CURVE SHEETS

8:4405 120

ENG. 1969 CHEVY Z-28 BORE 4.00 STR. 3.00 DISP. 302 CU. IN.
ENG. COND. CLEAN
CAMSHAFT Z-28 MECH I.O. @ 109° ATC C.R. 11:1 NOM. 10.8:1 ACT
MANIFOLD Z-28 ALUMINUM INT., CAMARO EXH, NO HEAT VALVE
AIR CLNR. NONE FUEL MS 3900G
CARB. 800 CFM Z-28 HOLLEY 4BBL
DIST. SLOPE SET MAX POWER PLUGS J4
OBJECT:

TEST NO. 4225
RUN NO 12
DATE MAR 1970
DYN. NO.
OPER.

* STD CAR OIL PAN W/ WINDAGE TRAY

1969 Z-28 COLD BARE GROSS *

FORM 84-42-1-64

POWER DATA CORRECTED TO SAE STANDARD CONDITIONS

TORQUE LB-FT

BRAKE HORSEPOWER

SPARK ADVANCE

ENG. R.P.M. HUNDREDS

TORQUE

HP

SPARK ADVANCE

B.S.F.C.

MANIFOLD VAC.

FRICTION HORSEPOWER

CORR. FACTOR

AVI. VAPOR PRESS

AVI. BAROMETER

6,100, TQ = 276, HP = 320.6
6,200, TQ = 272, HP = 321.1 — PEAK HP @ 6,200
6,300, TQ = 267, HP = 320.2

(1)

FUEL/AIR MIXTURE VARIATI(

ANALYZER NO. _____

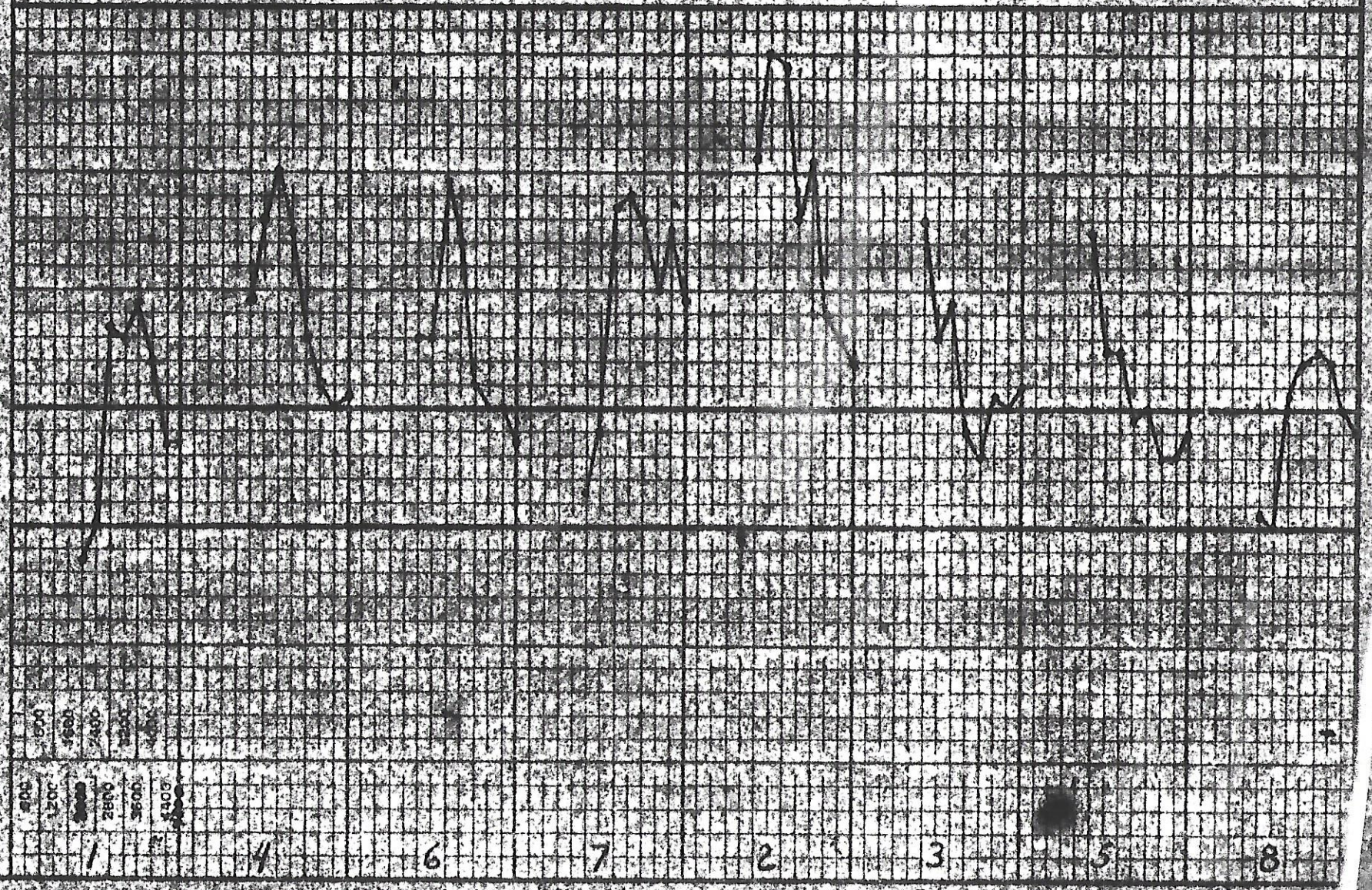
OPERATOR	ROOM
	43
ENGINEER	

ENG. 1969 Z28 CHEVY TEST NO. 4225 RUN NO. 11 DATE MAR 1970 CAMSHAFT STD J.O.

MANIFOLDS Z-28 COLD ALUMINUM INT; CAMARO EXH.

CARBURETOR Z-28 800 CFM HOLLEY 4661 - FIXED JET AIR CLEANER NONE

OBJECT: COLD BARE GROSS



4765-120

ENG. 1969 CHEVY Z-28 BORE 4.00 STR. 3.00 DISP. 302 CU.
ENG. COND. CLEAN FOR RUN 12
CAMSHAFT Z-28 MECH I.O @ 109° ATC C.R. 11:1 NOM. 10.8:1 ACT
MANIFOLD Z-28 ALUMINUM INT.; CAMARO EXH., NO HEAT VALVE
AIR CLNR. Z-28 UNSILENCED FUEL MS3900G
CARB. 800 CFM Z-28 HOLLEY 4BBL PLUGS J4
DYNO. SLOPE SET MAX. POWER
OBJECT.

RUN 4225
DATE MAR 1970
DYN. NO
OPER

* STD CAR OIL PAN W/WINDAGE TRAY

1969 Z-28 LABORATORY GROSS*

60 62 64 66 68 70 72 74

6,100, TQ = 273, HP = 317.1
6200, TQ = 270, HP = 318.7
6300, TQ = 266 HP = 319.1 — PEAK HP

TORQUE

BHP

SPARK

FHP

SOF C

MFUDIVAC

POWER DATA CORRECTED TO S.A.E. STANDARD CONDITIONS

TORQUE LB. FT.

BHP

SPARK ADVANCE

FRICTION HORSE POWER

ENG. R.P.M. HUNDREDS

CORR. FACTOR 1065-1095

AV. VAPOR PRESS .20

AV. BAROMETER 28.76

FUEL/AIR MIXTURE VARIATIC

ANALYZER NO. _____

OPERATOR	ROOM
ENGINEER	

4405,120

ENG 1969 Z-28 CHEVY TEST NO. 4225 RUN NO. 17 DATE MAR 1970 CAMSHAFT Z-28 MECH. .6 & 109° INT.

MANIFOLDS Z-28 ALUMINUM INT.; CAMARO EXH.

CARBURETOR Z-28 800 CFM HOLLEY 4661 AIR CLEANER Z-28 UNSILENCED

OBJECT: LABORATORY GROSS



(4)

4225-12

ENG. 1969 CHEVY Z-28 BORE 4.00 STR. 3.00 DISP 302 CU. IN.
ENG COND. CLEAN AT RUN NO. 12
CAMSHAFT Z-28 MECH I.O. 109° L.A. TC C.R. 11:1 NOM 10.8:1 ACT
MANIFOLD Z-28 ALUMINUM INT.; CAMARO EXH, NO HEAT VALVE
AIR CLNR. Z-28 UNSILENCED FUEL MJ3900G
RB. 800 CFM / Z-28 HOLLEY 4 BBL
DIST SLOPE Z-28 SET 4° BTC BASIC PLUGS J 4
OBJECT:

TEST NO. 4225
RUN NO. 15
DATE MAR 1970
DYN NO.
OPER.

1969 - Z 28 FULL NET

EXHAUST: DUAL WITH SINGLE TRANSVERSE MUFFLER
EXHAUST PIPES - 2 1/4 DIA
MUFFLER - 2 1/4 DIA INLET
2" DIA OUTLET } SINGLE TRANSVERSE
TAILPIPES - 2" DIA

FAN: 18 DIA, 7 BLADE, 2 P.H.
BELT DRIVE, 11 1/4 DIA
0.93 : 1 RATIO

OIL PAN: STD CAMARO W/BAFFLES AND MINIMAL TRAY

TORQUE - LB. FT.
B.H.P.
SPARK ADVANCE
EXHAUST BACK PRESS - IN. HG.
FRICTION HORSEPOWER (FHP ÷ 10)

TORQUE
BHP
EXHAUST BACK PRESS
SPARK ADVANCE
BTC
EFHP
B. HORSEPOWER

CORR. FACTOR (SAE) 1.096
AV. VAPOR PRESS .24
AV. BAROMETER 29.00

ENG. R.P.M. - HUNDREDS

POWER DATA CORRECTED TO SAE STANDARD CONDITIONS

4463-120

ENG. CHEVROLET Z-28 BORE 4.00 STR. 3.00 DISP. 302 CU. IN.
ENG. COND. CLEAN FOR RUN 12
CAMSHAFT STD. MECHANICAL I.A. 109° C.R. 10.8:1
MANIFOLD STD. ALUMINUM 4 BBL. FUEL MS3900G
AIR CLNR. STD. Z-28
RB. HOLLEY DUAL FEED PLUGS J-4
DIST. SLOPE Z-28 SET NET - 4° BTC
GROSS - MAX. POWER
OBJECT:

TEST NO. 4225
RUN NO. BELOW
DATE 1/28/70 - 2/3/70
DYN. NO. 43
OPER CHARNEY JBR

(6)

CHEVY Z-28 RATING BREAKDOWN

RUN	TEST
12	COLD BARE GROSS
13	HOT BARE GROSS
17	LABORATORY GROSS
18	FULL NET LESS FAN & CAR EXHAUST
R16	FULL NET LESS FAN
15	FULL NET

POWER DATA CORRECTED TO S.A.E. STANDARD CONDITIONS

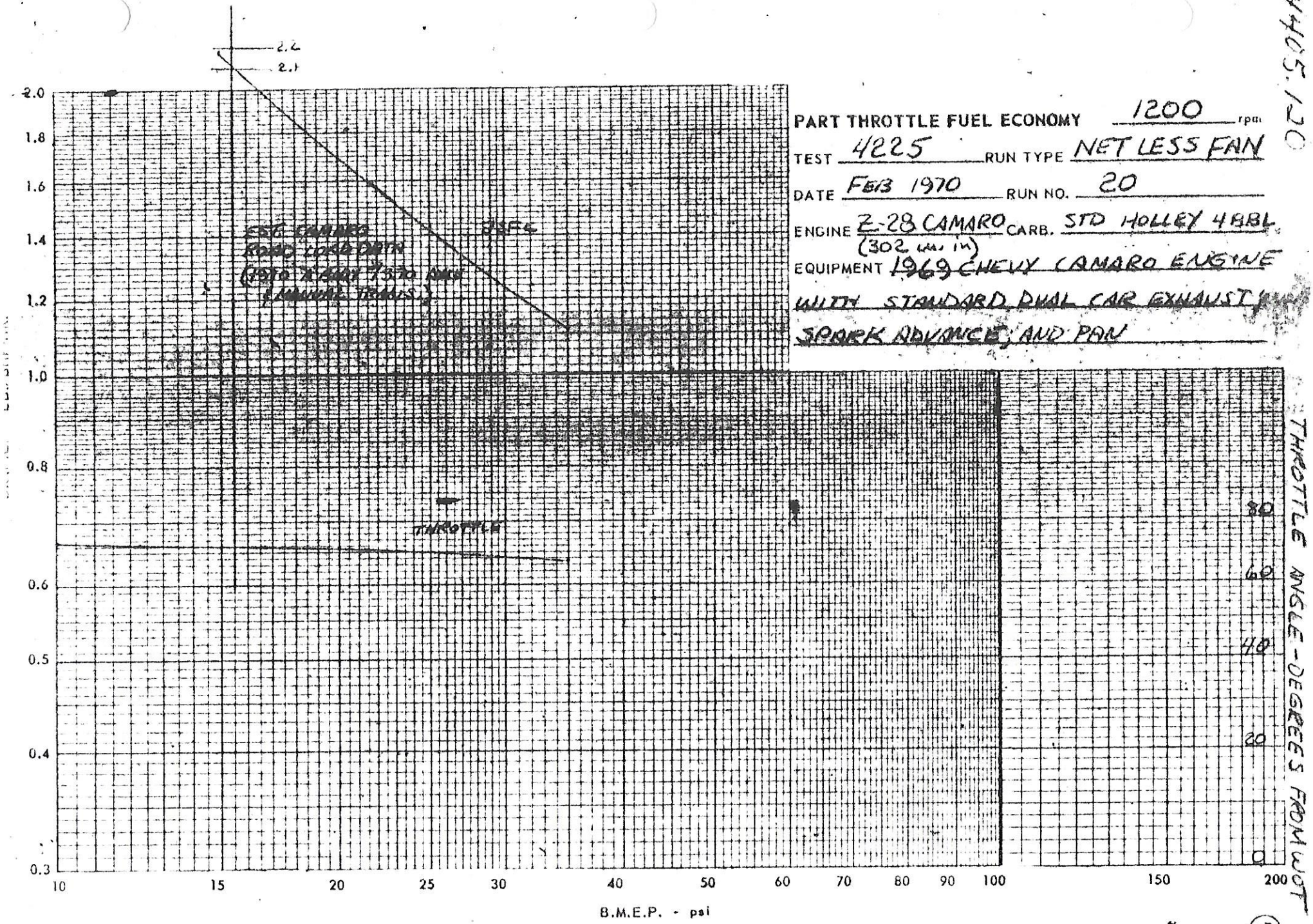
B.M.E.P. M.E.F.F. TORQUE LB FT H.P. SPARK ADVANCE

EXHAUST BACK PRESSURE
RUN R16
LEFT
RIGHT

CORR. FACTOR
AV. VAPOR PRESS
AV. BAROMETER

ENG. R.P.M. HUNDREDS

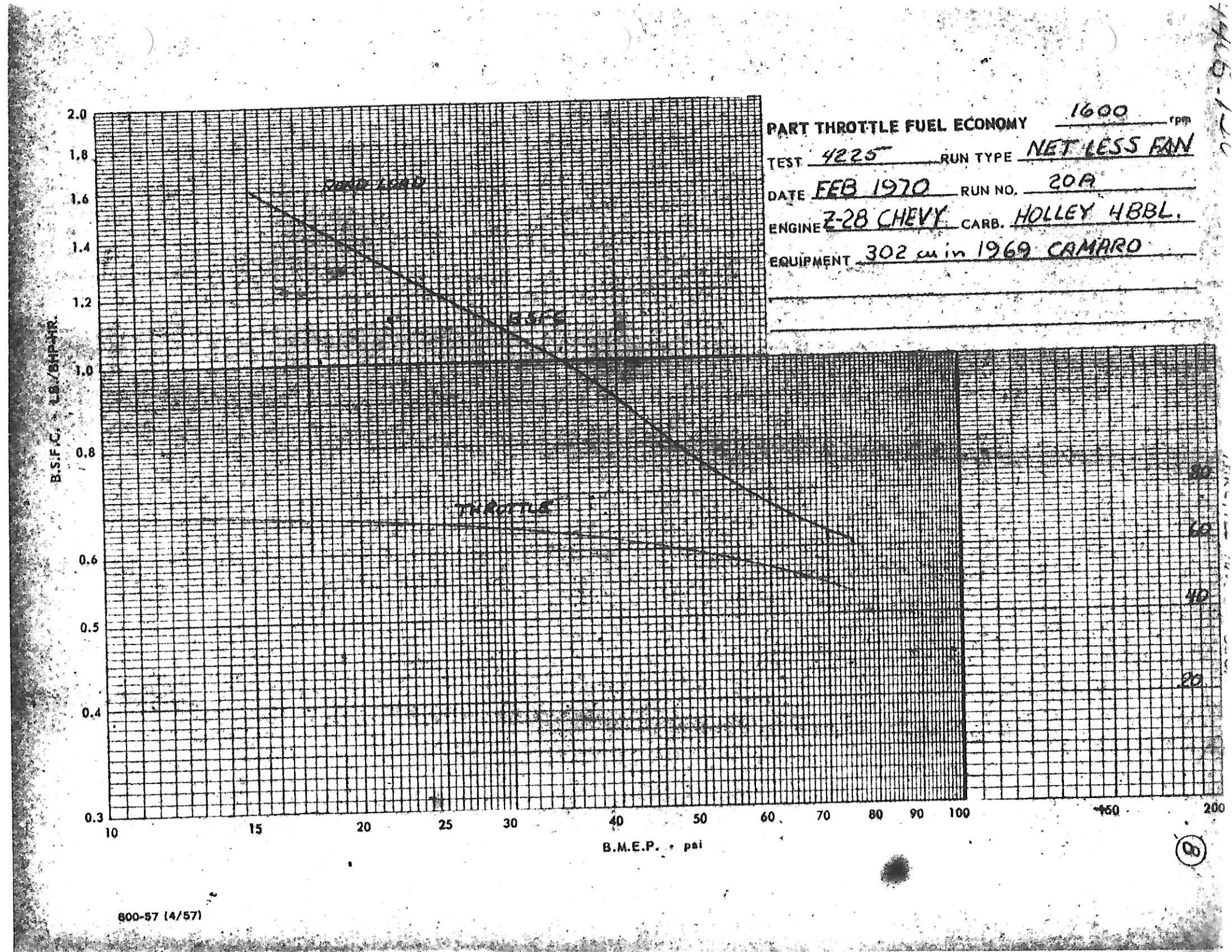
EXHAUST BACK PRESSURE - IN. HG.

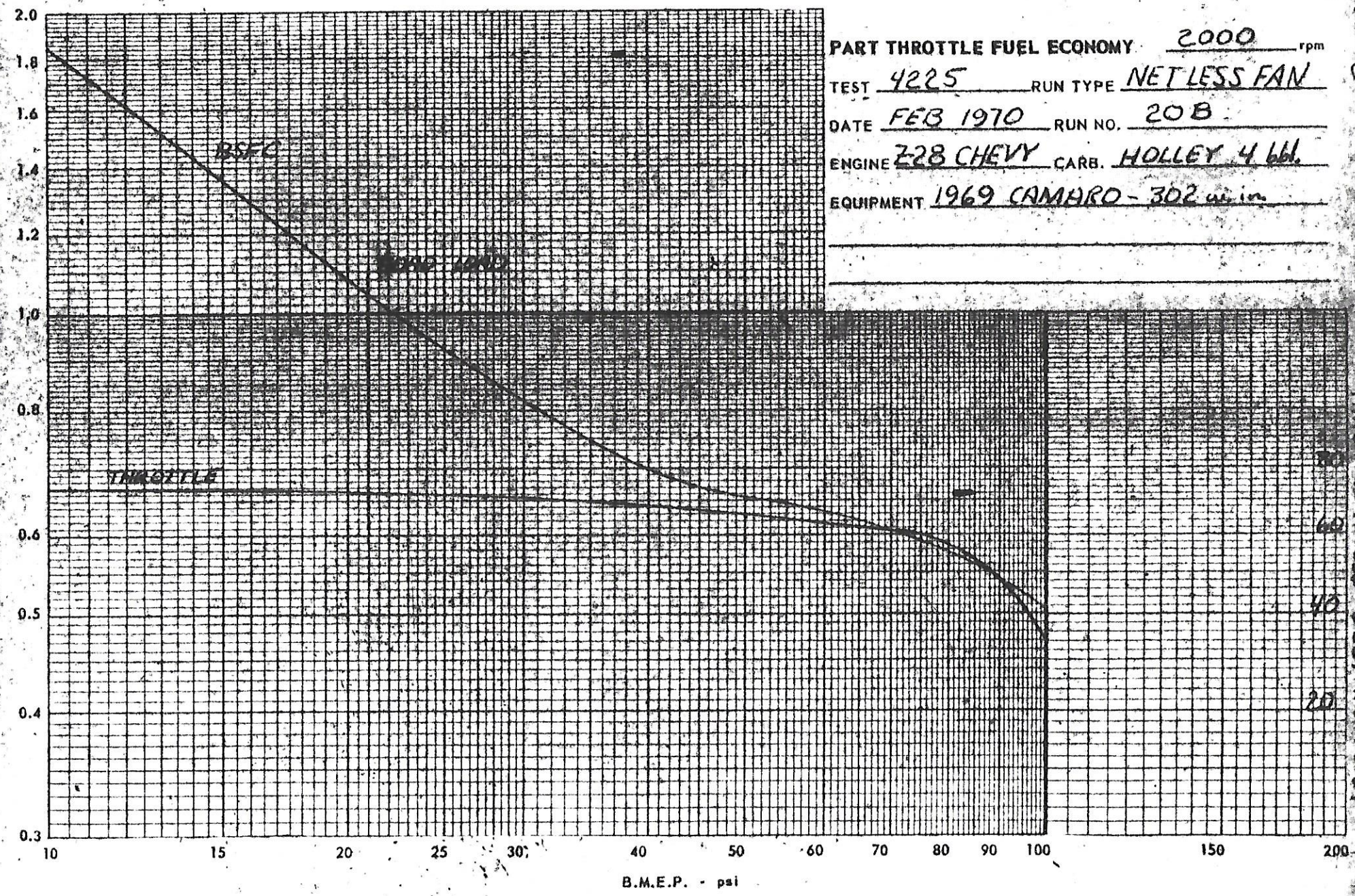


4405.120

(7)

800-57 (4/57)

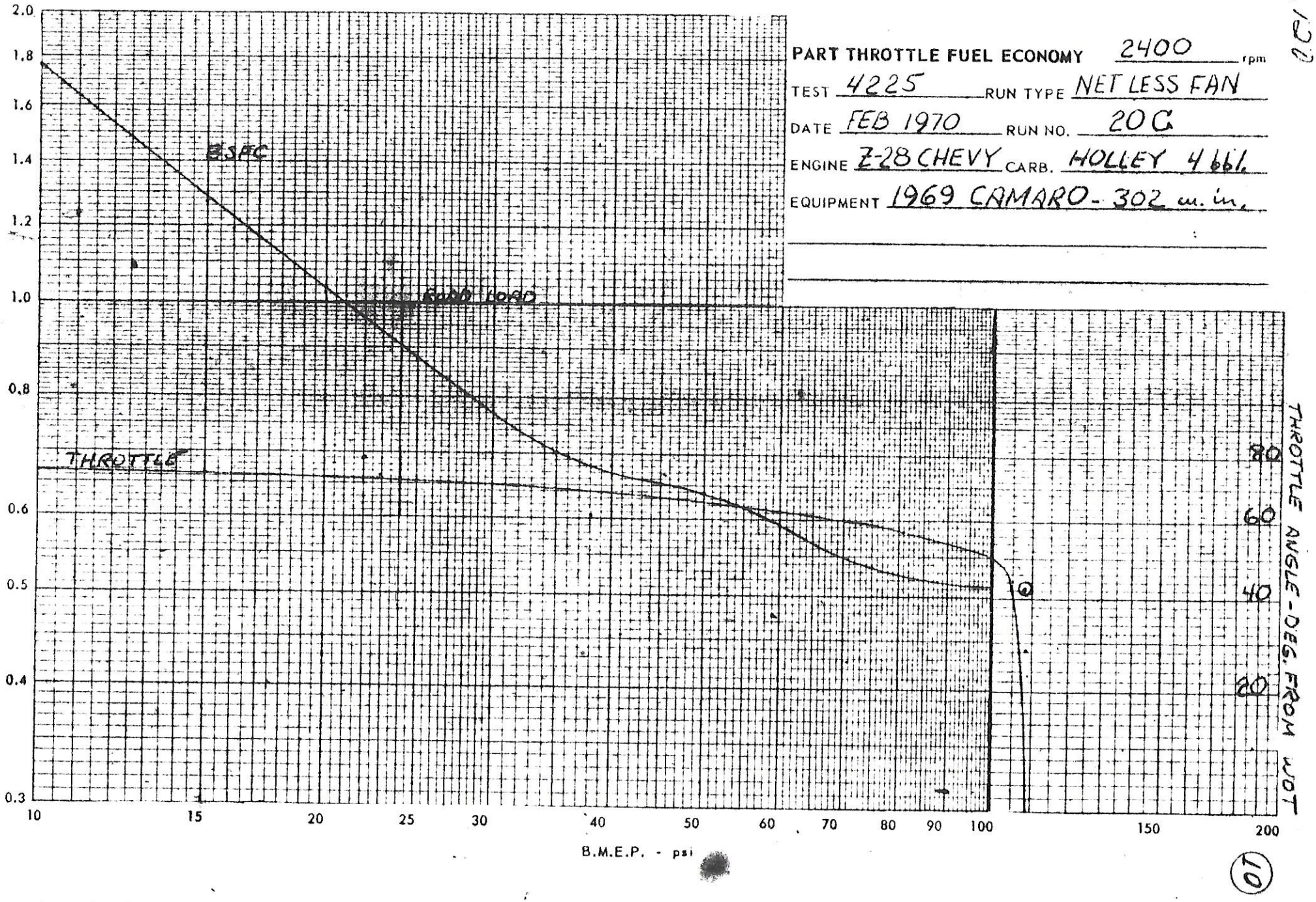

PART THROTTLE FUEL ECONOMY 1600 rpm
TEST 4225 RUN TYPE NET LESS FAN
DATE FEB 1970 RUN NO. 20A
ENGINE Z-28 CHEVY CARB. HOLLEY 4BBL.
EQUIPMENT 302 cu in 1969 CAMARO
ZERO LOAD
B.S.F.C.
THROTTLE
B.S.F.C. - LB./BHP-HR.
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.5
0.4
0.3
10
15
20
25
30
40
50
60
70
80
90
100
150
200
B.M.E.P. - psi
80
60
40
20
800-57 (4/57)



4405-120

9

800-57 (4/57)


PART THROTTLE FUEL ECONOMY 2400 rpm
TEST 4225 RUN TYPE NET LESS FAN
DATE FEB 1970 RUN NO. 20C
ENGINE Z-28 CHEVY CARB. HOLLEY 4 bbl.
EQUIPMENT 1969 CAMARO - 302 cu. in.
BSFC
6000 LOAD
THROTTLE
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.5
0.4
0.3
10
15
20
25
30
40
50
60
70
80
90
100
150
200
B.M.E.P. - psi
80
60
40
20
0
THROTTLE ANGLE - DEG. FROM WOT

800-57 (4/57)

4405 120

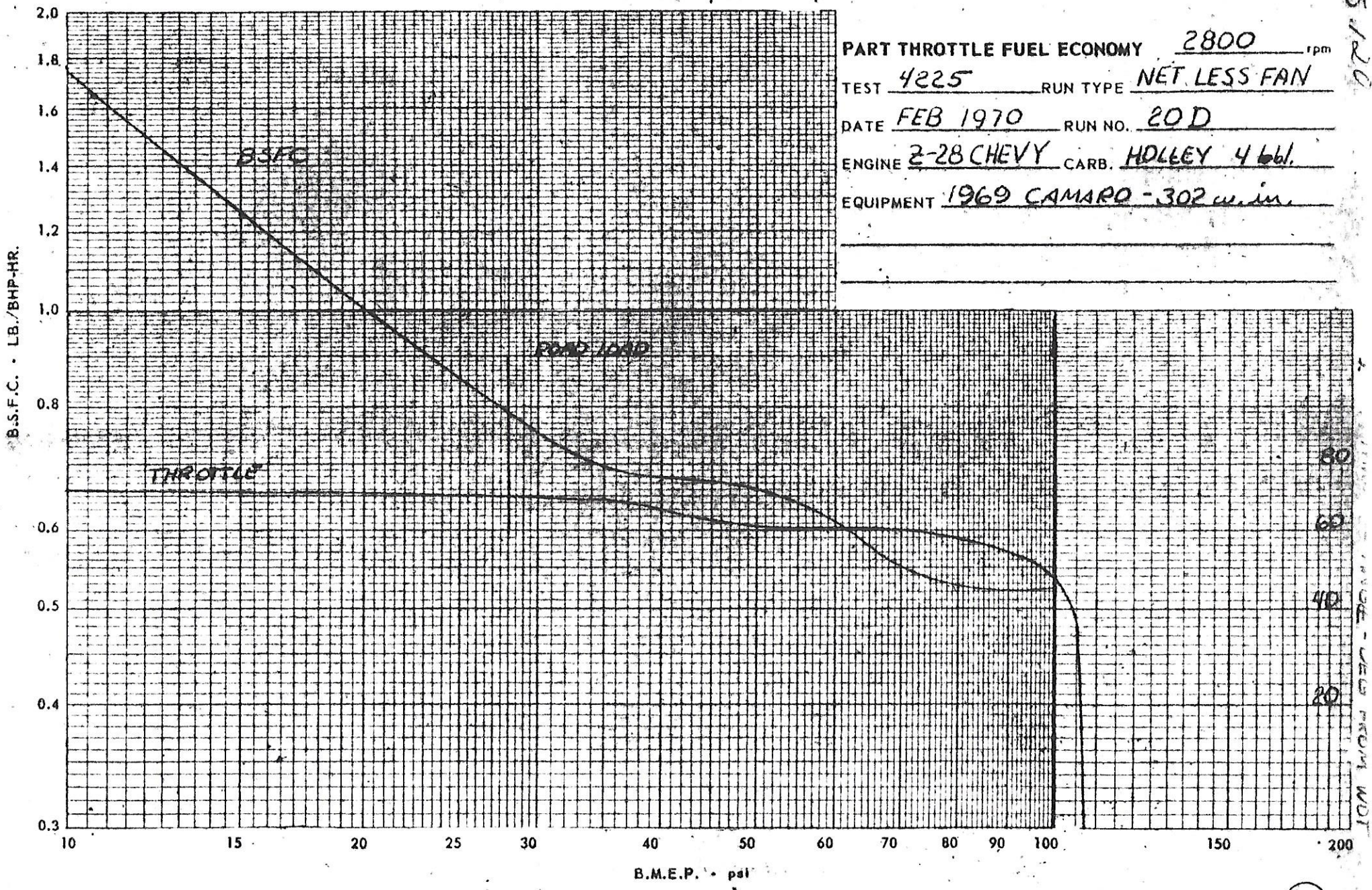
PART THROTTLE FUEL ECONOMY 2800 rpm

TEST 4225 RUN TYPE NET LESS FAN

DATE FEB 1970 RUN NO. 20D

ENGINE 2-28 CHEVY CARB. HOLLEY 4 bbl.

EQUIPMENT 1969 CAMARO - 302 cu. in.



(7)

800-57 (4/57)

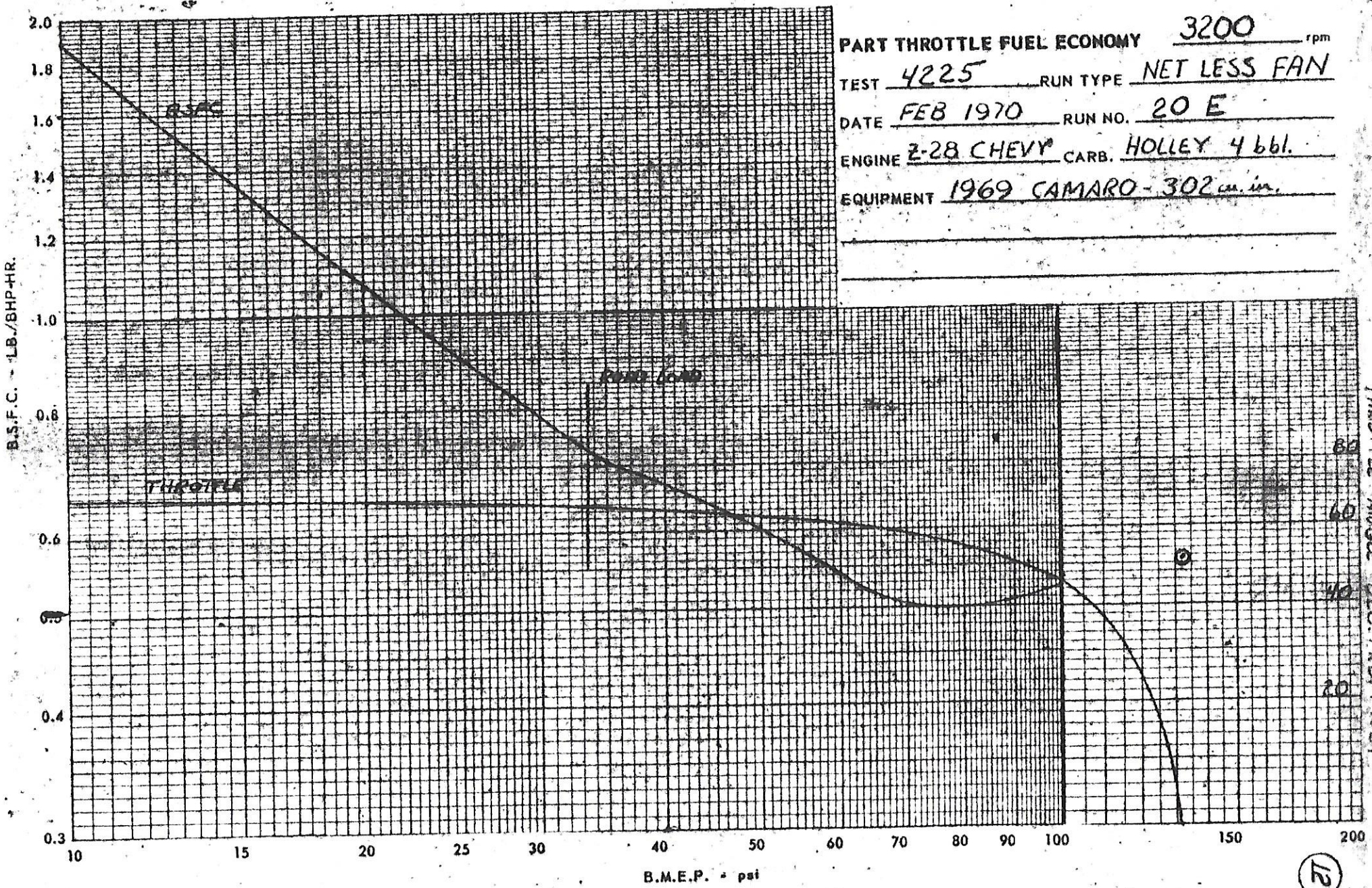
PART THROTTLE FUEL ECONOMY 3200 rpm

TEST 4225 RUN TYPE NET LESS FAN

DATE FEB 1970 RUN NO. 20 E

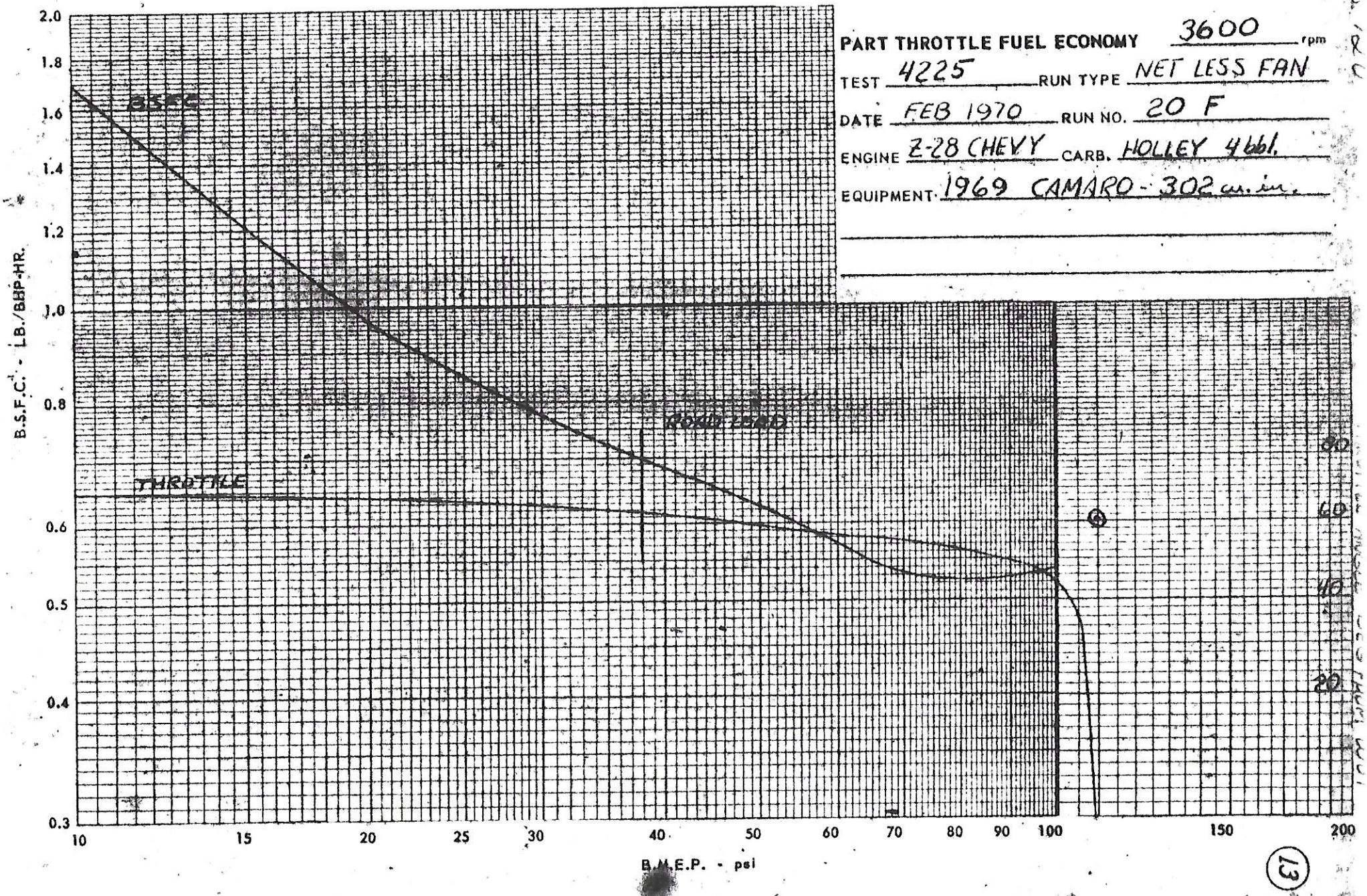
ENGINE Z-28 CHEVY CARB. HOLLEY 4 bbl.

EQUIPMENT 1969 CAMARO - 302 cu. in.



12

800-57 (4/57)


PART THROTTLE FUEL ECONOMY 3600 rpm
TEST 4225 RUN TYPE NET LESS FAN
DATE FEB 1970 RUN NO. 20 F
ENGINE Z-28 CHEVY CARB. HOLLEY 4661.
EQUIPMENT 1969 CAMARO - 302 cu. in.
B.S.F.C. - LB./BHP-HR.
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.5
0.4
0.3
BSFC
ROAD LOAD
THROTTLE
80
60
40
20
10
15
20
25
30
40
50
60
70
80
90
100
150
200
B.M.E.P. - psi
13

800-57 (4/57)

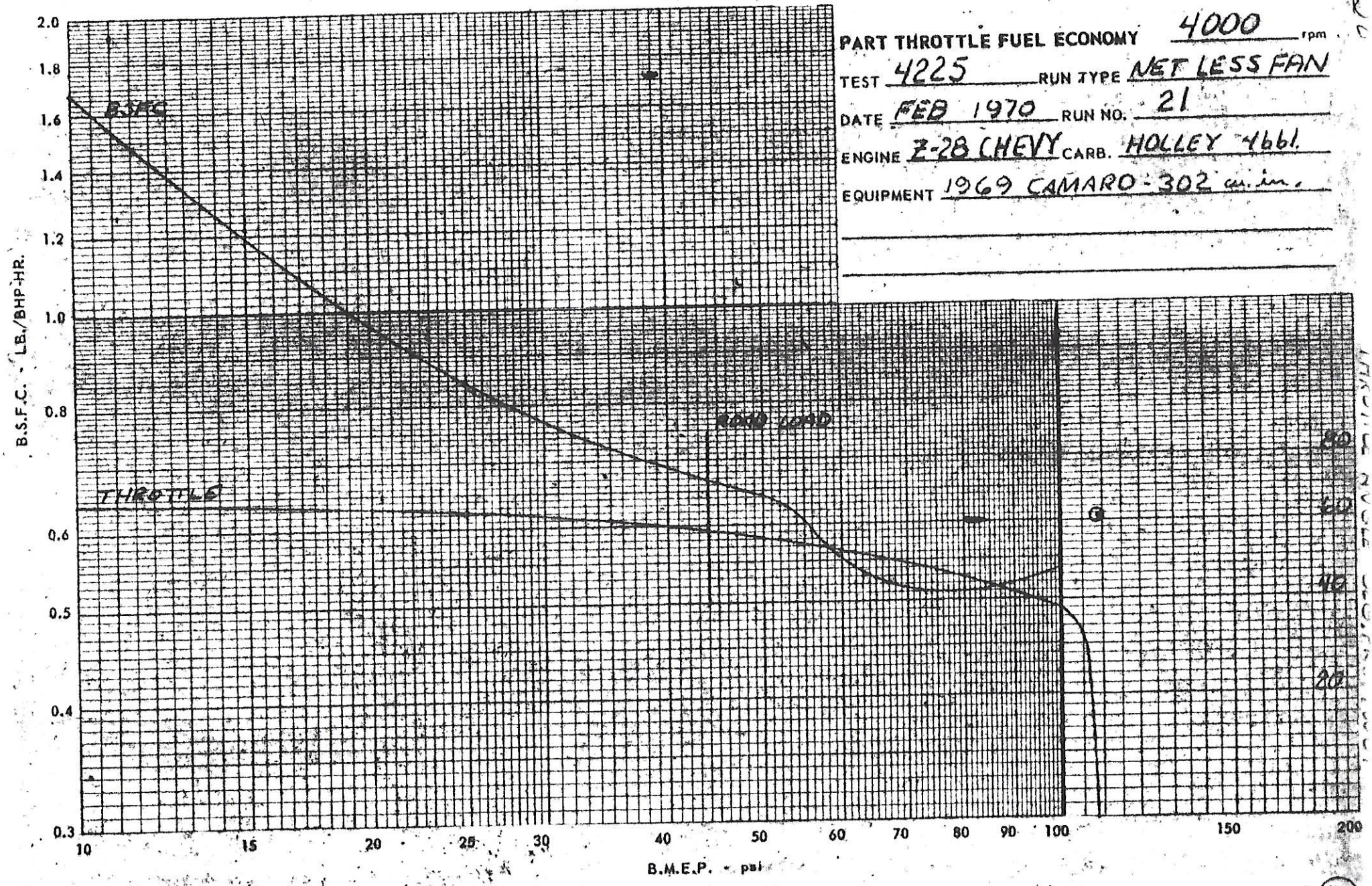
PART THROTTLE FUEL ECONOMY 4000 rpm

TEST 4225 RUN TYPE NET LESS FAN

DATE FEB 1970 RUN NO. 21

ENGINE Z-28 CHEVY CARB. HOLLEY 4661

EQUIPMENT 1969 CAMARO - 302 cu. in.

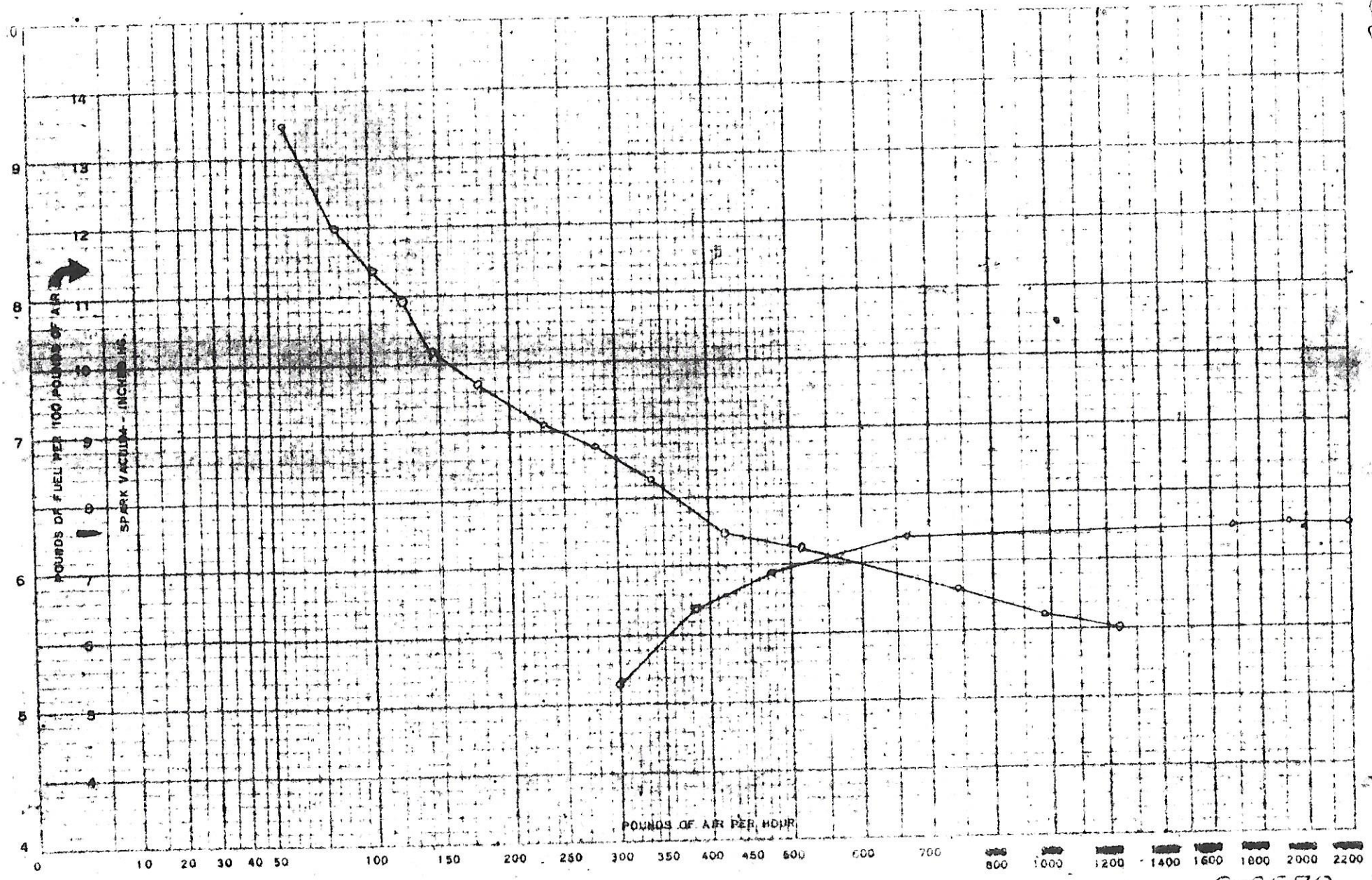


900-57 (4/57)

CHRYSLER CORPORATION
FUEL SYSTEM LABORATORY
P.P. & D. STAFF

FUEL-AIR MIXTURE vs AIR FLOW

RELATIONSHIPS BETWEEN UNITS ARE CORRECT AT 29.92" Hg. BAR. 60° F DRY AIR, FUEL SP. GRAVITY = .720



CARB. Z-28 HOLLEY SAMPLE NO. FD 27609 ACCEL. PUMP ____ STROKE ____ DATE 3-25-70

REMARKS AS RECIEVED

4-10-5-120

(5)

FUEL/AIR MIXTURE VARIATIO

ANALYZER NO. _____

OPERATOR _____ ROOM 143

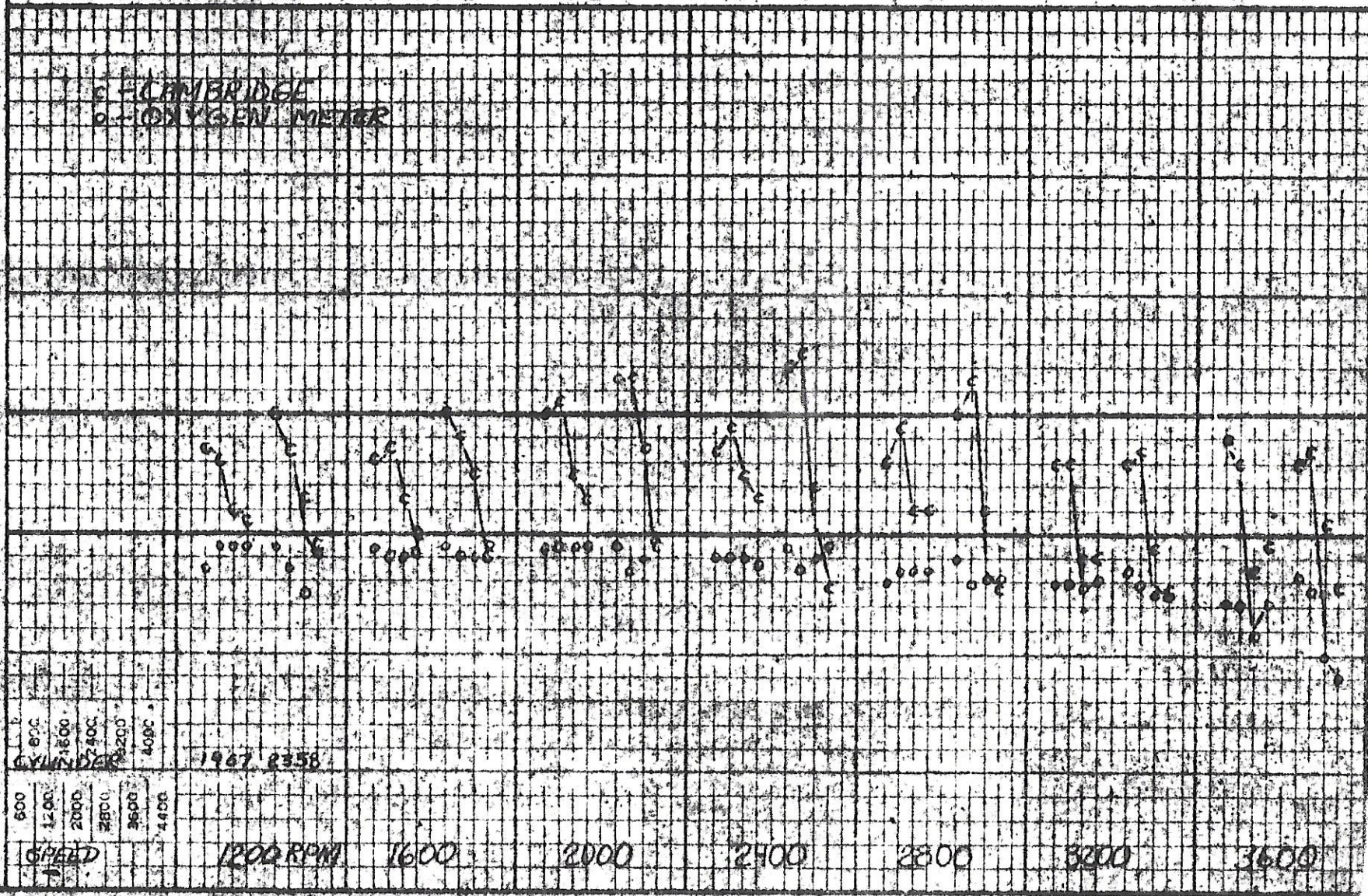
ENGINEER JLS

ENG. 1969 CAMARO Z-28 TEST NO. 4225 RUN NO. 21 DATE FEB 70 CAMSHAFT STD I.D.

MANIFOLDS STD ALUMINUM INTAKE, CAMARO EXHAUST

CARBURETOR HOLLEY 800 CFM 4 BBL. AIR CLEANER STD - UNSILENCED

OBJECT: ROAD LOAD MIXTURE



FUEL/AIR MIXTURE VARIATION

ANALYZER NO. _____

OPERATOR CHARNEY BOOM 43

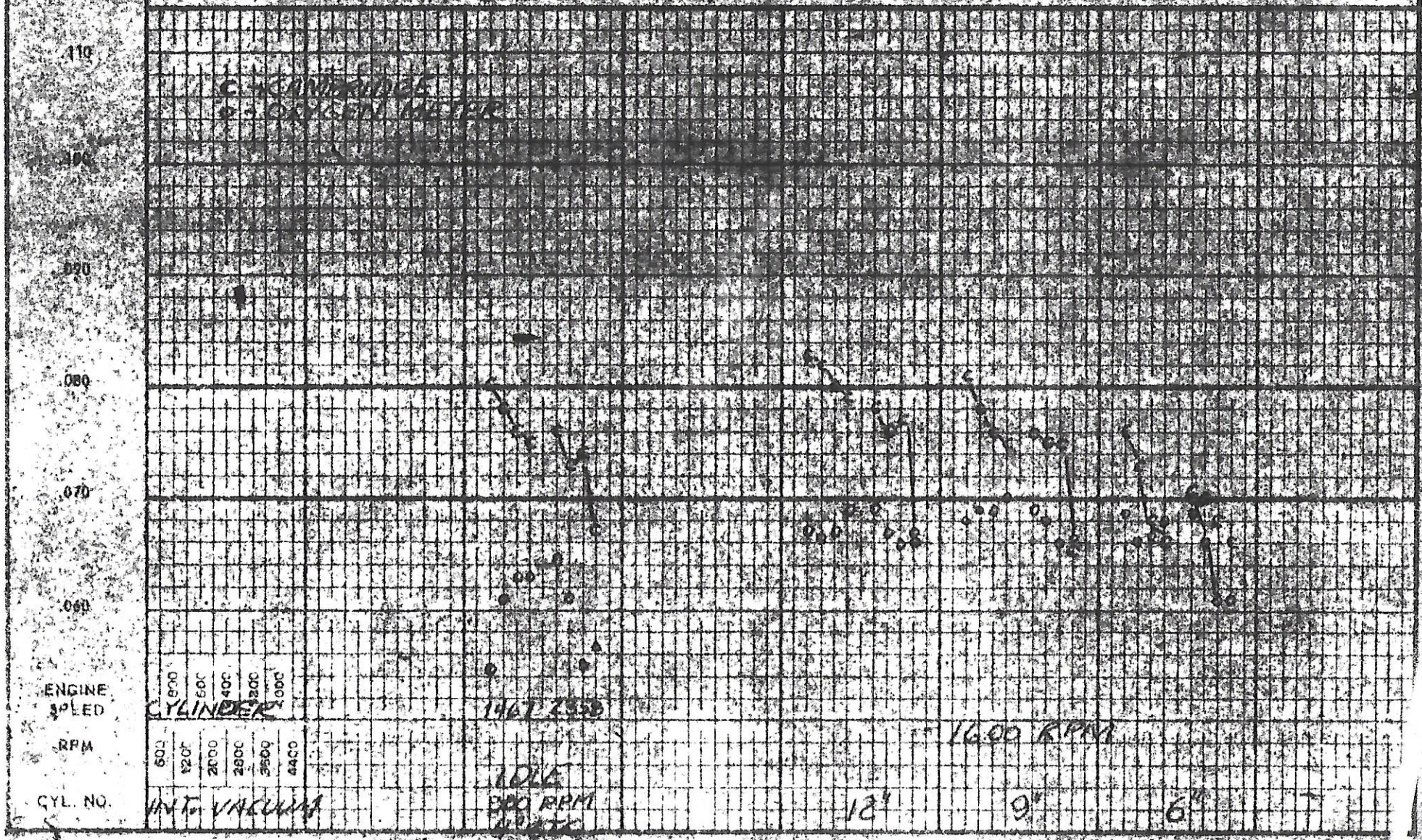
ENGINEER DLS

ENG. 1969 Z-28 CAMARO TEST NO. 4223 RUN NO. 20 DATE FEB '70 CAMSHAFT STD I.D.

MANIFOLDS STD CAMARO

CARBURETOR HOLLEY 800 CFM 4BBL AIR CLEANER STD - UNSILENCED

OBJECT: VACUUM POINTS @ 1600 RPM



600-204 (8/68)

FUEL/AIR MIXTURE VARIATION

OPERATOR	ROOM
CHARNEY	43
ENGINEER	DLS

ANALYZER NO. _____

ENG. 1969 Z-28 CAMARO TEST NO. 4225 RUN NO. 20-A DATE FEB 70 CAMSHAFT STD I.O.

MANIFOLDS

CARBURETOR AIR CLEANER

OBJECT:

F/A RATIO

.110

.100

.090

.080

.070

.060

ENGINE SPEED -RPM

CYL NO

800 1200 2000 2800 3600 4400

CYLINDERS

1467 23>8

2000 RPM

INTAKE VACUUM

15" HG 12" 9" 6"

4225.120

FUEL/AIR MIXTURE VARIATION

OPERATOR

ROOM 43

ENGINEER DLS

ANALYZER NO. _____

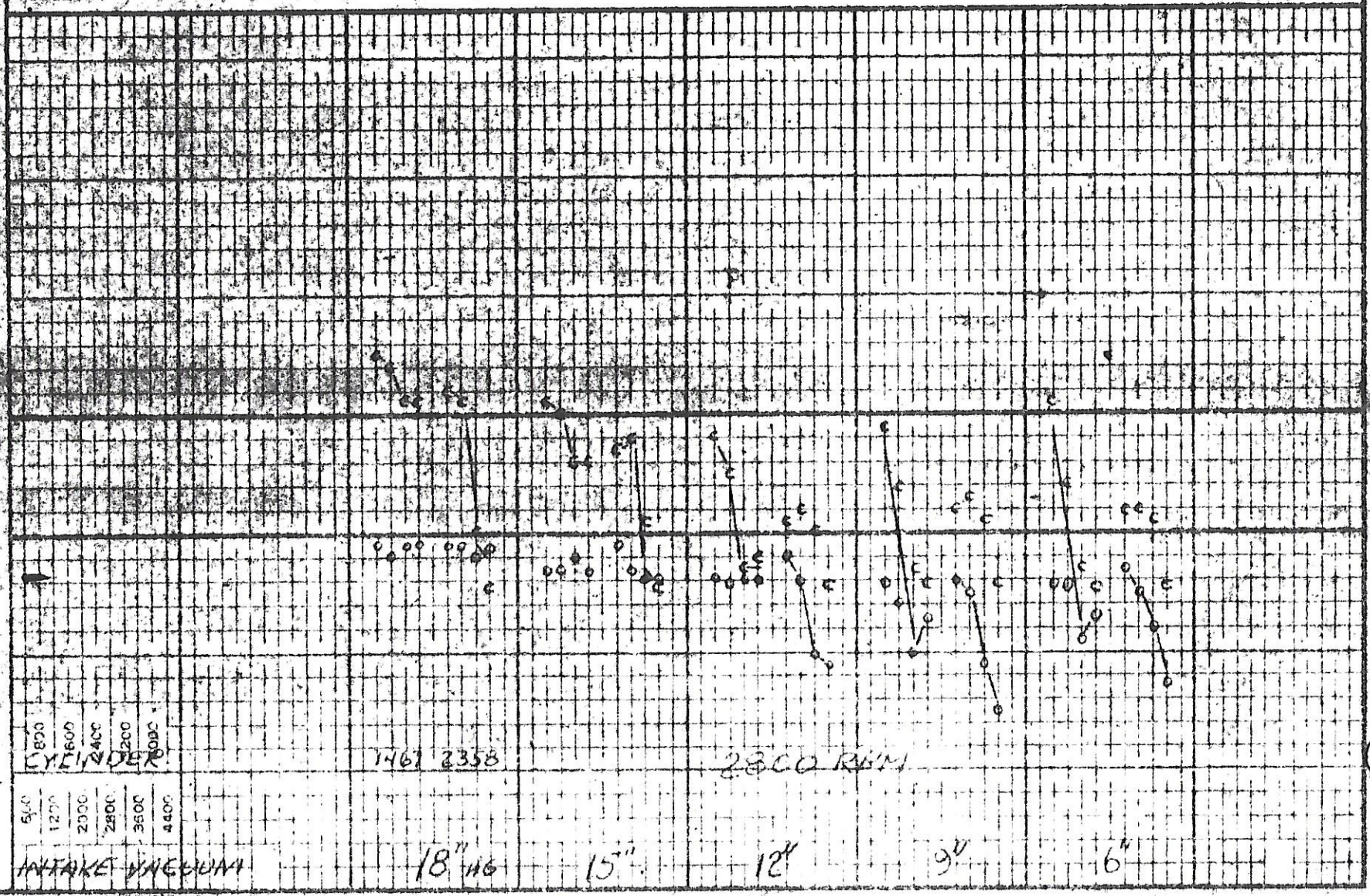
ENG. 1969 Z-28 CAMARO TEST NO. 4225 RUN NO. 20-B DATE FEB 70 CAMSHAFT STD I.O.

MANIFOLDS

CARBURETOR

AIR CLEANER

OBJECT:



6

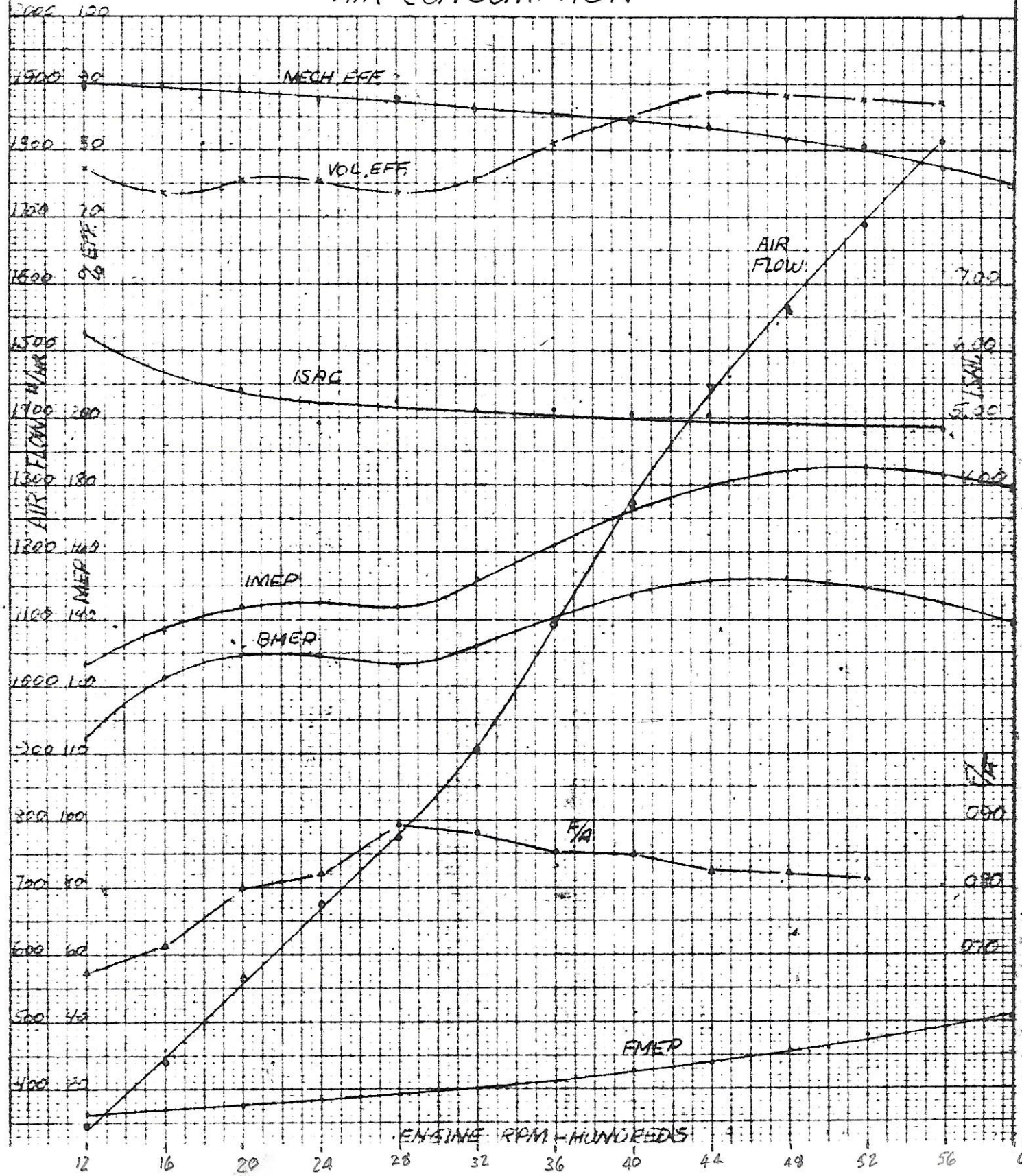
6405.120

4405.120

ENG Z28 CAMARO - 1969 BORE 4.00 STR. 3.00 DISP. 302 CU IN
ENG COND CLEAN @ RUN 12
CAMSHAFT STD Z-28 - MECH. I.O. C.R. 10.8:1 ACT
MANIFOLD STD. ALUM. 4BBL. INT.; CAMARO C.I. EXH. MFLDS
AIR CLNR NONE - COX METER NO. 3 FUEL MS3900G
CARB. HOLLEY 4BBL 780 CFM
DIST SLOPE SET MAX POWER PLUGS J4
OBJECT WOT HOT BARE GROSS

TEST NO. 4225
RUN NO 19
DATE FEB 1970
DYN NO. 43
OPER. JULIAN

AIR CONSUMPTION



4465.120

ENGINE PERFORMANCE SUMMARY

(21)

CHARGE NO. 7480400

SHEET 8

TEST NO. 4225

ENGINE Z-28 Chevy V8-1969 BORE 4.00 STR. 3.00 DISP. 302

ENG. COND. Clean for run 11 Nom. 11:1

CAMSHAFT Standard Z-28 Mech. IS. 109° A.T.C. C.R. 10.8:1 ACT

MANIFOLD Z-28 Aluminum 4 bbl. int.; Camaro exh. mflds.; no heat valve

AIR CLNR. None - COX Meter No. 3

CARB. Holley 800 CFM 4 bbl. FUEL MS 3900G

DIST. SLOPE SET Max. Power PLUGS J4

OBJECT WOT Hot Bare Gross w/air consumption

RUN NO. 19

DATE 2-3-70

DYN. 43

OPER. Julian

BAR. ST. 29.30

END 29.33

WB ST. 46

END 49.5

DB ST. 63

END 70.5

ENGINE RPM	1200	1600	2000	2400	2800	3200	3600	4000	4400	4800	5200	5600	6000
CORRECTED DATA													
TORQUE	228.7	247.2	258.2	257.7	252.2	263.8	280.9	295.3	303.4	304.2	298.8	290.3	277.5
BHP	52.2	75.4	98.3	117.8	136.1	160.8	192.4	225.3	254.1	218.1	295.8	309.5	317.0
BMEP	114.2	123.4	128.9	128.7	125.9	131.7	140.3	147.4	151.5	151.9	149.2	145.0	138.6
*IHP	58.0	83.7	109.8	133.6	153.7	185.3	233.0	264.6	302.2	336.5	366.8	395.5	416.0
IMEP	126.8	137.0	144.0	145.9	144.3	151.8	152.8	173.2	180.2	183.8	185.0	183.0	179.4
CORR. FACTOR	1.050	1.051	1.050	1.050	1.049	1.050	1.049	1.049	1.050	1.053	1.054	1.055	1.055
OBSERVED DATA													
FMEP	12.6	13.6	15.1	17.2	18.4	20.1	22.5	25.8	28.7	31.9	35.8	38.0	40.8
TORQUE	216.5	234.0	244.3	243.8	241.7	249.4	265.5	279.7	286.0	285.6	280.0	270.7	258.5
FHP	5.8	8.3	11.3	15.8	17.6	24.5	30.5	39.3	48.1	58.4	E71	E86	E99
BHP	49.5	71.3	93.1	111.4	128.8	152.0	182.0	213.0	239.7	261.1	277.3	288.9	295.4
IHP	55.3	79.6	104.6	137.2	146.4	176.5	212.6	252.3	287.8	19.5	354.4	374.9	394.4
MECH. EFF.	.895	.896	.890	.876	.88	.861	.856	.844	.833	81.8	.807	.771	.749
AIRFLOW #/HR	347	440.0	566.0	675.0	771.0	904.0	1092	1270	1447	1566	1689	1811	
BSAC	7.012	6.178	6.077	6.063	5.985	5.949	5.966	5.964	6.036	5.996	6.093	6.209	
ISAC	6.27	5.52	5.41	4.92	5.27	5.12	5.14	5.03	5.02	4.9	4.77	4.83	
VOL. EFF.	77.4	73.7	75.7	75.2	73.5	75.6	81.1	84.9	88.1	88.0	87.8	87.6	
AIR INT. TEMP.	85.0	86.0	85.0	85.0	84.0	85.0	85.0	85.0	86.0	88.5	90.0	91.0	91.0
#/HR FUEL FLOW	23.4	30.9	45.3	55.4	62.3	79.8	93.1	107.9	119.7	128.9	136.6		
FUEL/AIR (AVG)	.0673	.0712	.0800	.0821	.0899	.0883	.0853	.0849	.0828	.0823	.0812		
F/A VARIATION	.003	.009	.012	.030	.036	.020	.024	.024	.023	.013	.011		
BSFC	.472	.434	.486	.498	.538	.525	.612	.506	.501	.494	.492		
ISFC	423.0	388.0	.433	.476	.440	.452	.438	.427	.416	.405	.385		
MANIFOLD VAC.	.02	.06	.08	.17	.21	.28	.37	.44	.56	.68	.76	.86	.88
SPARK ADVANCE	30	31.0	32.0	35.0	36.0	38.0	39.0	41.0	42.0	42.0	42.0	42.0	42.0
*SAE CORR. BHP													

4465.120

ENGINE PERFORMANCE SUMMARY

(SHEET 1)

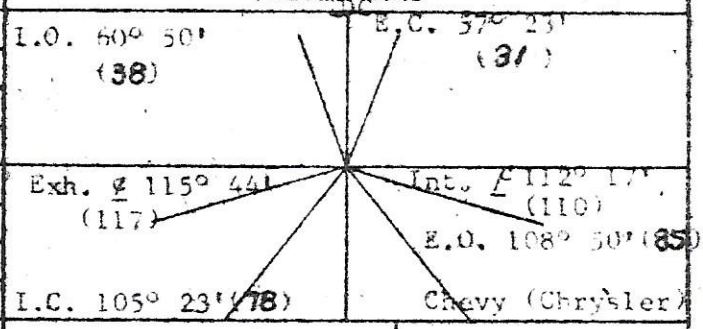
ENGINE 1969 Z28 Chevy C.R. 10.8:1				BORE 4.00			STROKE 3.00			DISPL. 302		
COLD GROSS TEST NO. 4225-12				OCTANE REQUIREMENT TEST NO.								
LAB. GROSS TEST NO. -17				HEAT REJECTION TEST NO.								
LAB. NET TEST NO. -15				FUEL LOOP TEST NO.								
ACCESS LOSS TEST NO. -13, 15, 16, 17, 18												
	1600	2000	2400	2800	3200	3600	4000	4400	4800	5200	5600	
ENGINE RPM	600	800	1200	1600	2000	2400	2800	3200	3600	4000	4400	6000
COLD GR.- Torque		252.3	252.7	251.6	263.9	291.9	305.8	312.9	311.5	302.0	292.0	279.1
LAB. GR.- Torque	239.5	254.9	254.6	254.3	260.3	274.8	288.9	300.2	300.4	294.7	286.4	274.6
LAB. NET- Torque	142.7	193.1	224.7	221.4	219.6	226.5	235.5	246.0	233.5	228.7	221.2	205.5
Torque LOSS TO												
EXH. SYSTEM	58.9	44.3	18.9	17.4	28.3	38.0	42.2	43.3	59.0	59.6	57.3	59.2
MAN. HT.	-	-	-	2.9	6.1	15.0	13.3	11.8	10.1	7.7	7.3	4.5
AUTO. SP.	27.5	4.2	4.7	9.2	7.5	4.5	-0.2	-1.6	0.5	1.0	2.7	3.9
FAN	9.4	8.3	6.3	6.5	4.9	5.8	10.3	7.3	17.3	5.4	5.0	2.4
MIXT. ANR. CLNR.	-	-	-	-	-	2.1	3.6	0.1	1.0	2.3	1.0	0
SEC. THROT. POS.												
OCTANE REQ.												
AT MAX. POWER												
AT AUTO. SPK.												
HEAT REJECTION												
TOTAL												
SPECIFIC												

Less Fan

FUEL CONS. DATA - OPT. ADJ. ( ) NET (X)						
BMEP	10	15	25	50	75	100
2000	2.95	2.18	1.43	*	*	*
2400	2.19	1.60	1.19	*	.610	*
2800	1.84	1.08	.921	.653	.593	.508
3200	1.76	1.28	.878	.640	.536	.514
3600	1.74	1.25	.857	.662	.536	.527
MANIFOLD VACUUM		1/8	1/4	1/2	3/4	WOT
3200	1.89	1.36	.900	.603	.499	.523
3600	1.69	1.21	1.02	.624	.527	.534
4000	1.67	1.22	.845	.642	.534	.538

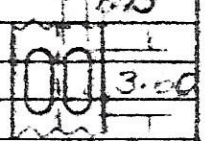
* Engine would not run.

VALVE TIMING



CAM. DURATION	INT.	346° 13' (296)
	EXH.	346° 13' (296)
	O'LAP	118° 13' (69)
CAM. INTENSITY Type		Mech. Lifter

INT. VALVE DIA. 2.02	VALVE AREA 2.56	VALVE AREA/CU.IN. .068	
EXH. VALVE DIA. 1.60	VALVE AREA 1.91	VALVE AREA/CU.IN. .051	
MAX. VALVE LIFT: INTAKE .478		EXHAUST .480	
BASIC INT. BRANCH AND PORT AREA 2.2 in.^{2}		AREA/CU.IN. .058	
MIN. INT. AREA (BRANCH OR PORT)		AREA/CU.IN.	
INTAKE RUNNER AREA 3.1 in.^{2}		RISER DIAM. Oval w/interconnection	
EXH. PORT AREA AT FACE 1.6 in.^{2}		AREA/CU.IN. .042	
MIN. EXH. PORT AREA		AREA/CU.IN.	
CARB. NOM. VENTURI SIZE 1 3/8 PRI/1 9/16 SEC. BBLS. 4		THROTTLE BORE DIAMETER 1 11/16	
TYPE OF SECONDARY VALVE Vacuum Operated			



4405.120

ENGINE PERFORMANCE SUMMARY
(SHEET 1 OF 1)

22A

ENGINE 1969 Z-28 Chev	C.R. 10.8:1	BORE 4.00	STROKE 3.00	DISPL. 302
COLD GROSS TEST NO. 4225-12		OCTANE REQUIREMENT TEST NO.		
LAB. GROSS TEST NO. -17		HEAT REJECTION TEST NO.		
LAB. NET TEST NO. -15		FUEL LOOP TEST NO.		
ACCESS LOSS TEST NO. -13,13,16,17,18				

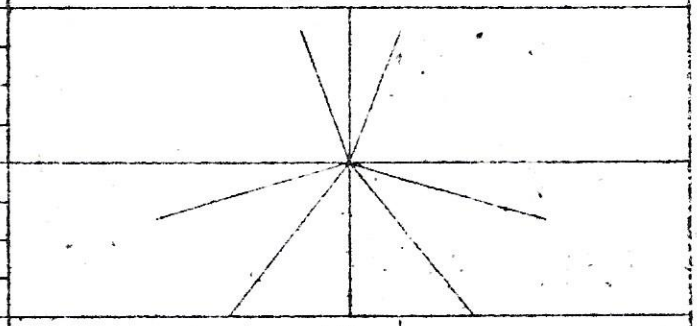
	1600	2000	2400	2800	3200	3600	4000	4400	4800	5200	5600	
ENGINE RPM	~~600~~	~~800~~	~~1200~~	~~1600~~	~~2000~~	~~2400~~	~~2800~~	~~3200~~	~~3600~~	~~4000~~	~~4400~~	6000
COLD GR. BMEP	-	126.0	126.2	125.6	131.3	135.8	132.7	136.2	135.5	130.8	1[illegible]	139.[illegible]
LAB. GR. BMEP	119.3	127.3	127.1	127.1	130.9	137.2	134.2	149.	139.0	137.1	133.0	137.1
LAB. NET BMEP	91.2	96.[illegible]	112.8	110.5	109.6	113.1	117.6	122.8	11[illegible].6	114.2	110.[illegible]	102.6
HP LOSS TO												
EXH. SYSTEM	17.9	13.9	8.6	9.3	17.2	26.0	32.7	40.[illegible]	33.[illegible]	29.0	21.3	27.6
MAN. HT.	-	-	-	1.5	3.7	10.3	10.1	5.[illegible]	[illegible].2	4.[illegible]	[illegible].3	3.1
AUTO. SP.	3.4	1.6	2.1	[illegible].9	[illegible].0	3.1	[illegible].11	-1.3	[illegible].[illegible]	1.[illegible]	2.[illegible]	3.[illegible]
FAN	2.9	3.5	2.9	3.5	3.0	[illegible].0	7.8	[illegible].1	[illegible].7	[illegible].3	[illegible].3	7.[illegible]
MIXT. AND CLNR.	-	-	-	-	-	1.4	2.7	[illegible].1	.9	2.3	1.1	0
SEC. THROT. POS.												
OCTANE REQ.												
AT MAX. POWER												
AT AUTO. SPK.												
HEAT REJECTION												
TOTAL												
SPECIFIC												

FUEL CONS. DATA - OPT. ADJ. ( ) NET ( )

BMEP	10	15	25	50	75	100
800						
1200						
1600						
2400						
3200						

F/A AT MISS	1/8	1/4	1/2	3/4	WOT
1200					
1600					
2400					
3200					

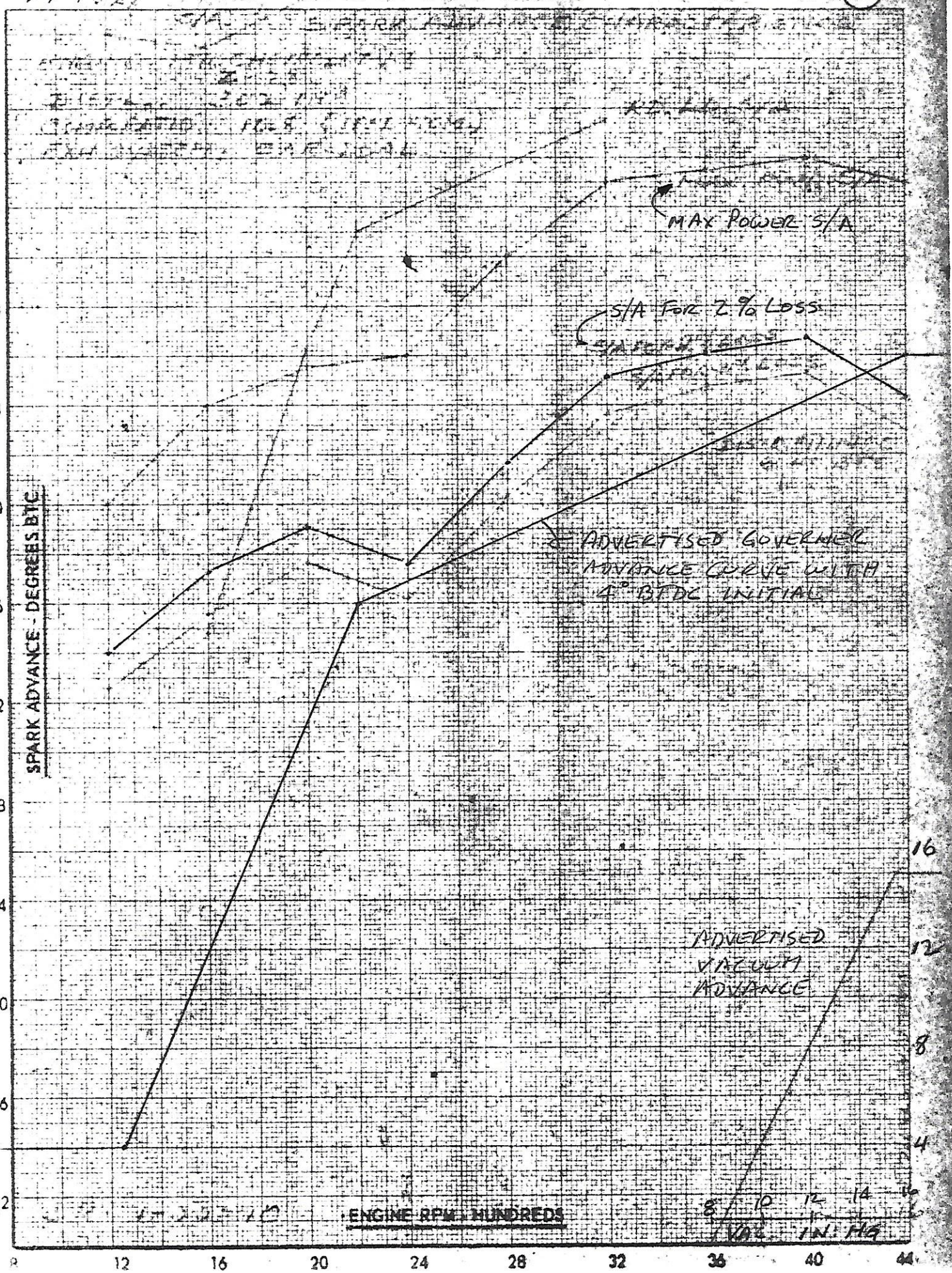
VALVE TIMING



CAM. DURATION	INT.	
	EXH.	
	O'LAP	
CAM. INTENSITY		

INT. VALVE DIA.	VALVE AREA	VALVE AREA/CU.IN.
EXH. VALVE DIA.	VALVE AREA	VALVE AREA/CU.IN.
MAX. VALVE LIFT: INTAKE		EXHAUST
BASIC INT. BRANCH AND PORT AREA		AREA/CU.IN.
MIN. INT. AREA (BRANCH OR PORT)		AREA/CU.IN.
INTAKE RUNNER AREA		RISER DIAM.
EXH. PORT AREA AT FACE		AREA/CU.IN.
MIN. EXH. PORT AREA		AREA/CU.IN.
CARB. NOM. VENTURI SIZE	BBLS.	THROTTLE BORE DIAMETER
TYPE OF SECONDARY VALVE		

4405.120


SPARK ADVANCE - DEGREES BTC
ENGINE RPM - HUNDREDS
VAC. IN. HG
MAX POWER S/A
S/A FOR 2% LOSS
ADVERTISED GOVERNOR ADVANCE CURVE WITH 4° BTDC INITIAL
ADVERTISED VACUUM ADVANCE
46
42
38
34
30
26
22
18
14
10
6
2
12
16
20
24
28
32
36
40
44
16
12
8
4
8
10
12
14

ENGINE	
CARBURETOR	
EXH. SYSTEM	
NOMINAL C.R.	
PRINT C. R. MAX.-MEAN-MIN	
NO. ENG. TESTED	

SPARK ADVANCE CHARACTERISTICS

1970 CHEVROLET CAMARO
302 CU. IN.

ENGINE	Z 28
CARBURETOR	HOLLEY
EXH. SYSTEM	CAR. DUAL
NOMINAL C.R.	11.0 : 1
PRINT C. R. MAX.-MEAN-MIN	10.2
NO. ENG. TESTED	1 - 4225

COOLANT 176°F

RPM	DIST. S/A DP @	MAX. PWR. S/A	% PWR. LOSS @ GOV. S/A	* CORRECTED OCTANE REQUIREMENT @ GOV. S/A PRF	@ GOV. S/A PBR	@ MAX. PWR. PRF	@ MAX. PWR. PBR	@ 2% LOSS PRF	@ 2% LOSS PBR	DIST. S/A @	MAX. PWR. S/A	% PWR. LOSS @ GOV. S/A	* CORRECTED OCTANE REQUIREMENT @ GOV. S/A PRF	@ GOV. S/A PBR	@ MAX. PWR. PRF	@ MAX. PWR. PBR	@ 2% LOSS PRF	@ 2% LOSS PBR	RPM
800										4.0	—	—	—	—	—	—	—	—	800
1200										4.0	30.0	—	87.4	85.6	—	—	—	—	1200
1600										12.6	34.0	18.1	86.0	86.0	99.9	99.9	92.5	92.5	1600
2000										21.3	35.5	9.2	87.3	89.8	96.1	97.6	92.6	94.4	2000
2400										24.9	36.0	2.4	90.4	90.2	95.8	95.4	90.8	90.6	2400
2800										28.7	40.0	4.4	88.9	90.3	95.8	96.4	90.4	92.3	2800
3200										30.5	42.0	5.7	87.2	89.4	93.8	96.9	90.5	92.7	3200
3600										32.4	43.5	5.1	85.6	88.4	92.4	95.4	88.4	90.7	3600
4000										34.2	44.0	3.9	83.9	88.8	90.4	93.4	85.1	90.1	4000
4400										36.0	42.0	1.0	—	—	—	—	—	—	4400

* CORRECTED TO: 29.00" Hg. DRY BAROMETER
0.40" Hg. VAPOR PRESSURE
MEAN PRINT C.R.
BR 1-12-70

ALLOWING: 3.0 P.N. PER 1" Hg. DRY BAROMETER
8.0 P.N. PER 1" Hg. VAPOR PRESSURE
5.3 P.N. PER 100 GR. MOISTURE
9.0 P.N. PER 1 C.R. NUMBER

FORM REVISED: 2-1-68

4405.120

HEAT REJECTION SUMMARY

(25)

HT NO. 1944 ENG. NO. CHEVROLET Z-28 DISP. 302 CU. IN DATE 1-5-70

DYNAMOMETER NO. 43 (3000)
BORE & STROKE 4.00 X 3.00
TOTAL ENGINE HOURS 14.9
HOURS SINCE CARBON CLEANED NONE

CARBURETION HOLLEY 4 BBL
ROCKER SHAFT: SINGLE X DOUBLE
COMPRESSION RATIO 11 : 1
WATER PUMP RATIO .93 : 1

STANDARD TEST CONDITIONS UNLESS OTHERWISE NOTED:

LABORATORY EXHAUST SYSTEM
SOLDERED WIDE OPEN THERMOSTAT
AIR CLEANER ON
MAX. POWER IGNITION TIMING

OIL TEMP.: 180°F.
CARB. AIR TEMP.: 90° - 100°F.
@ 2 WATER TEMP.: 140° - °F.

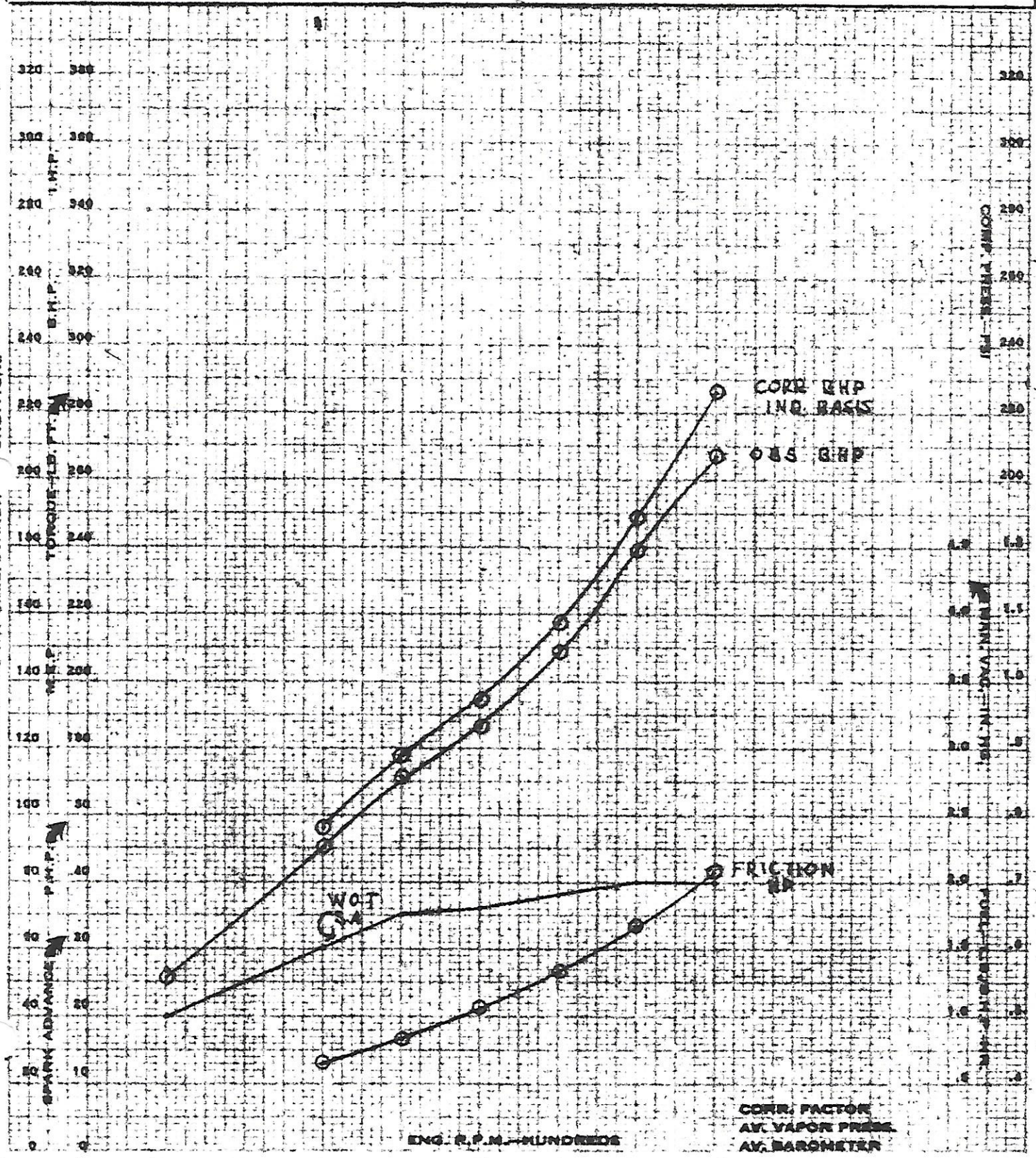
REMARKS: HEAT VALVE NOT INSTALLED

		ENGINE SPEED - RPM					
		500	2000	[redacted]	4000		
HEAT REJECTION BTU/MIN.	W.O.T.		2900	3450	4840		
	[redacted] @ 100 OBS BHP		1640	2070	2930		
	[redacted] OBS. BHP		—	3290	4070		
W.O.T. HORSEPOWER	OBS. BHP		90.3	126.2	207.1		
	CORR. BHP (IND BASIS)		96.2	134.6	220.6		
	FRICTION		12.9	21.2	41.7		
	OBS. IHP		—	—	—		
WOT SPEC. HP BTU/MIN. OBS. BHP			32.2	27.3	23.4		
ENGINE WATERFLOW - LBS./MIN.			150	223	329		

4405.190

(26)

ENG.	CHEVROLET-Z 28 BORE 4.00 STR. 3.00 DISP. 302 CU. IN.	TEST NO.	4258
ENG. COND.	14.9 HRS	RUN NO.	2 & 2A
CAMSHAFT	STD I.O. C.R. 11:1	DATE	1-5 & 6-70
MANIFOLD	STD	DYN. NO.	43
AIR CLNR.	STD FUEL RACE	OPER.	CHARNEY
CARB.	HOLLEY 4BBL		
DIST. SLOPE	SET MAX POWER	PLUGS	J-2-J
OBJECT:	HEAT REJECTION		



4/405100

H.T. CURVE

WATER FLOW-GPM X 100

HJ-BTU/MIN X 100

WOT HJ

LOW HP HJ

WATER FLOW

10 HP HJ

1200

2000

2800

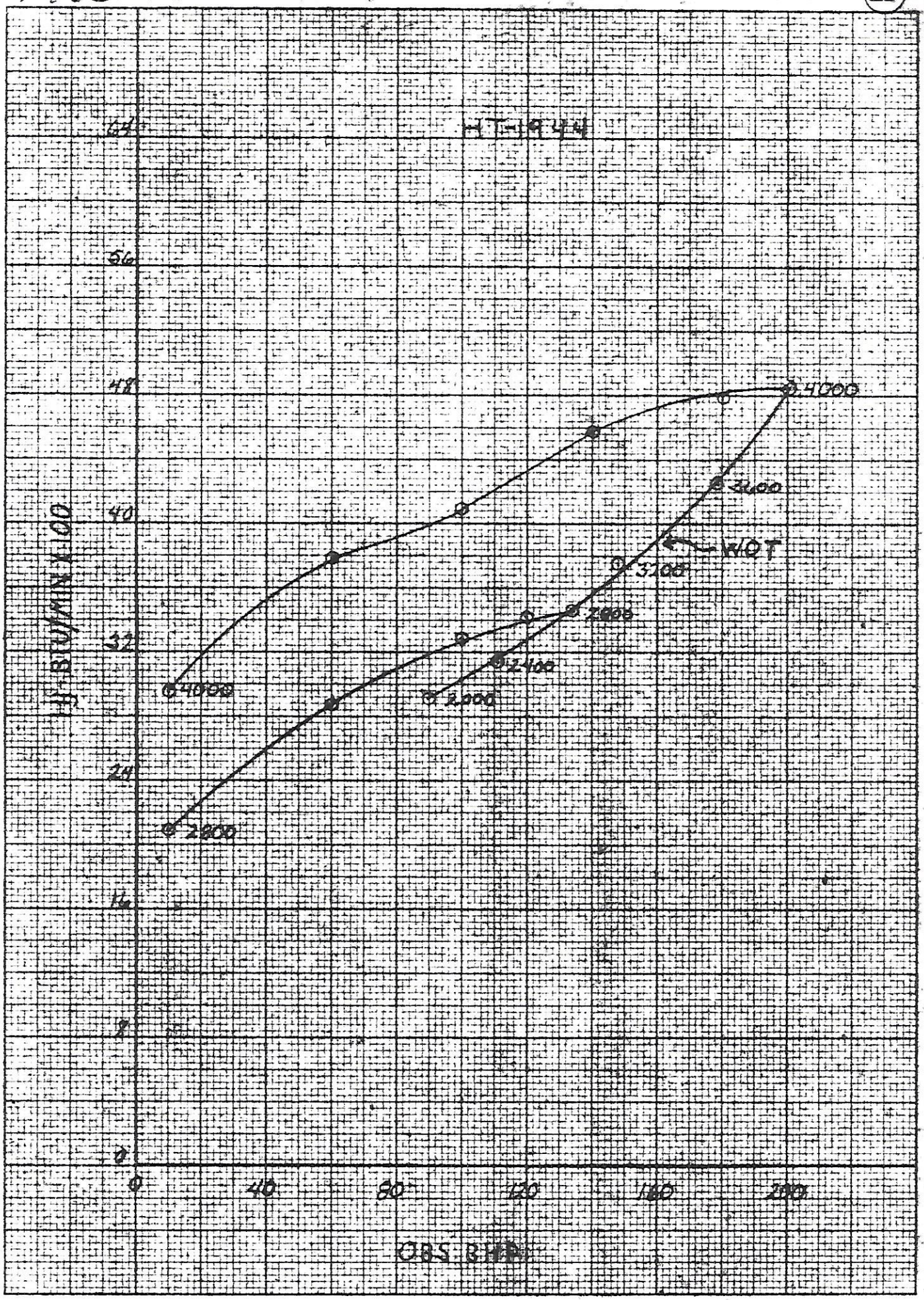
4000

ENGINE RPM

K+E 20 X 20 TO THE INCH 46 1242
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO

4405.120

(28)



K+E 20 X 20 TO THE INCH 46 1242
7 X 10 IN. PLY MADE IN U.S.A.
KEUFFEL & ESSER CO

4405.120

ENG 1969 Z 28 CAMARO BORE 4.00 STR 3.00 DISP. 302 CU IN.
ENG COND CLEAN AT RUN 12
CAMSHAFT STD Z-28 EXCEPT AS NOTED ℄ STD. 109°ATC SER. 110°ATC CR 10.8:1 ACT 11:1 ADV
MANIFOLD AS NOTED
AIR CLNR. STD EXCEPT 2-4BBL BARE FUEL MS3900G
CARB STD Z-28 FOR BOTH APPLICATIONS - 800 CFM STD & TWO 600 CFM FOR CROSS-RAM
DIST. SLOPE SET MAX. POWER PLUGS J4
OBJECT:

TEST NO. 4225
RUN NO NOTED
DATE MAR 1970
DYN. NO
OPER DLS

29

POWER COMPARISON - Z-28 SERVICE CAM AND 2-4BBL INTAKE

STANDARD Z-28 LABORATORY GROSS 109° INT ℄ ATC
Z-28 SERVICE CAM - LAB GROSS 110° INT ℄ ATC
CAM & 2-4BBL CROSS RAM INTAKE - GOOD LAB GROSS

POWER DATA CORRECTED TO S.A.E. STANDARD CONDITIONS

B.H.P. 440 420 400 380 360 340 320 300 280 260 240 220 200 180 160 140 120 100

TORQUE LB. FT. 440 420 400 380 360 340 320 300 280 260 240 220 200 180 160 140 120 100

M.E.P. 320 300 280 260 240 220 200 180 160 140 120 100

F.H.P. 40 30 20 10

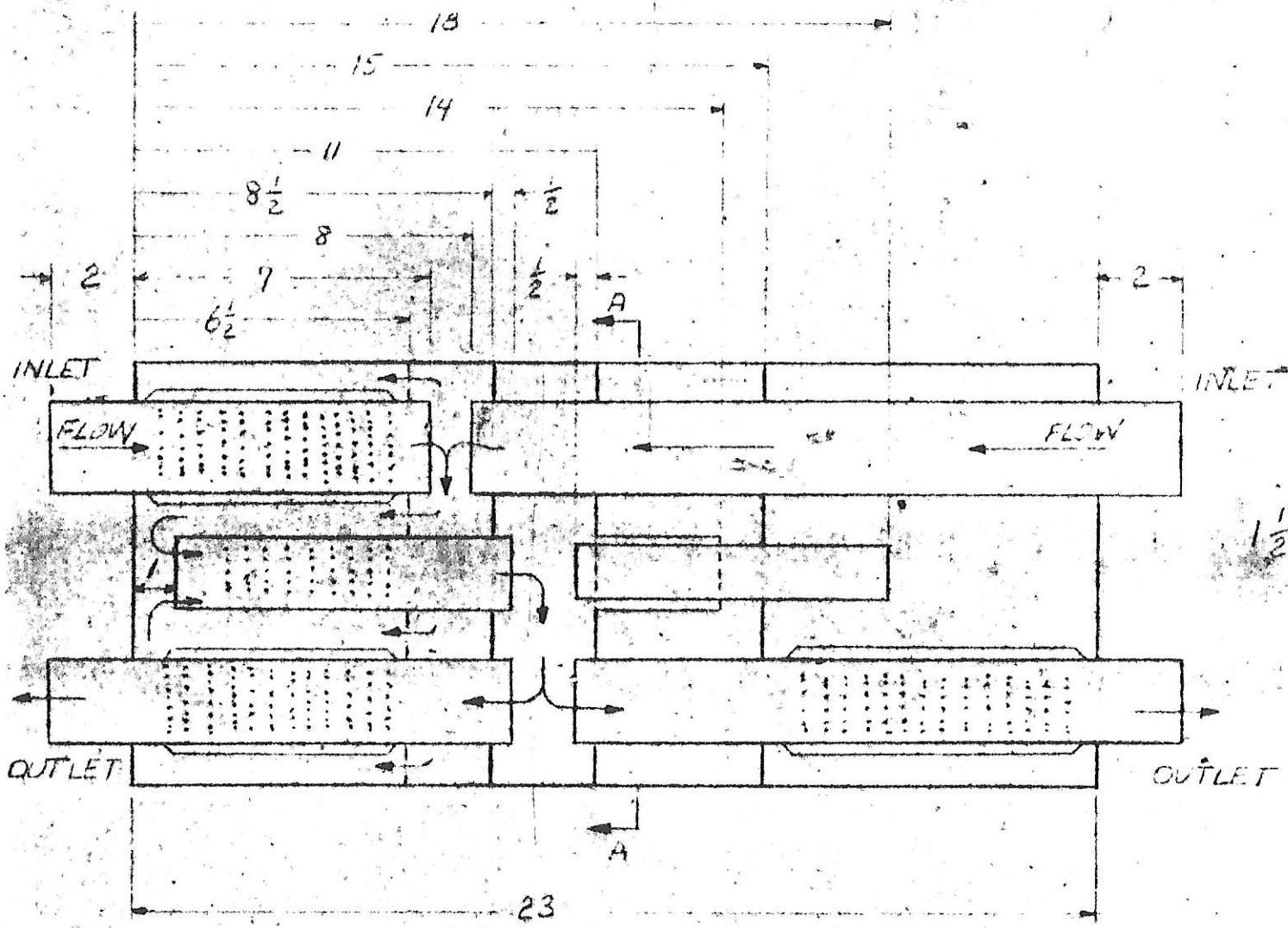
SPARK ADVANCE 40 30 20 10

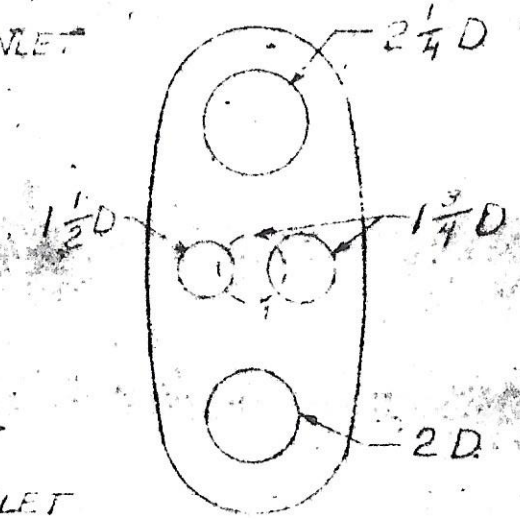
COMP. PRESS. 260 240 220 200 180 160 140 120 100

FUEL CONS. LB/HR 7 6.5 6 5.5 5 4.5 4 3.5 3 2.5 2 1.5 1 .5

ENG. R.P.M. HUNDREDS 12 16 20 24 28 32 36 40 44 48 52 56 60

CORR. FACTOR
AV. VAPOR PRESS
AV. BAROMETER





SEC. A-A
4 × 2 3/4 OVAL

1969 Z-28 CAMARO MUFFLER

FOR DUAL EXHAUST W/ SINGLE TRANSVERSE MUFFLER