SECTION 2

SPECIFICATIONS

The model specifications shown on the following pages of this section are divided according to model designation. When differences among models can be clearly stated, the specifications of more than one model are combined in a single group; otherwise, each model has its specifications listed separately. Also, as additional models are added to this series, new specification pages containing data pertinent to the new models will be added.

SPECIFICATIONS

0-320-A, -E* SERIES

FAA Type Certificate	274
Rated horsepower	150
Rated speed, RPM	2700
Bore, inches	5.125
Stroke, inches	3.875
Displacement, cubic inches	319.8
Compression ratio	7.0:1
Firing order	1-3-2-4
Spark occurs, degrees BTC	25
Valve rocker clearance (hydraulic tappets collapsed	.028-.080
Propeller drive ratio	1:1
Propeller drive rotation (viewed from rear)	Clockwise

* - 0-320-E2A and -E2C have alternate rating of 140 HP at 2450 RPM.

SPECIFICATIONS

0-320-B, -D** SERIES

FAA Type Certificate	274
Rated horsepower	160
Rated speed, RPM	2700
Bore, inches	5.125
Stroke, inches	3.875
Displacement, cubic inches	319.8
Compression ratio	8.5:1
Firing order	1-3-2-4
Spark occurs, degrees BTC	25
Valve rocker clearance (hydraulic tappets collapsed)	.028-.080
Propeller drive ratio	1:1
Propeller drive rotation (viewed from rear)	Clockwise

** - 0-320-D2J has alternate rating of 150 HP at 2500 RPM and 155 HP at 2600 RPM.

SPECIFICATIONS

IO-320-A, -E SERIES

FAA Type Certificate 1E12
Rated horsepower 150
Rated speed, RPM 2700
Bore, inches 5.125
Stroke, inches 3.875
Displacement, cubic inches 319.8
Compression ratio 7.0:1
Firing order 1-3-2-4
Spark occurs, degrees BTC 25
Valve rocker clearance (hydraulic tappets collapsed) 028-.080
Propeller drive ratio 1:1
Propeller drive rotation (viewed from rear) . . . . .Clockwise

SPECIFICATIONS

IO-320-B, -C, -D; AIO-320; LIO-320 SERIES

FAA Type Certificate 1E12
Rated horsepower 160
Rated speed, RPM 2700
Bore, inches 5.125
Stroke, inches 3.875
Displacement, cubic inches 319.8
Compression ratio 8.5:1
Firing order* 1-3-2-4
Spark occurs, degrees BTC 25
Valve rocker clearance (hydraulic tappets collapsed) 028-.080
Propeller drive ratio 1:1
Propeller drive rotation (viewed from rear)
All but LIO-320 Series . . . . .Clockwise
LIO-320 Series . . . . .Counter-Clockwise

* - LIO-320 Series Only - Firing Order 1-4-2-3

*Accessory Drive	Drive Ratio	**Direction of Rotation
Starter	13.556:1	Counter-Clockwise
Starter	16.556:1	Counter-Clockwise
Generator	1.910:1	Clockwise
Generator	2.500:1	Clockwise
Alternator	3.250:1	Clockwise
Tachometer	0.500:1	Clockwise
Magneto	1.000:1	Clockwise
Vacuum Pump	1.300:1	Counter-Clockwise
Prop. Gov. AN20010		
Mounted on Accy. Hsg.	0.866:1	Clockwise
Mounted on Crankcase	0.895:1	Clockwise
Fuel Pump AN20003	1.000:1	Counter-Clockwise
Fuel Pump - Plunger operated	0.500:1	
Dual Drives		
Vac. - Hydraulic Pump	1.300:1	Counter-Clockwise
Vac. Pump - Prop. Gov.	1.300:1	Counter-Clockwise

* - When applicable.
** - Viewed facing drive pad.

NOTE that LIO-320 Series engines will have opposite rotation to the above.

DETAIL WEIGHTS

1. Engine, Standard, Dry Weight

Includes carburetor or fuel injector, magnetos, spark plugs, ignition harness, intercylinder baffles, tachometer drive, starter and generator (alternator) drive, starter and generator (alternator) with mounting bracket.

0-320-SERIES

-E2D, -E3D, -E2G	268 lbs.
-A1A, -A1B, -A2A, -A2B, -A3A, -A3B, -A2C	272 lbs.
-A3C, -E1A, -E2A, -E1B, -E2B, -E1C, -E2C	272 lbs.
-D2J	275 lbs.
-B2C, -B3C, -D1B, -D2B, -E1F, -E2F	277 lbs.
-B1A, -B1B, -B2A, -B2B, -B3A, -B3B	278 lbs.
-A2D, -D1A, -D1C, -D2A, -D2C	278 lbs.
-D2G, -D3G	281 lbs.
-D1D	283 lbs.
-D1F, -D2F	285 lbs.

IO-320 SERIES

-A1A, -A2A	280 lbs.
-B1B, -E1A, -E2A, -E2B	285 lbs.
-B1A, -B2A, -B1C, -B1D	287 lbs.
-D1A, -D1B	291 lbs.
-C1A	294 lbs.

AIO-320 SERIES

-A1A, -A2A	306 lbs.
-A1B, -A2B, -B1B, -C1B	307 lbs.

OPERATING INSTRUCTIONS

Page

SECTION 3

OPERATING INSTRUCTIONS

1. GENERAL. Close adherence to these instructions will greatly contribute to long life, economy and satisfactory operation of the engine.

NOTE

YOUR ATTENTION IS DIRECTED TO THE WARRANTIES THAT APPEAR IN THE FRONT OF THIS MANUAL REGARDING ENGINE SPEED, THE USE OF SPECIFIED FUELS AND LUBRICANTS, REPAIRS AND ALTERATIONS. PERHAPS NO OTHER ITEM OF ENGINE OPERATION AND MAINTENANCE CONTRIBUTES QUITE SO MUCH TO SATISFACTORY PERFORMANCE AND LONG LIFE AS THE CONSTANT USE OF CORRECT GRADES OF FUEL AND OIL, CORRECT ENGINE TIMING, AND FLYING THE AIRCRAFT AT ALL TIMES WITHIN THE SPEED AND POWER RANGE SPECIFIED FOR THE ENGINE. DO NOT FORGET THAT VIOLATION OF THE OPERATION AND MAINTENANCE SPECIFICATIONS FOR YOUR ENGINE WILL NOT ONLY VOID YOUR WARRANTY BUT WILL SHORTEN THE LIFE OF YOUR ENGINE AFTER ITS WARRANTY PERIOD HAS PASSED.

New engines have been carefully run-in by Avco Lycoming and therefore, no further break-in is necessary insofar as operation is concerned; however, new or newly overhauled engines should be operated on straight mineral oil for a minimum of 50 hours or until oil consumption has stabilized. After this period, a change to an approved additive oil may be made, if so desired.

NOTE

Cruising should be done at 65% to 75% power until a total of 50 hours has

The following starting procedures are recommended, however, the starting characteristics of various installations will necessitate some variation from these procedures.

NOTE

Cranking periods must be limited to ten (10) to twelve (12) seconds with a five (5) minute rest between cranking periods.

a. Carbureted Engines (Cold).

(1) Perform pre-flight inspection.

(2) Set carburetor heat control in "off" position.

(3) Set propeller governor control in "Full RPM" position (where applicable).

(4) Turn fuel valves "On".

(5) Move mixture control to "Full Rich".

(6) Turn on boost pump.

(7) Open throttle approximately 1/4 travel.

(8) Prime with 1 to 3 strokes of manual priming pump or activate electric primer for 1 or 2 seconds.

(9) Set magneto selector switch (Consult airframe manufacturer's handbook for correct position).

(10) Engage starter.

(11) When engine fires move the magneto switch to "Both".

(12) Check oil pressure gage. If minimum, oil pressure is not indicated within thirty seconds, stop engine and determine trouble.

NOTE

If engine fails to achieve a normal start, assume it to be flooded and use standard clearing procedure, then repeat above steps.

b. Carbureted Engines (Hot). Proceed as outlined above omitting the priming step.

c. Fuel Injected Engines (Cold).

(1) Perform pre-flight inspection.

(2) Set alternate air control in "off" position.

(3) Set propeller governor control in "Full RPM" position (where applicable).

(4) Turn fuel valve "On".

(5) Turn boost pump "On".

(6) Open throttle wide open, move mixture control to "Full Rich" until a slight but steady fuel flow is noted (approximately 3 to 5 seconds) then return throttle to "Closed" and return mixture control to "Idle Cut-Off".

(7) Turn boost pump "Off".

(8) Open throttle 1/4 of travel.

4. COLD WEATHER STARTING. During extreme cold weather, it may be necessary to preheat the engine and oil before starting.

5. GROUND RUNNING AND WARM-UP.

The engines covered in this manual are air-pressure cooled and depend on the forward speed of the aircraft to maintain proper cooling. Particular care is necessary, therefore, when operating these engines on the ground. To prevent overheating, it is recommended that the following precautions be observed.

NOTE

Any ground check that requires full throttle operation must be limited to three minutes, or less if the indicated cylinder head temperature should exceed the maximum stated in this manual.

a. Head the aircraft into the wind.

b. Leave mixture in "Full Rich".

c. Operate only with the propeller in minimum blade angle setting.

d. Warm-up at approximately 1000-1200 RPM. Avoid prolonged idling and do not exceed 2200 RPM on the ground.

e. Engine is warm enough for take-off when the throttle can be opened without the engine faltering.

6. GROUND CHECK.

a. Warm-up as directed above.

b. Check both oil pressure and oil temperature.

c. Leave mixture in "Full Rich".

d. (Where applicable.) Move the propeller control through its complete range to check operation and return to full low pitch position. Full feathering check (twin engine) on the ground is not recommended but the feathering action can be checked by running the engine between 1000–1500 RPM; then momentarily pulling the propeller control into the feathering position. Do not allow the RPM to drop more than 500 RPM.

e. A proper magneto check is important. Additional factors, other than the ignition system, affect magneto drop–off. They are load–power output, propeller pitch and mixture strength. The important thing is that the engine runs smoothly because magneto drop–off is affected by the variables listed above. Make the magneto check in accordance with the following procedures.

(1) (Controllable Pitch Propeller) With propeller in minimum pitch angle, set the engine to produce 50 - 65% power as indicated by the manifold pressure gage. Mixture control should be in the full rich position. At these settings, the ignition system and spark plugs must work harder because of the greater pressure within the cylinders. Under these conditions ignition problems, if they exist, will occur. Mag checks at low power settings will only indicate fuel-air distribution quality.

NOTE

Aircraft that are equipped with fixed pitch propellers, or not equipped with manifold pressure gage, may check magneto drop-off with engine operating at a maximum of 2000/2100 RPM.

(2) Switch from both magnetos to one and note drop-off, return to both until engine regains speed and switch to the other magneto and note drop-off, then return to both. Drop-off should not exceed 175 RPM and should not exceed 50 RPM between magnetos. A smooth drop-off past normal is usually a sign of a too lean or too rich mixture.

f. Do not operate on a single magneto for too long a period, a few seconds is usually sufficient to check drop-off and will minimize plug fouling.

7. OPERATION IN FLIGHT.

a. See airframe manufacturer's instructions for recommended power settings.

b. Fuel Mixture Leaning Procedure.

Improper fuel/air mixture during flight is responsible for many engine problems, particularly during take-off and climb power settings. The procedures described in this manual provide proper fuel/air mixture when leaning Avco Lycoming engines; they have proven to be both economical and practical by eliminating excessive fuel consumption and reducing damaged parts replacement. It is therefore recommended that operators, of all Avco Lycoming aircraft power-plants, utilize the instructions in this publication any time the fuel/air mixture is adjusted during flight.

Manual leaning may be monitored by exhaust gas temperature indication, fuel flow indication, and by observation of engine speed and/or airspeed. However, whatever instruments are used in monitoring the mixture, the following general rules should be observed by the operator of Avco Lycoming aircraft engines.

GENERAL RULES

Never exceed the maximum red line cylinder head temperature limit.

For maximum service life, cylinder head temperatures should be maintained below 435°F. (224°C.) during high performance cruise operation and below 400°F. (205°C.) for economy cruise powers.

Do not manually lean engines equipped with automatically controlled fuel system.

Maintain mixture control in "Full Rich" position for rated take-off, climb and maximum cruise powers (above approximately 75%). However, during take-off from high elevation airport or during climb, roughness or loss of power may result from over-richness. In such a case adjust mixture control only enough to obtain smooth operation - not for economy. Observe instruments for temperature rise. Rough operation due to over-rich fuel/air mixture is most likely to be encountered in carbureted engines at altitude above 5,000 feet.

Always return the mixture to full rich before increasing power settings.

Operate the engine at maximum power mixture for performance cruise powers and at best economy mixture for economy cruise power; unless otherwise specified in the airplane owners manual.

During let-down flight operations it may be necessary to manually lean uncompensated carbureted or fuel injected engines to obtain smooth operation.

1. LEANING TO EXHAUST GAS TEMPERATURE GAGE.

a. Normally aspirated engines with fuel injectors or uncompensated carburetors.

(1) Maximum Power Cruise (approximately 75% power) - Never lean beyond 150°F. on rich side peak EGT unless aircraft operator's manual shows otherwise. Monitor cylinder head temperatures.

(2) Best Economy Cruise (approximately 75% power and below) - Operate at peak EGT, or if desired, drop 50°F. on rich side of peak EGT.

2. LEANING TO FLOWMETER.

Lean to applicable fuel-flow tables or lean to indicator marked for correct fuel-flow for each power setting.

3. LEANING WITH MANUAL MIXTURE CONTROL (Economy Cruise, 75% power or less) without flowmeter or EGT gage).

a. Carbureted Engines.

(1) Slowly move mixture control from "Full Rich" position toward lean position.

(2) Continue leaning until engine roughness is noted.

(3) Enrich until engine runs smoothly and power is regained.

b. Fuel Injected Engines.

(1) Slowly move mixture control from "Full Rich" position toward lean position.

(2) Continue leaning until slight loss of power is noted (loss of power may or may not be accomplished by roughness).

(3) Enrich until engine runs smoothly and power is regained.

As shown in Figure 3-1, if engine speed and throttle setting are kept constant at normal cruise conditions, the affect of leaning on engine power and engine temperatures will be as shown. Power drops rapidly when the engine is leaned beyond peak exhaust gas temperature; also, best power is attained on the rich side of peak exhaust gas temperature.

9. USE OF CARBURETOR HEAT CONTROL. Under certain moist atmospheric conditions when the relative humidity is more than 50% and at temperature of 20° to 90°, it is possible for ice to form in the induction system, even in summer weather. This is due to the high air velocity through the carburetor venturi and the absorption of heat from this air by vaporization of the fuel. The temperature in the mixture chamber may drop as much as 70°F. below the temperature of the incoming air. If this air contains a large amount of moisture, the cooling process can cause precipitation in the form of ice. Ice formation generally begins in the vicinity of the butterfly and may build up to such an extent that a drop in power output could result. A loss of power is reflected by a drop in manifold pressure in installations equipped with constant speed propellers and a drop in manifold pressure and RPM in installations equipped with fixed pitch propellers. If not corrected, this condition may cause complete engine stoppage.

a. To avoid this, all installations are equipped with a system for preheating the incoming air supply to the carburetor. In this way sufficient heat is added to replace the heat loss of vaporization of fuel, preventing the mixture chamber temperature from dropping to the freezing point of water. This air preheater is essentially a tube or jacket through which the exhaust pipe from one or more cylinders is passed, and the air flowing over these surfaces is raised to the required temperature before entering the carburetor. Consistently high temperatures can cause a loss in power and a decided variation of mixture. The following outline is the proper method of utilizing the carburetor heat control.

(1) Ground Operation - Use of the carburetor air heat on the ground should be held to a minimum. On some installations the air does not pass through the air filter, and dirt and foreign substances can be taken into the engine with the resultant cylinder and piston ring wear. In dirt and dust free areas carburetor air heat should be used on the ground to make certain it is functioning properly, or when carburetor icing conditions require it.

(2) Take-Off - Take-offs and full throttle operation should be made with carburetor heat in full cold position. The possibility of throttle icing at wide throttle openings is very remote, so remote in fact, that it can be disregarded.

(3) Climbing - When climbing at part throttle power settings of 80% or above, the carburetor heat control should be set in the full cold position; however, if it is necessary to use carburetor heat to prevent icing it is possible for engine roughness to occur due to the over-rich fuel-air mixture produced by the additional carburetor heat. When this happens, carefully lean the mixture with the mixture control only enough to produce smooth engine operation. Do not continue to use carburetor heat after flight is out of icing conditions, and adjust mixture according to percent of power and altitude.

(4) Flight Operation - During normal flight, leave the carburetor air heat control in the cold position. On damp, cloudy, foggy or hazy days, regardless of the outside air temperatures, look out for loss of power. This will be evidenced by an unaccountable loss in manifold pressure or RPM or both, depending on whether a constant speed or fixed pitch propeller is installed on the aircraft. If this happens, apply full carburetor air heat and increase the throttle, if available to compensate for power loss. This will result in a slight additional drop in manifold pressure which is normal, and this drop will be regained as the ice is melted out of the induction system. When ice has been melted from the induction system, heat should be used as long as known or suspected icing exists. Only in those aircraft equipped with a carburetor air temperature gage may partial heat be used to keep the mixture temperature above freezing point (32°F.), Be alert to the threat of carburetor icing during reduced power operation on or above water.

WARNING

It is advisable, to use either full heat or no heat in aircraft that are not equipped with a carburetor air temperature gage. At an ambient temperature of 14°F. or below any mixture in the air is frozen and heat should not be used.

(5) Landing Approach - In making a landing approach, the carburetor heat should usually be in the "Full Cold" position. However, if icing conditions are known or suspected, the "Full Heat" should be applied. In the case that full power need be applied under these conditons, as for an aborted landing, the carburetor heat should be returned to "Full Cold" prior to full power application. See the aircraft flight manual for specific instructions. As a safety measure, there is no objection to the use of carburetor heat during landing approach provided that on a go-around, or touch-and-go landing, the carburetor heat is returned promptly to the cold position.

10. ENGINE FLIGHT CHART.

Fuel and Oil -

Model	Aviation Grade Fuel
0-320-A, -E Series	80/87 octane, minimum
IO-320-A, -E Series	80/87 octane, minimum
0-320-B, -D Series	91/96 or 100/130 octane, minimum
IO-320-B, -D Series	91/96 or 100/130 octane, minimum
IO-320-C Series	100/130 octane, minimum
AIO-320 Series	91/96 or 100/130 octane, minimum
LIO-320-B Series	91/96 or 100/130 octane, minimum
LIO-320-C Series	100/130 octane, minimum
0-320-D2J	100/100LL octane, minimum

NOTE: Aviation grade 100LL fuels in which the lead content is limited to 2 c.c. per gal. are approved for continuous use in the above listed engines.

ALL MODELS

Average Ambient Air	*Recommended Grade Oil MIL-L-6082 Grades	Ashless Dispersant Grades
Above 80°F. (26.66°C.)	SAE 60	SAE 60
Above 60°F. (15.55°C.)	SAE 50	SAE 40 or SAE 50
30° (-1.11°C.) to 90°F. (32.22°C.)	SAE 40	SAE 40
0° (-17.77°C.) to 70°F. (21.11°C.)	SAE 20	SAE 30 or SAE 40
Below 10°F. (-12.22°C.)	SAE 20	SAE 30

* - Refer to the latest edition of Service Instruction No. 1014.

Oil Sump Capacity . . . . 8 U. S. Quarts

Minimum Safe Quantity in Sump . . . . 2 U. S. Quarts

OPERATING CONDITIONS

Average Ambient Air	Oil Inlet Temperature Desired	Maximum
Above 80°F. (26.66°C.)	180°F. (82°C.)	245°F. (118°C.)
Above 60°F. (15.55°C.)	180°F. (82°C.)	245°F. (118°C.)
30° (-1.11°C.) to 90°F. (32.22°C.)	180°F. (82°C.)	245°F. (118°C.)
0° (-17.77°C.) to 70°F. (21.11°C.)	170°F. (77°C.)	225°F. (107°C.)
Below 10°F. (-12.22°C.)	160°F. (71°C.)	210°F. (99°C.)

Oil Pressure, psi	Maximum	Minimum	Idling
Normal Operating	90	60	25
Start and Warm-Up (except 0-320-D2J)	100		
0-320-D2J	115		

OPERATING CONDITIONS (CONT.)

Fuel Pressure, psi	Max.	Desired	Min.
0-320 Series			
Inlet to carburetor	8.0	3.0	0.5
IO-320-B, -D, -E Series; AIO-320; LIO-320-B			
Inlet to fuel pump	35	-----	-2
Inlet to fuel injector	45	-----	12
Inlet to fuel pump with injector in idle cut-off	55	-----	-----
IO-320-C Series; LIO-320-C			
Inlet to fuel pump	45	-----	-4
Inlet to fuel injector	45	-----	14
Inlet to fuel pump with injector in idle cut-off	55	-----	-----

Operation	RPM	HP	Fuel Cons. Gal./Hr.	Max. Oil Cons. Qts./Hr.	*Max. Cyl. Head Temp.
0-320-A, -E Series**					
Normal Rated	2700	150	-----	.67	500°F. (260°C.)
Performance Cruise (75% Rated)	2450	110	10.0	.37	500°F. (260°C.)
Economy Cruise (65% Rated)	2350	97	8.8	.33	500°F. (260°C.)
0-320-B, -D* Series**					
Normal Rated	2700	160	-----	.72	500°F. (260°C.)
Performance Cruise (75% Rated)	2450	120	10.0	.40	500°F. (260°C.)
Economy Cruise (65% Rated)	2350	104	8.8	.35	500°F. (260°C.)

* - At Bayonet Location - For maximum service life of the engine, maintain cylinder head temperatures between 150°F. (66°C.) and 435°F. (223.86°C.) during continuous operation.

** - 0-320-E2A and -E2C have alternate rating of 140 HP at 2450 RPM.

*** - 0-320-D2J has alternate 150 HP at 2500 RPM and 155 HP at 2600 RPM.

OPERATING CONDITIONS (CONT.)

Operation	RPM	HP	Fuel Cons. Gal./Hr.	Max. Oil Cons. Qts./Hr.	*Max. Cyl. Head Temp.
IO-320-A, -E Series					
Normal Rated	2700	150	-------	.67	500°F.
Performance Cruise (75% Rated)	2450	110	10.0	.37	500°F.
Economy Cruise (65% Rated)	2350	97	8.8	.33	500°F.
IO-320-B, -C, -D; AIO-320; LIO-320 Series					
Normal Rated	2700	160	-------	.72	500°F.
Performance Cruise (75% Rated)	2450	120	10.0	.40	500°F.
Economy Cruise (65% Rated)	2350	104	8.8	.35	500°F.

* - At Bayonet Location - For maximum service life of the engine, maintain cylinder head temperatures between 150°F. and 435°F. during continuous operation.

11. ENGINE SHUT–DOWN.

a. Set propeller at minimum blade angle (where applicable).

b. Idle until there is a decided decrease in cylinder head temperature.

c. Move mixture control to "Idle Cut-Off".

d. When engine stops, turn ignition switch off.

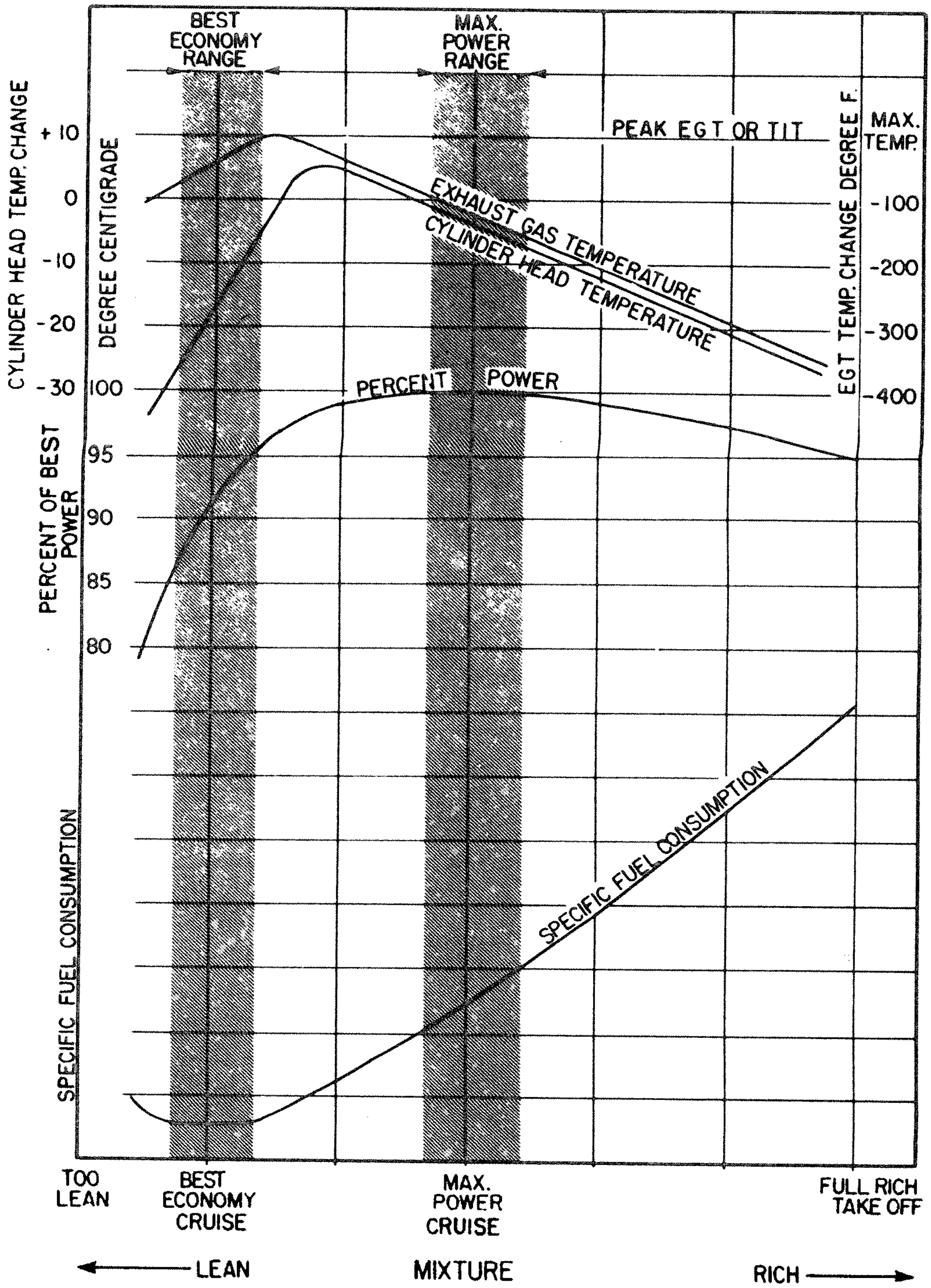

Figure 3-1. Representative Effect of Leaning on Cylinder Head Temperature, EGT (Exhaust Gas Temperature), Engine Power and Specific Fuel Consumption at Constant Engine RPM and Manifold Pressure

CURVE NO.9540-B

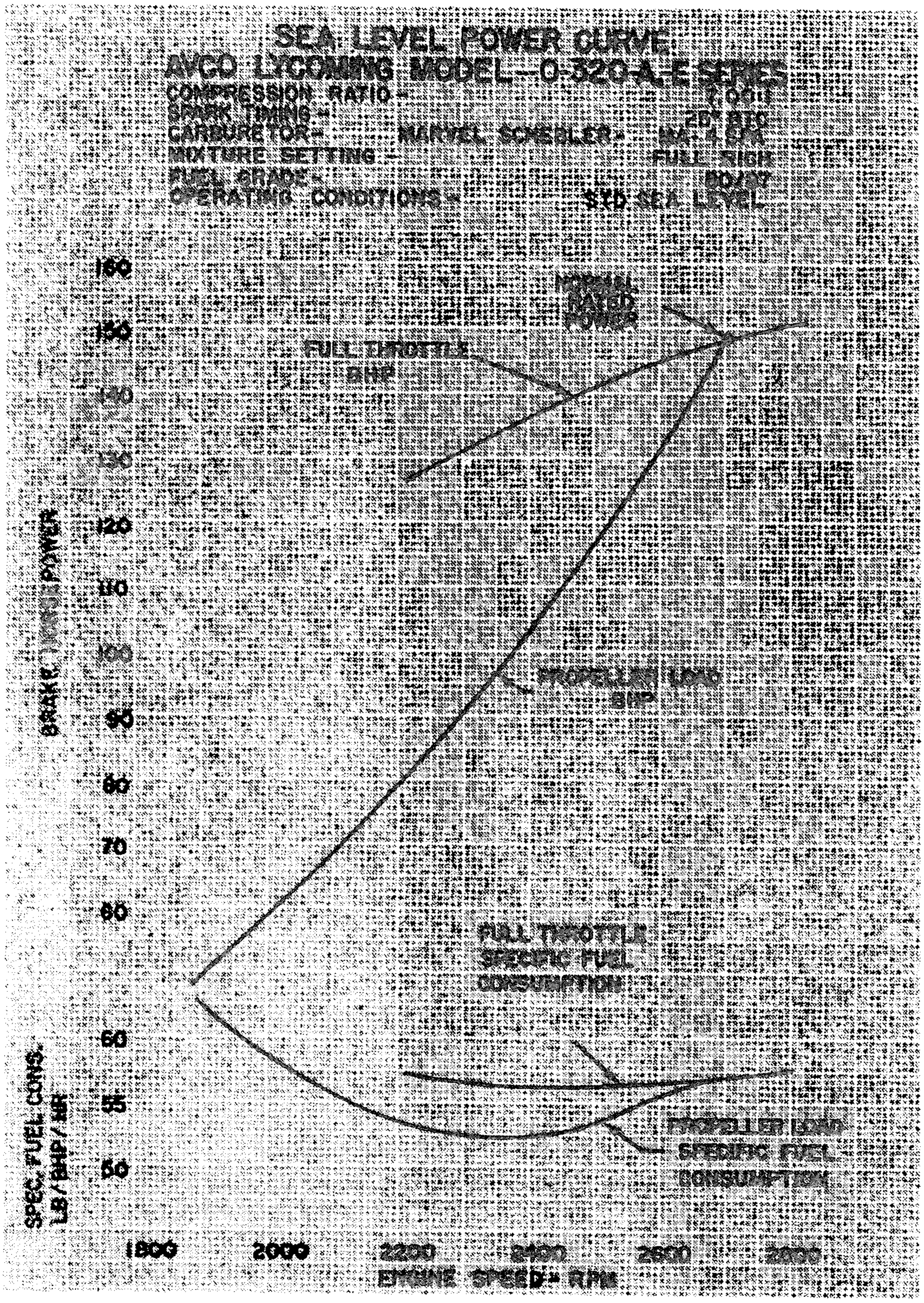

Figure 3-2. Sea Level Power Curve - O-320-A and -E Series

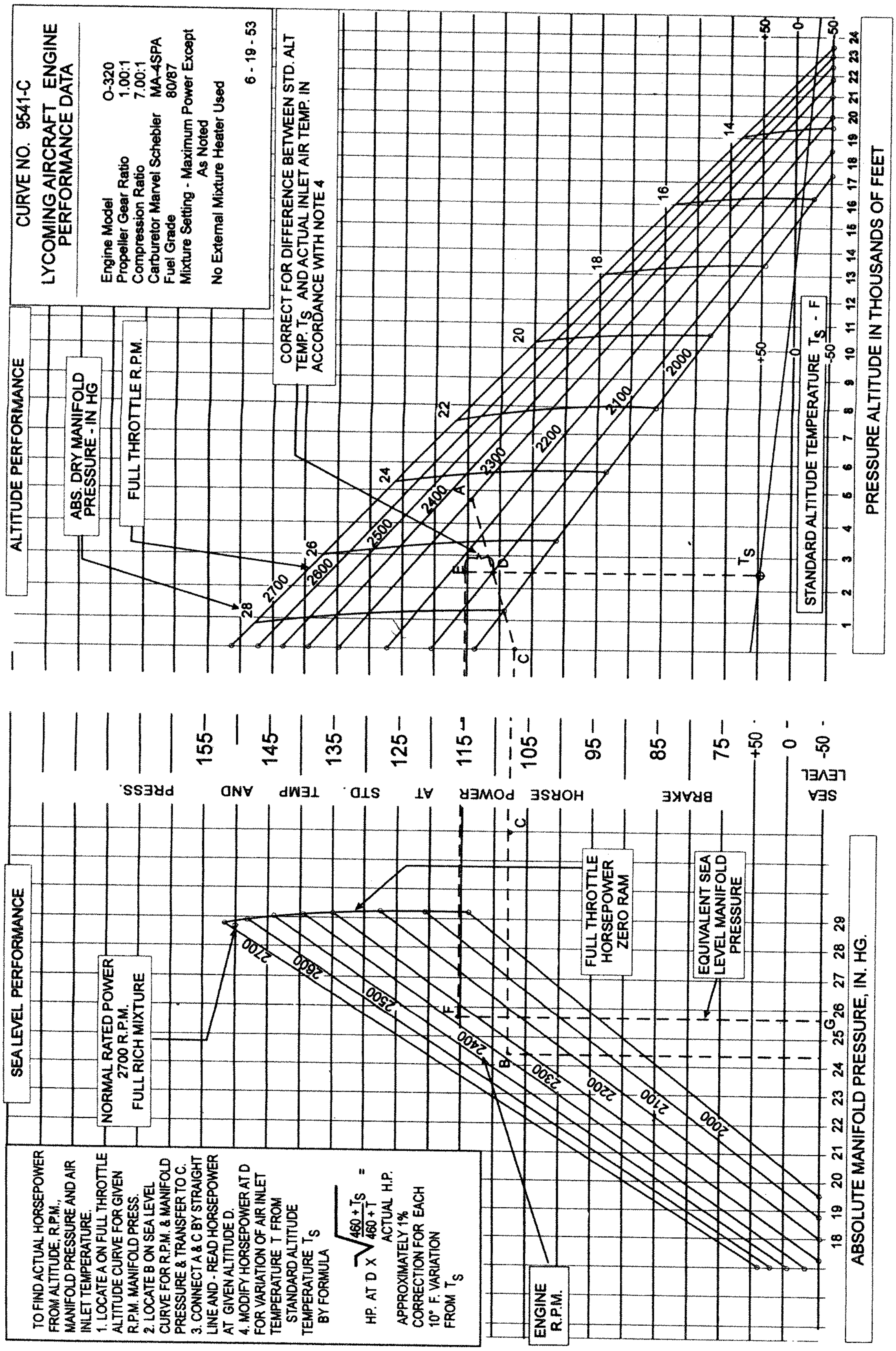

Figure 3-3. Sea Level and Altitude Performance - O-320-A and -E Series

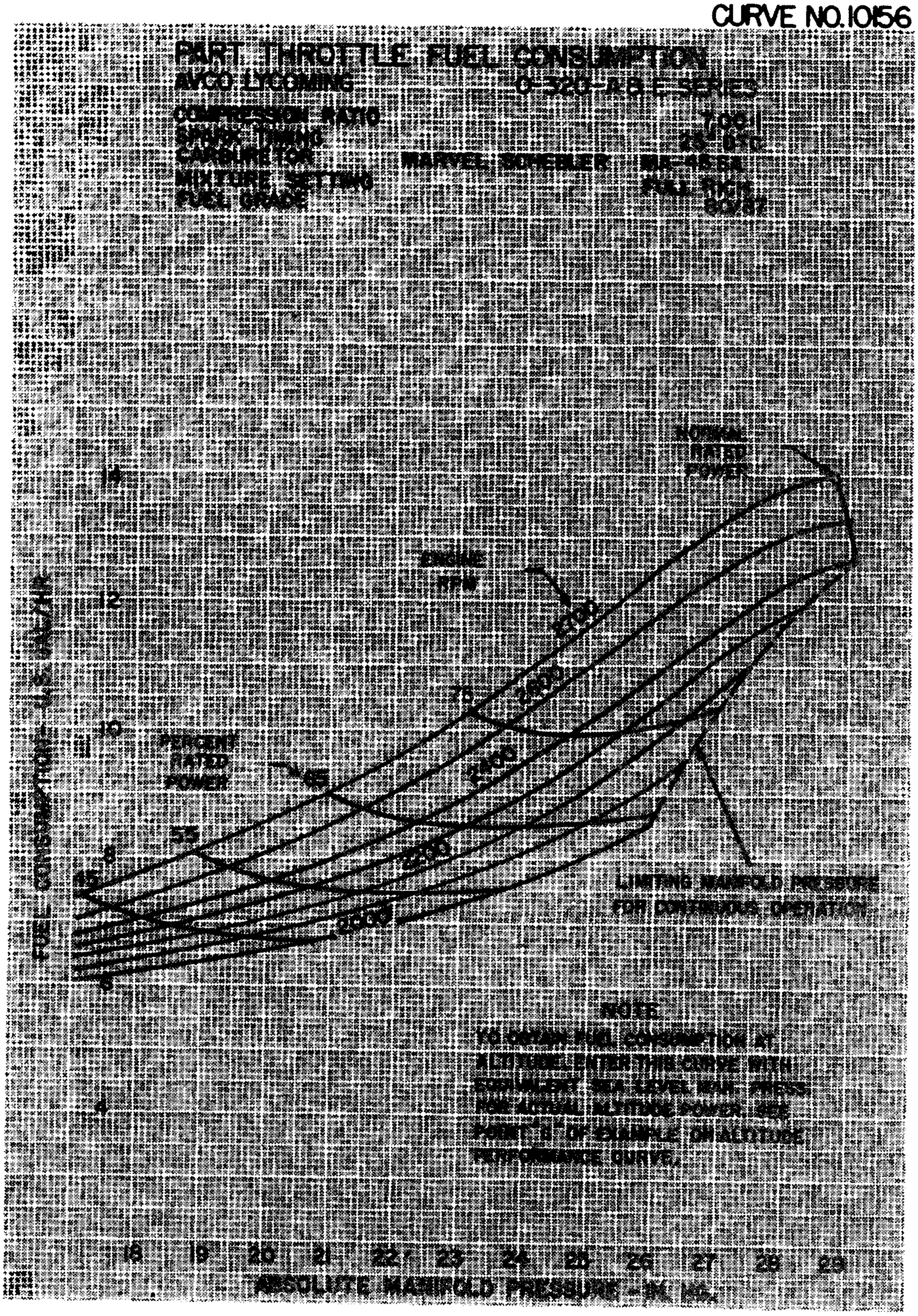

Figure 3-4. Part Throttle Fuel Consumption - O-320-A and -E Series

CURVE № 11259

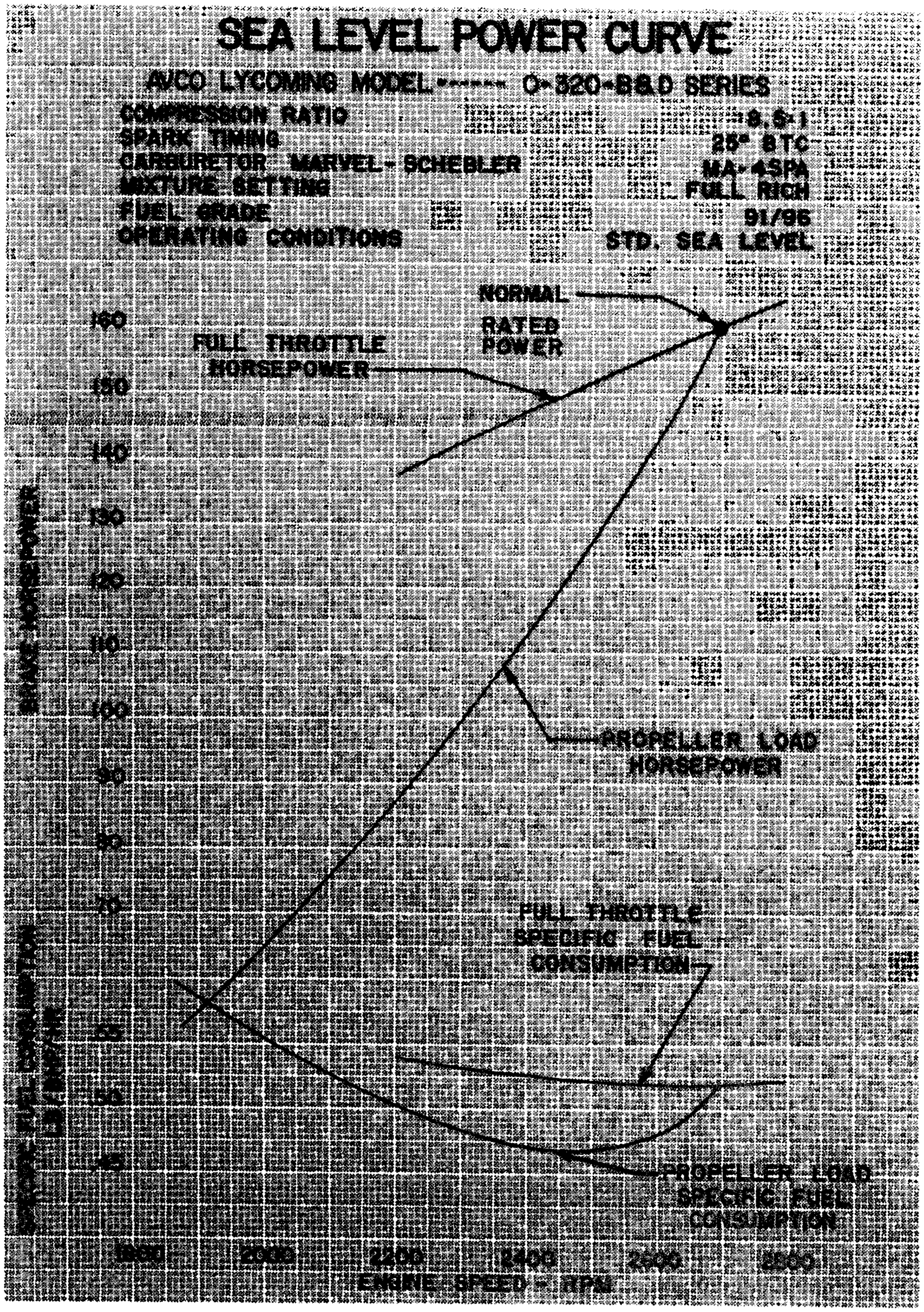

Figure 3-5. Sea Level Power Curve -
O-320-B and -D Series

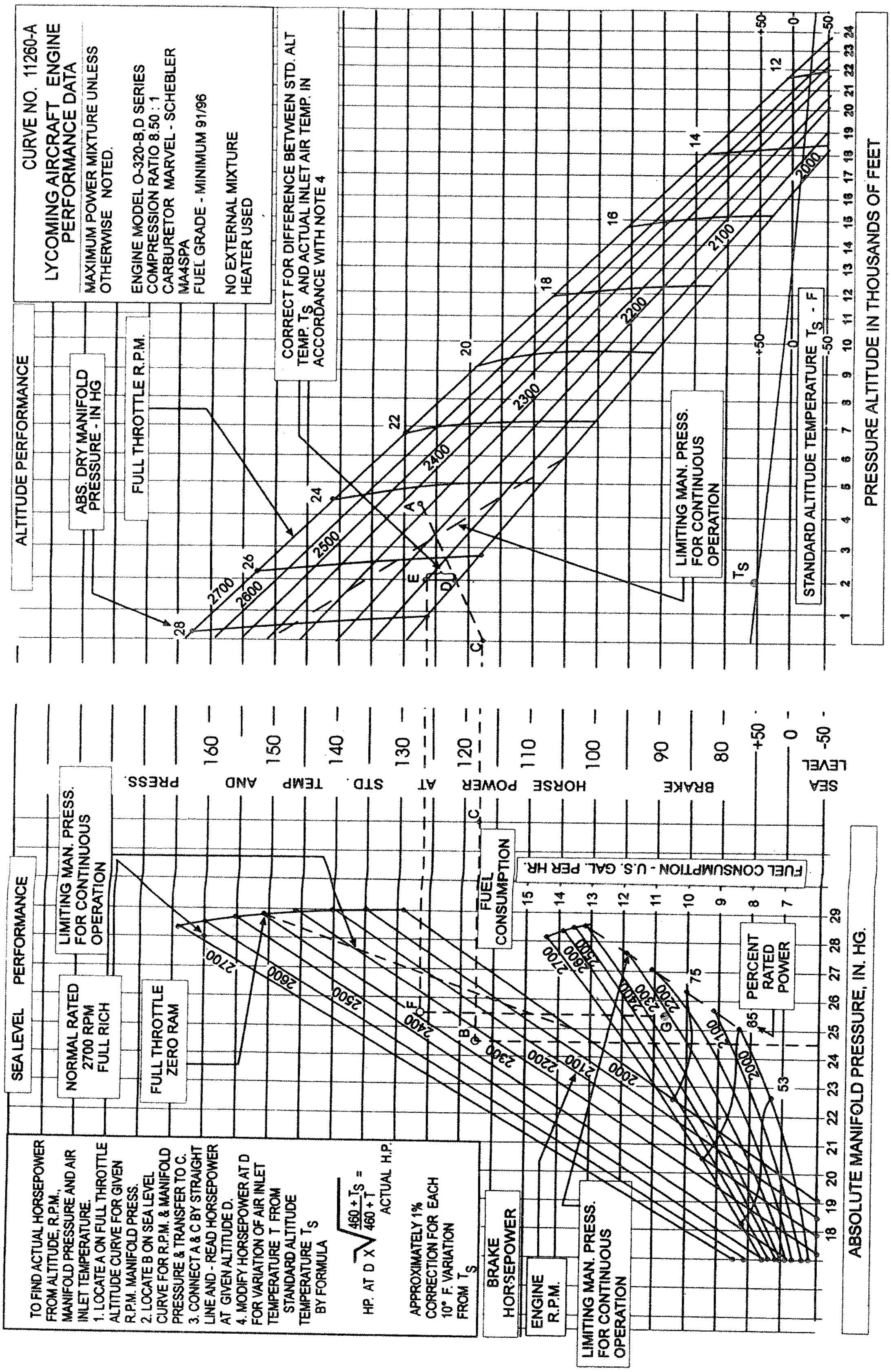

Figure 3-6. Sea Level and Altitude Performance - O-320-B and -D Series

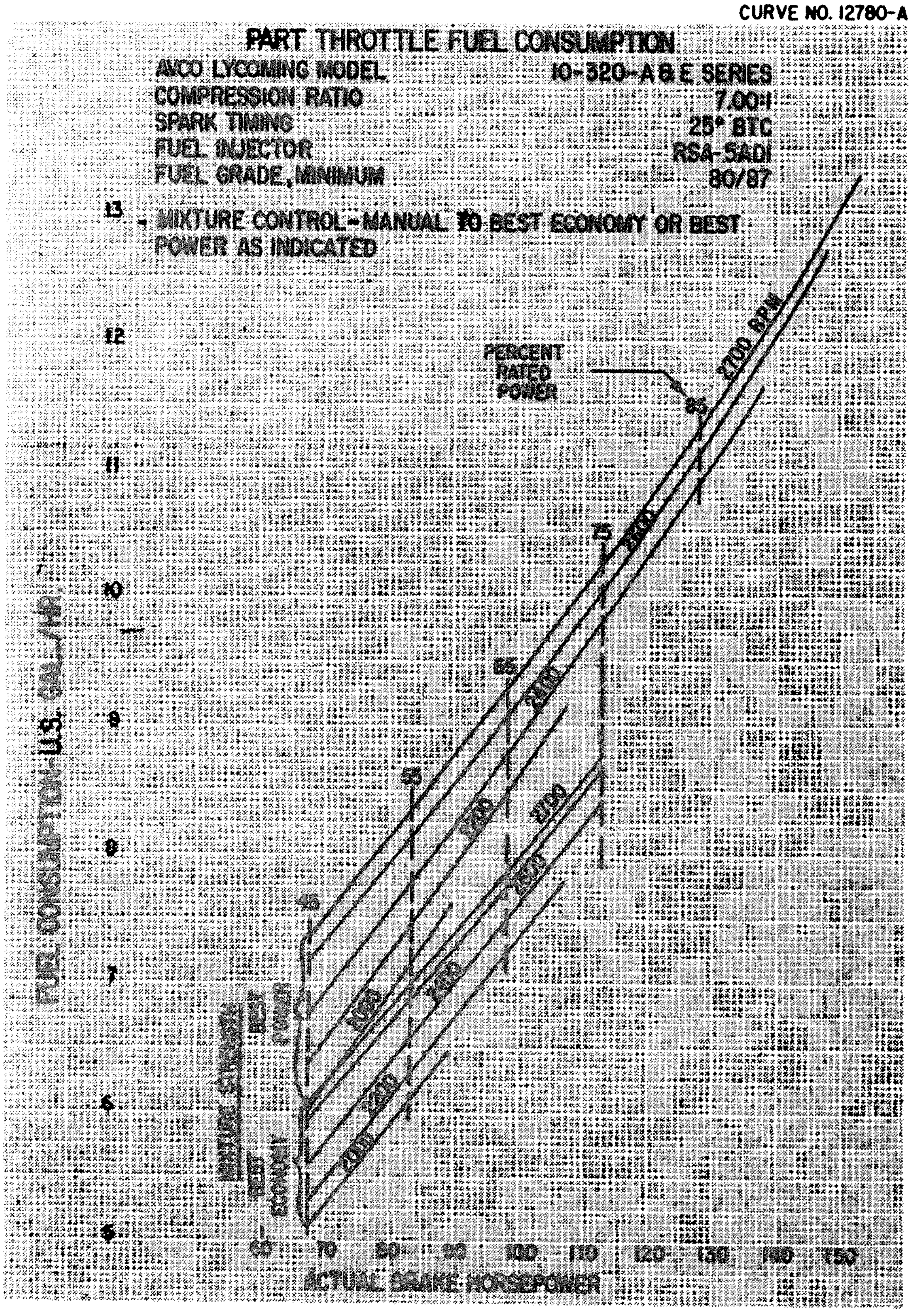

Figure 3-7. Part Throttle Fuel Consumption - IO-320-A and -E Series

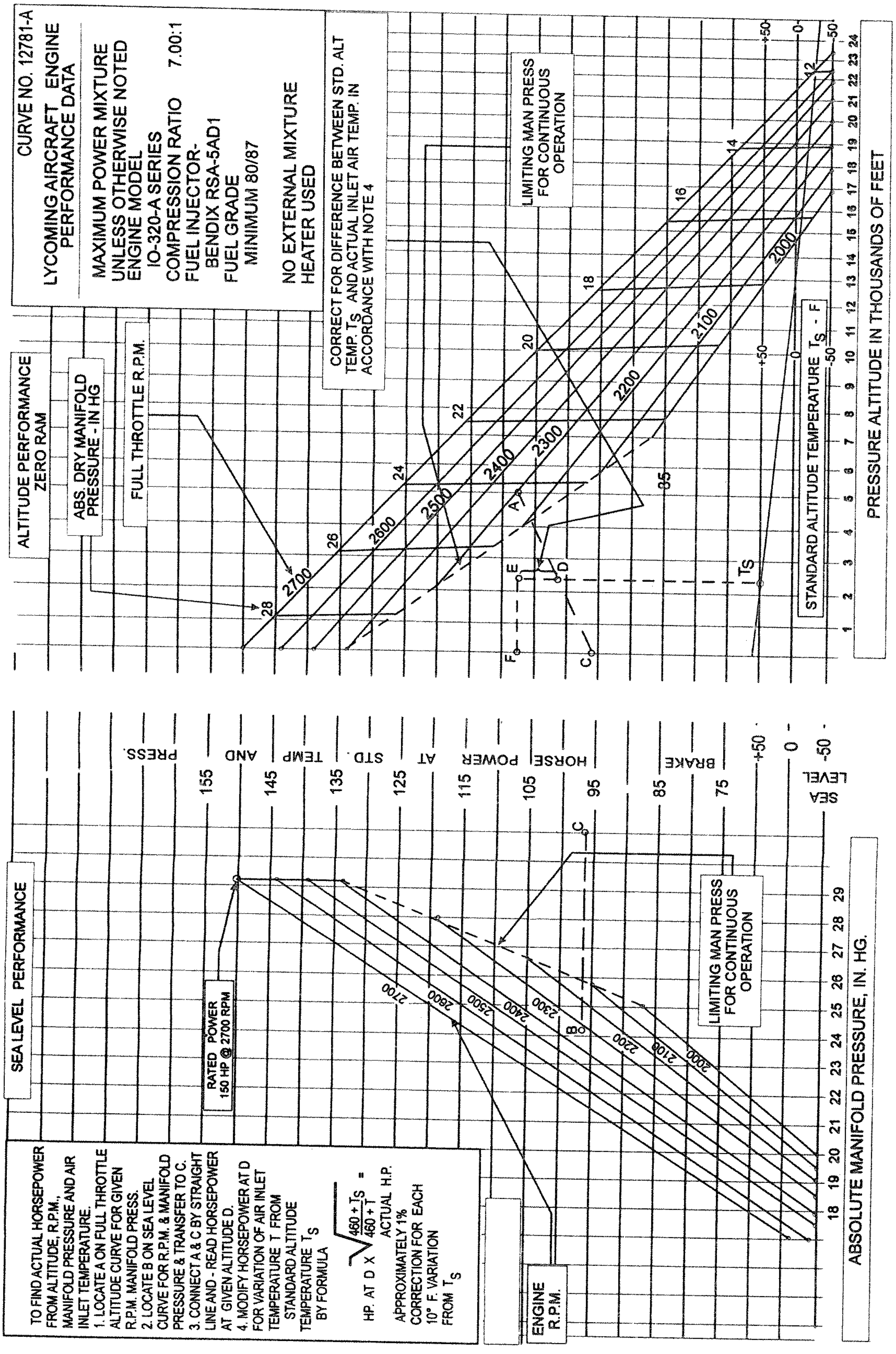

Figure 3-8. Sea Level and Altitude Performance - IO-320-A Series

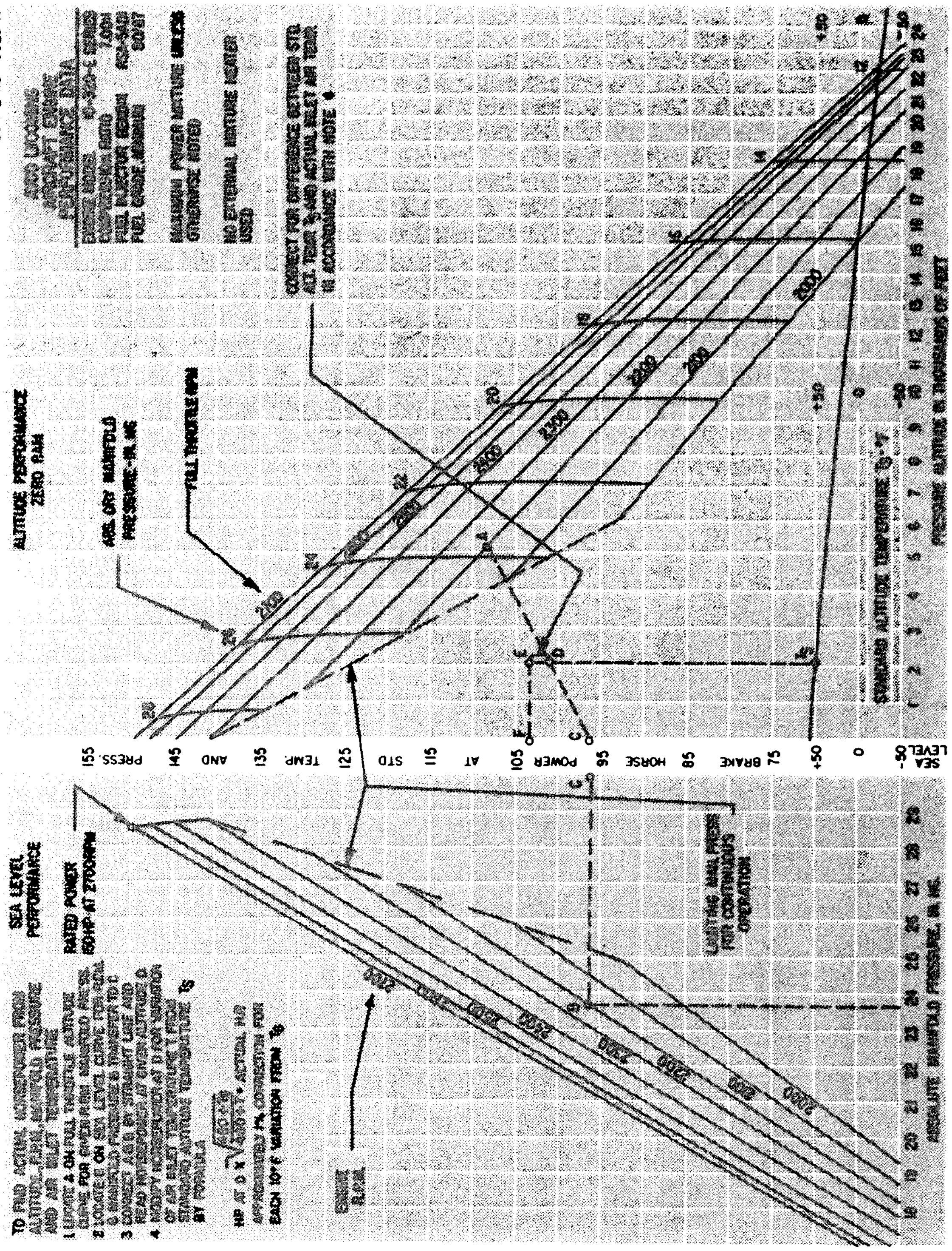

Figure 3-9. Sea Level and Altitude Performance - IO-320-E Series

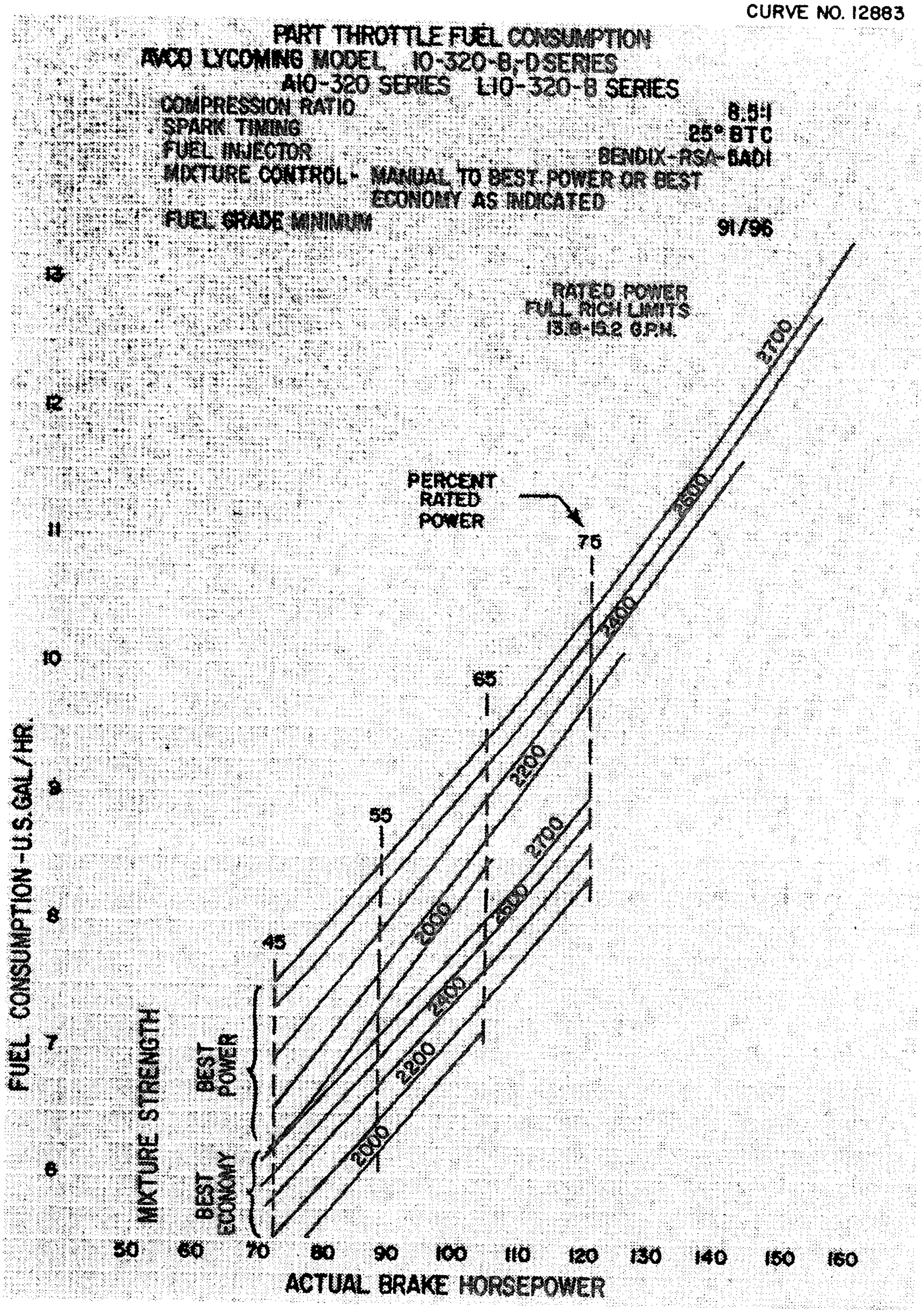

Figure 3-10. Part Throttle Fuel Consumption - IO-320-B, -D, AIO-320, LIO-320-B

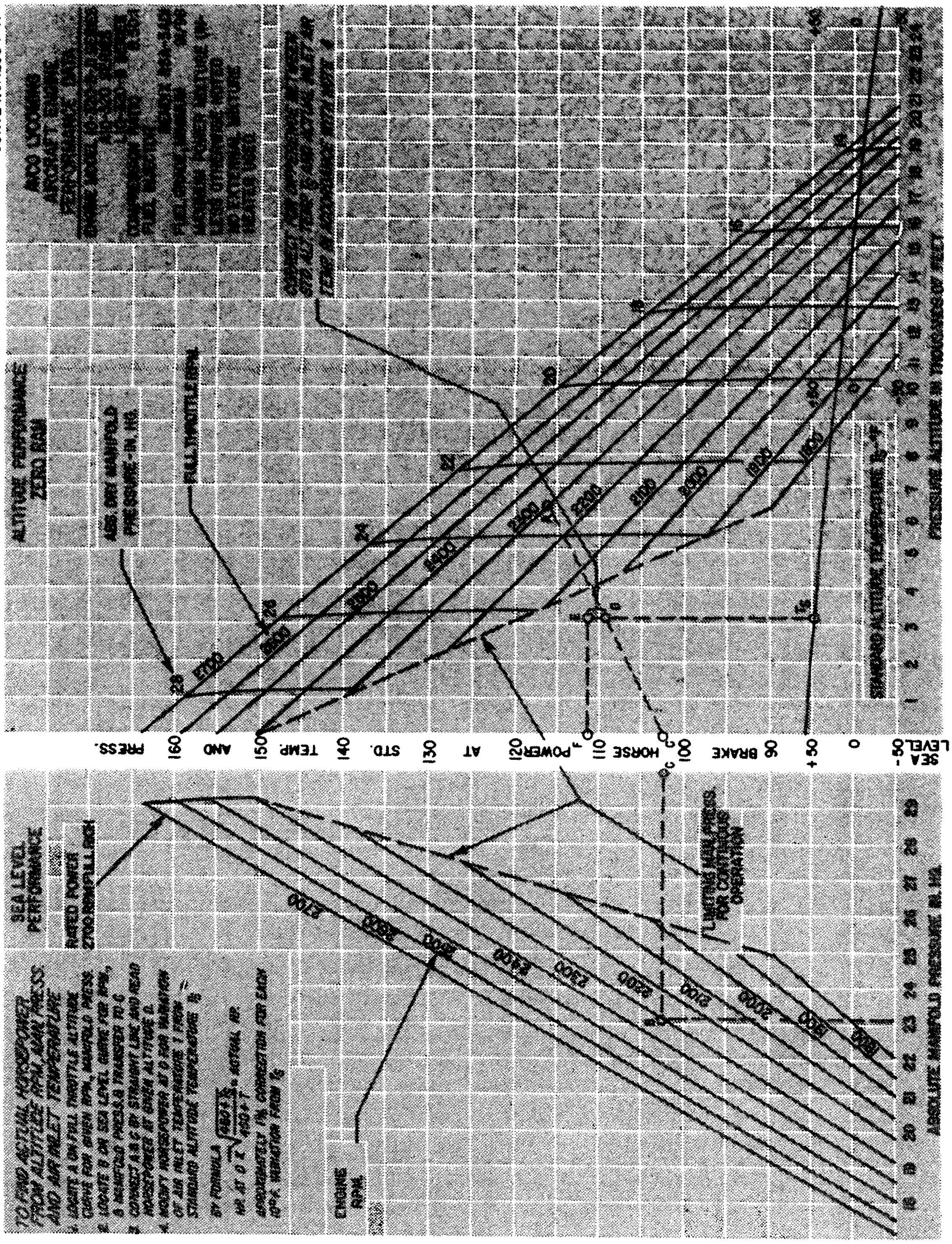

Figure 3-11. Sea Level and Altitude Performance - IO-320-B, -D, AIO-320, LIO-320-B

CURVE NO. 12999

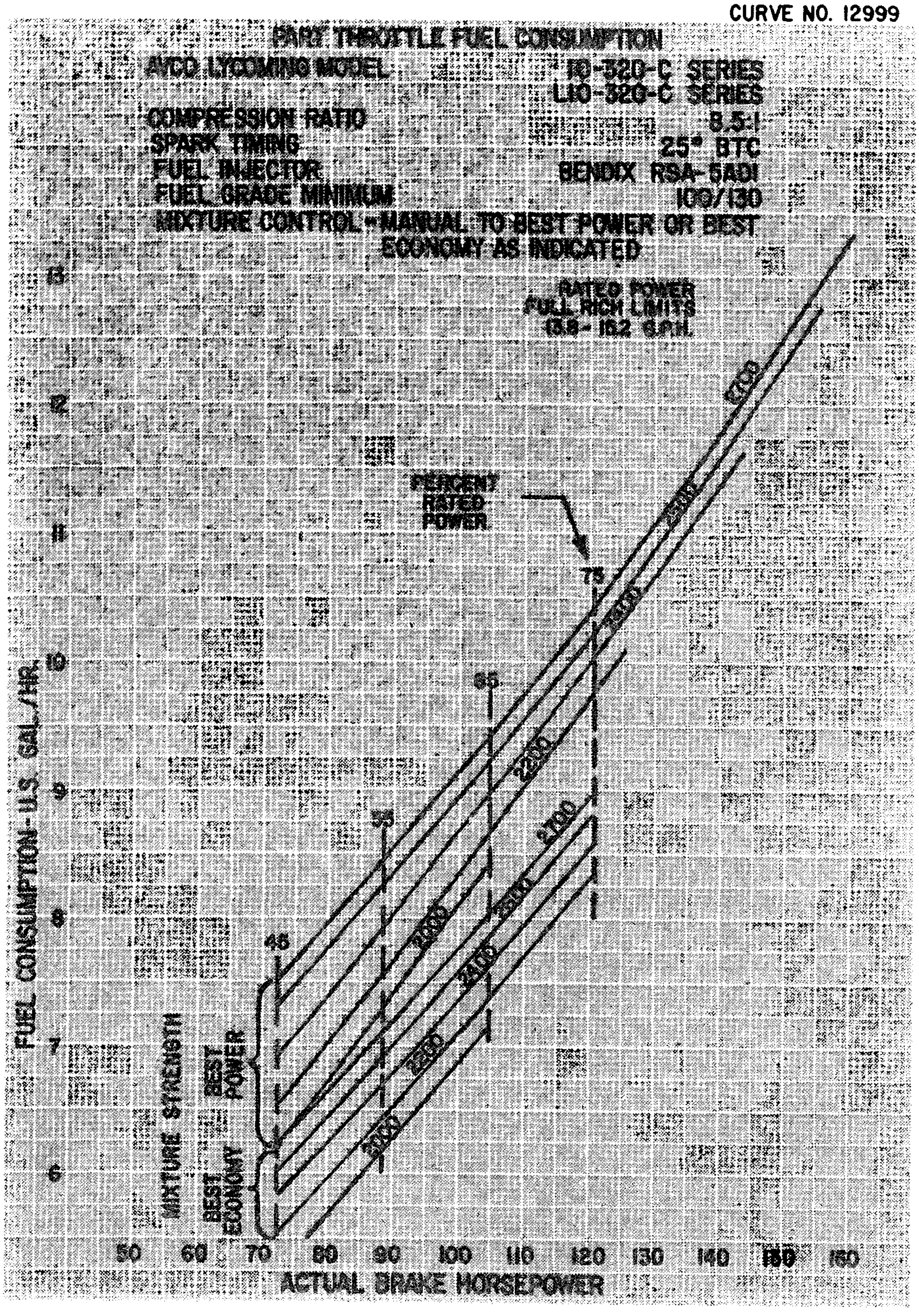

Figure 3-12. Part Throttle Fuel Consumption - IO-320-C, LIO-320-C

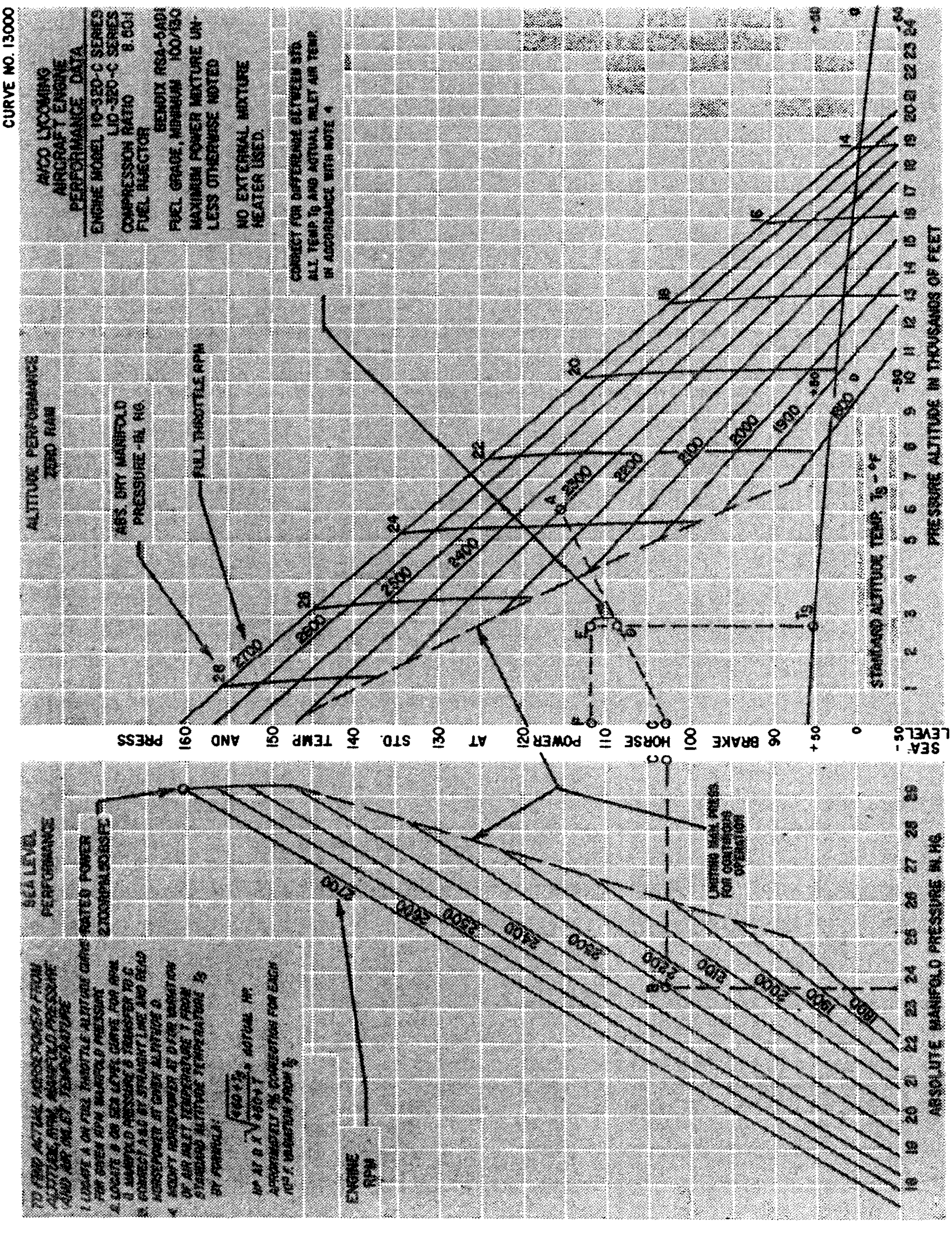

Figure 3-13. Sea Level and Altitude Performance - IO-320-C, LIO-320-C

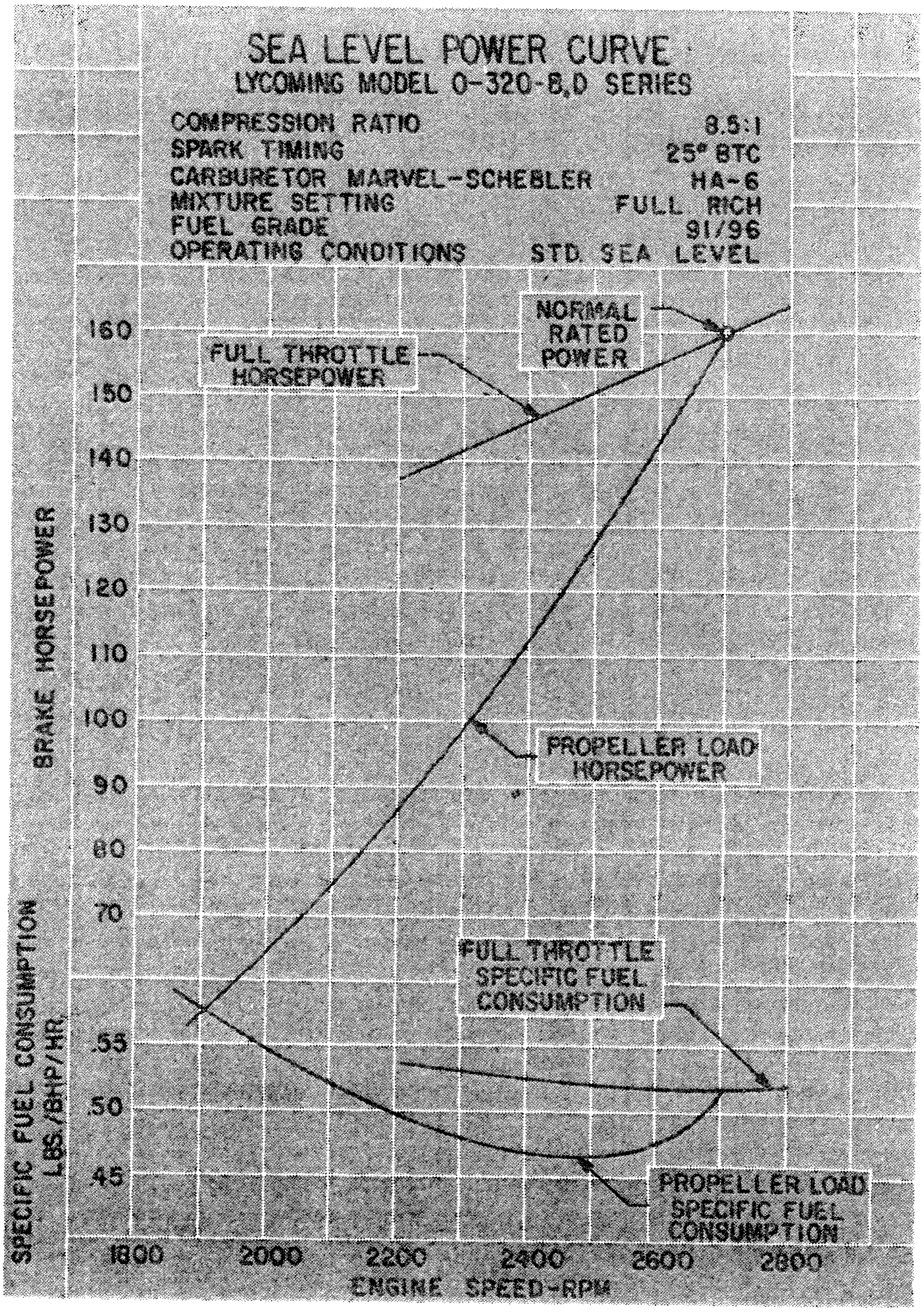

Figure 3-14. Sea Level Power - O-320-D1D

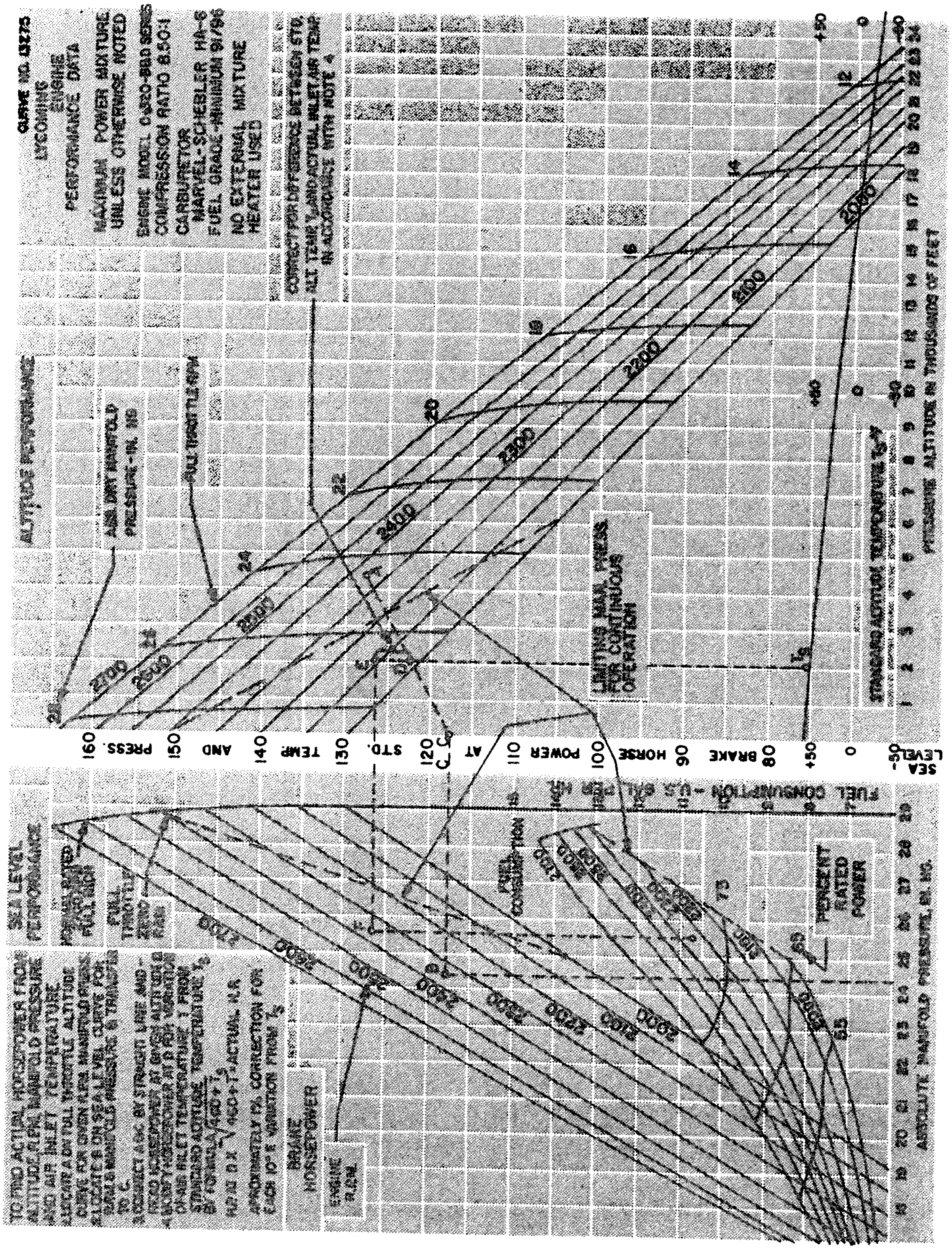

Figure 3-15. Sea Level and Altitude Performance - O-320-D1D

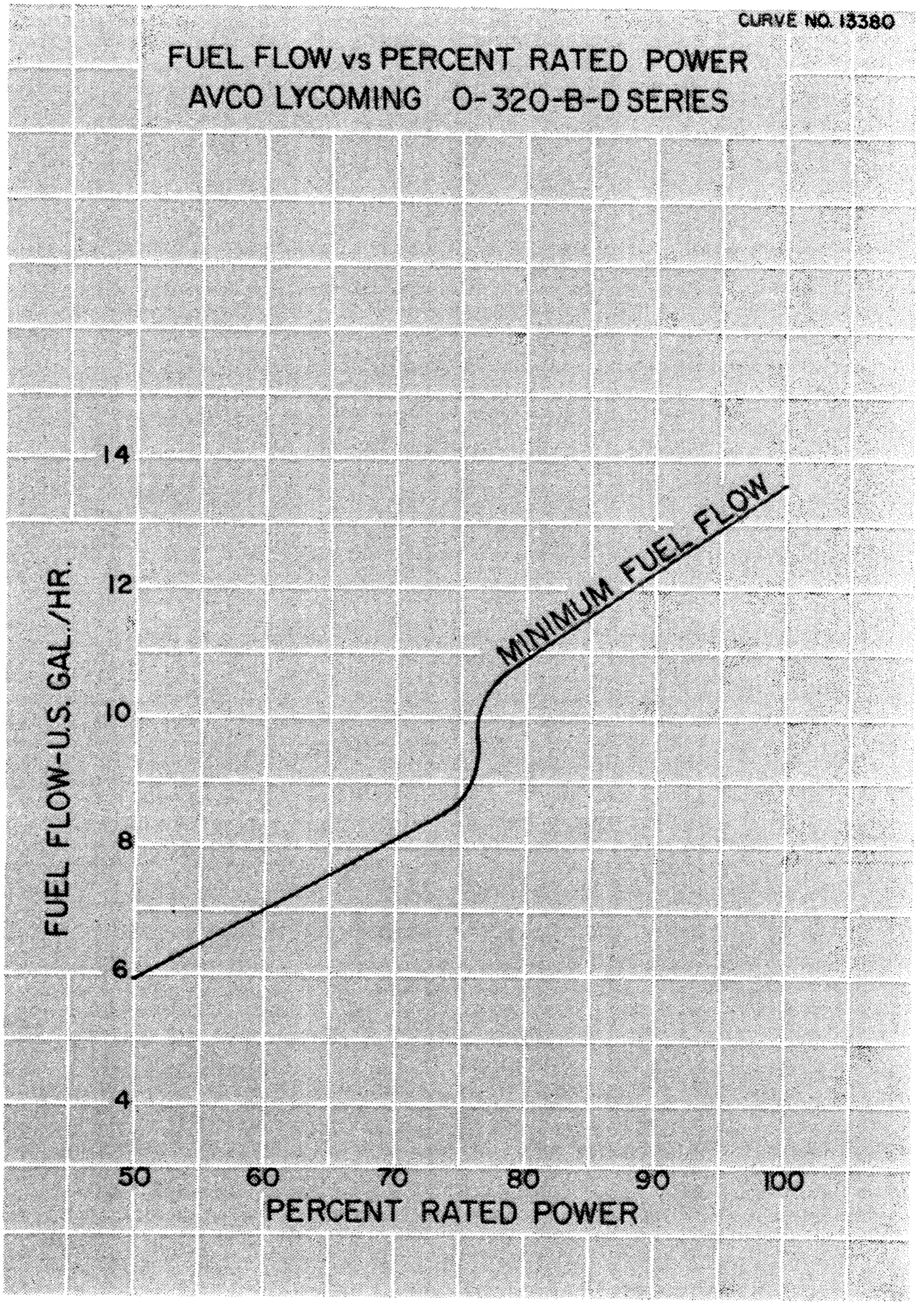

Figure 3-16. Fuel Flow vs Percent Rated Power

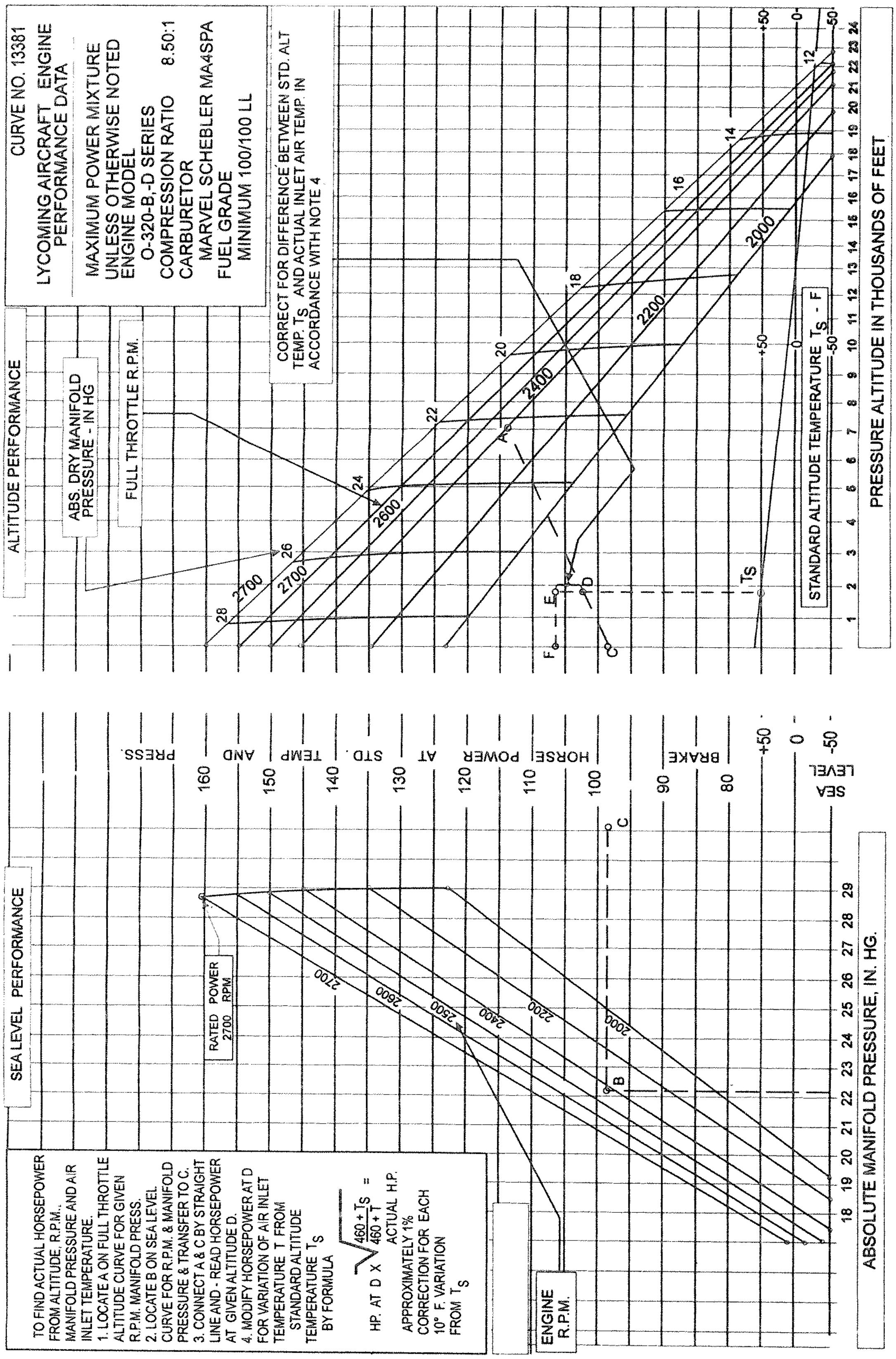

Figure 3-17. Sea Level and Altitude Performance Curve 0-320-D2J