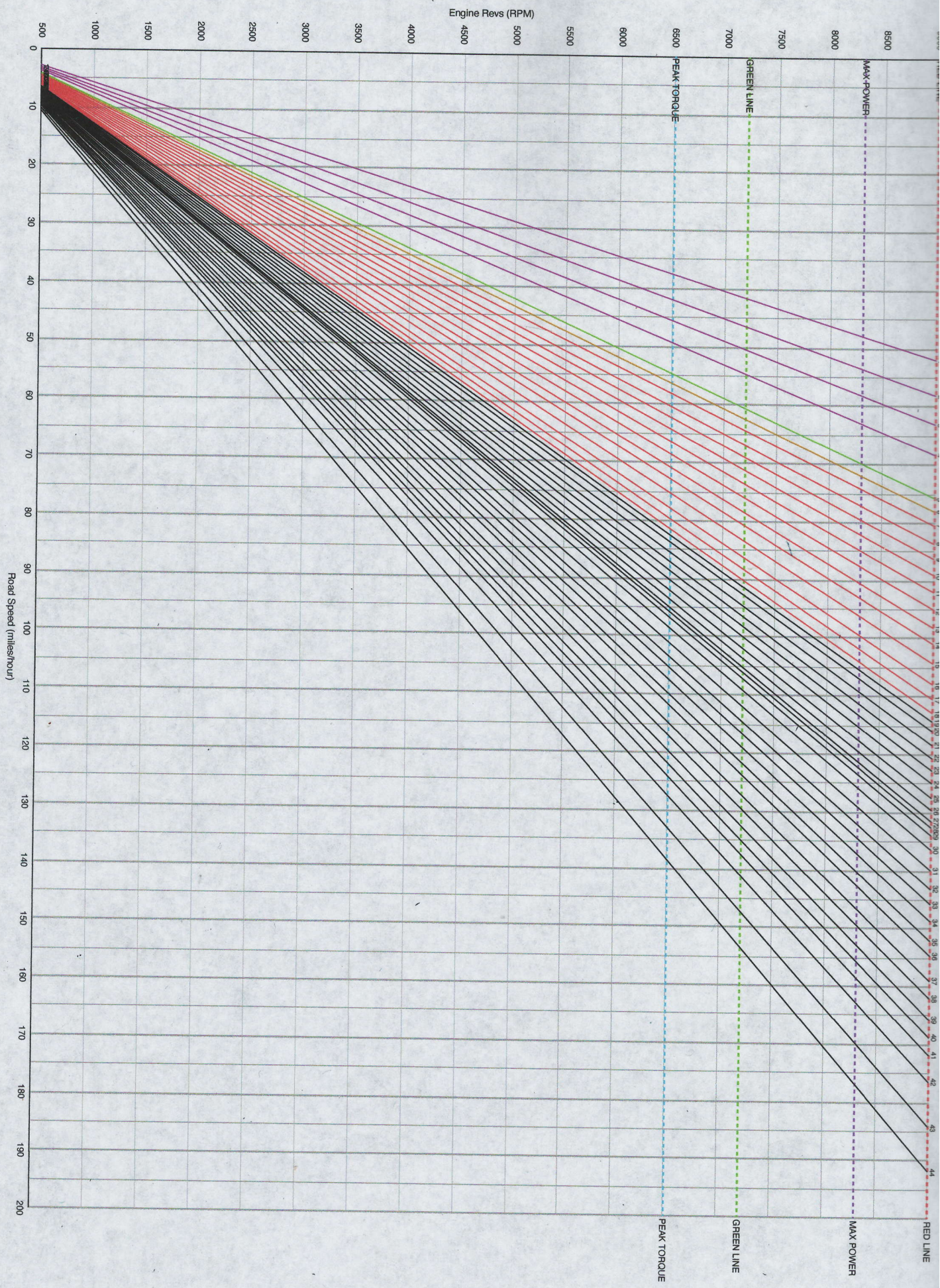
EngSpd RPM	STPIPw CHp	STPITr Cib-ft	LamAF1 ratio	LamAF2 vdc	FulSum lbs/hr	AirSum SCFM	BSAC lb/hph	BSFC lb/hph
5,000	107.2	112.6	11.6	10.0	48.3	0	0.00	0.474
5,100	111.1	114.5	11.6	10.0	51.5	0	0.00	0.505
5,200	114.9	116.1	11.5	10.0	53.8	0	0.00	0.514
5,300	114.2	113.1	11.2	10.0	55.6	0	0.00	0.541
5,400	115.4	112.3	11.2	10.0	57.6	0	0.00	0.560
5,500	119.3	113.9	11.3	10.0	59.6	0	0.00	0.561
5,600	125.7	117.9	11.5	10.0	60.8	0	0.00	0.540
5,700	131.7	121.3	11.7	10.0	61.5	0	0.00	0.521
5,800	137.1	124.2	12.0	10.0	63.1	0	0.00	0.510
5,900	141.8	126.3	12.2	10.0	64.6	0	0.00	0.506
6,000	147.0	128.7	12.5	10.0	65.9	0	0.00	0.498
6,100	152.4	131.2	12.8	10.0	67.4	0	0.00	0.490
6,200	157.3	133.2	13.1	10.0	68.4	0	0.00	0.482
6,300	161.8	134.9	13.2	10.0	69.3	0	0.00	0.473
6,400	165.2	135.6	13.2	10.0	71.5	0	0.00	0.478
6,500	167.7	135.5	13.1	10.0	74.9	0	0.00	0.494
6,600	170.2	135.5	13.0	10.0	78.2	0	0.00	0.509
6,700	172.4	135.2	13.0	10.0	79.5	0	0.00	0.509
6,800	174.4	134.7	13.0	10.0	80.0	0	0.00	0.507
6,900	176.2	134.1	12.9	10.0	82.2	0	0.00	0.517
7,000	177.4	133.1	12.9	10.0	83.9	0	0.00	0.523
7,100	178.7	132.2	13.0	10.0	85.3	0	0.00	0.529
7,200	181.1	132.1	13.1	10.0	86.6	0	0.00	0.531
7,300	183.6	132.1	13.3	10.0	87.4	0	0.00	0.529
7,400	186.8	132.6	13.5	10.0	87.0	0	0.00	0.516
7,500	189.3	132.5	13.6	10.0	87.3	0	0.00	0.509
7,600	190.0	131.3	13.6	10.0	88.8	0	0.00	0.517
7,700	190.4	129.9	13.6	10.0	89.5	0	0.00	0.520
7,800	189.9	127.8	13.5	10.0	89.8	0	0.00	0.523
7,900	188.5	125.3	13.4	10.0	91.0	0	0.00	0.536
8,000	187.7	123.2	13.3	10.0	92.4	0	0.00	0.548
8,100	186.7	121.0	13.2	10.0	94.0	0	0.00	0.560
8,200	185.4	118.7	13.1	10.0	95.5	0	0.00	0.575
8,300	183.9	116.3	12.9	10.0	96.6	0	0.00	0.587

Lotus 47 - Hewland FT2000 Gearing

1st	RPM	2nd	RPM	3rd	RPM	4th	RPM	5th	RPM	1st Gear Upsplit Speed	2nd Gear Upsplit RPM	2nd Gear Upsplit Speed	3rd Gear Upsplit RPM	3rd Gear Upsplit Speed	4th Gear Upsplit RPM	4th Gear Upsplit Speed	5th Gear Upsplit RPM
3.5	500	4.2	500	5.3	500	6.1	500	7.1	500	59.6	8500	71.6	8500	89.8	8500	104.4	8500
58.6	8500	71.6	8500	89.8	8500	104.4	8500	120.4	8500	59.6	7078	71.6	6781	89.8	7312	104.4	7367
		Ratio						Slope				Downshift RPM					
The Diameter (inches)		23.7															
Final Drive Ratio:		9		31		3.4444											
1st Gear		12		35		2.9167		500		3.5		8500		59.6			
2nd Gear		14		34		2.4286		500		4.2		8500		71.6		118.7	
3rd Gear		16		31		1.9375		500		5.3		8500		89.8		94.7	
4th Gear		18		30		1.6667		500		6.1		8500		104.4		81.4	
5th Gear		18		26		1.4444		500		7.1		8500		120.4		70.6	

Note: Gearing changed October 2017.





Final Drive Ratio

Max 1000		9000		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500		500	
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