

2-9. POWER PLANT LIMITATIONS (LYCOMING HIO-360-D1A)

- Maximum continuous power is 190 horsepower at 3200 revolutions per minute with 26.0 inches of manifold pressure (MP) at sea level. This varies linearly to 24.7 inches MP at 4200 feet altitude for standard day. Refer to manifold pressure placard.
- The minimum rpm is 3000.
- The range for engine idle speed is 1200 to 1600 rpm.
- With rotor disengaged, avoid engine idle speed in excess of 1600 rpm.

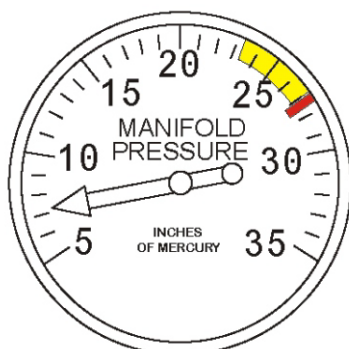
CAUTION

IF ENGINE RPM EXCEEDS 2000 RPM WITH ROTOR DISENGAGED INSPECTION OF DRIVE SHAFT IN ACCORDANCE WITH HMI APPENDIX B IS REQUIRED BEFORE ANY FUTURE OPERATION.

- The initial clutch engagement speeds are 1500 to 1600 rpm.
- Minimum grade fuel = 100/130.
- Lubricating oil recommendations (see Table 2-1).

Table 2-1. SAE Oil Grades

Single Viscosity	Multiple Viscosity	Average Ambient Air Temperature
—	15W50 or 20W50	All Temperatures
60	—	Above 80°F
50	—	Above 60°F
40	—	30°F to 90°F
30	20W40	0°F to 70°F
20	20W30	Below 10°F



MANIFOLD PRESSURE



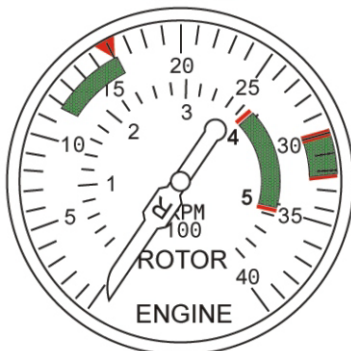
27.2 IN. Hg RED RADIAL



23.3 TO 27.2 IN. Hg YELLOW ARC



YELLOW INDICATES VARIABLE MP
LIMIT 190 HORSEPOWER BASED
ON AMBIENT TEMPERATURE



ENGINE/ROTOR TACHOMETER



RED TRIANGLE 1600
(MAX ENGINE RPM WITH ROTORS DIS-
ENGAGED)



RED RADIAL
ENGINE 3000 AND 3200
ROTOR 390 AND 504



GREEN ARC
ENGINE 1200 TO 1600
ROTOR 390 AND 504

NOTE

The **ABOVE** instrument are no longer in production. The **FOLLOWING** instruments represent the new configuration. The color coding is the same. Early style instrument may be replaced with current style.

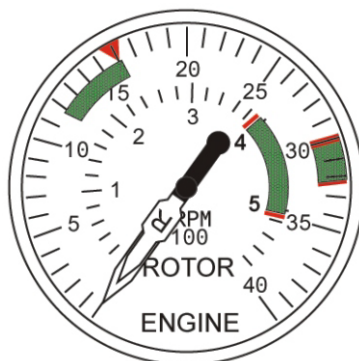
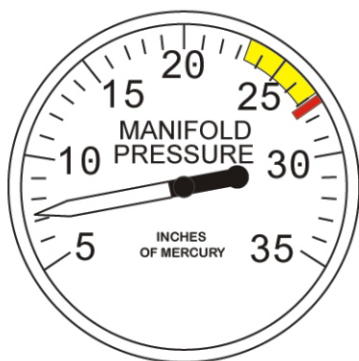


Figure 2-3. Aircraft Instruments (Sheet 4 of 4)

Section III
EMERGENCY AND MALFUNCTION PROCEDURES
EMERGENCIES

3-1. ENGINE FAILURE - ALTITUDE ABOVE 450 FEET

- Lower collective pitch.
- Enter normal autorotation.
- Establish a steady glide of 52 knots (60 mph) IAS approximately.
- At an altitude of 50 feet, begin steadily to apply back cyclic stick to decrease forward speed.
- At approximately 10 feet, coordinate collective pitch with forward movement of cyclic stick to level ship and cushion landing. Make ground contact with ship level.
- Avoid rapid lowering of collective pitch or the use of aft cyclic stick during initial ground contact or during ground slide.
- In the event of engine failure at night, do not turn on landing light above 1,000 feet above terrain in order to preserve battery power.

3-2. ENGINE FAILURE - ALTITUDE ABOVE 7 FEET AND BELOW 450 FEET

- Conduct takeoff operation in accordance with the restrictions shown on Height Velocity Diagram (Figure 5-2). In the event of power failure during takeoff, lower the collective pitch (altitude permitting), in order to maintain rotor speed. The amount and duration of collective reduction depends upon the height above the ground at which the engine failure occurs. As the ground is approached, use back cyclic and collective as needed to decrease forward and vertical velocity. Establish a level attitude prior to ground contact.

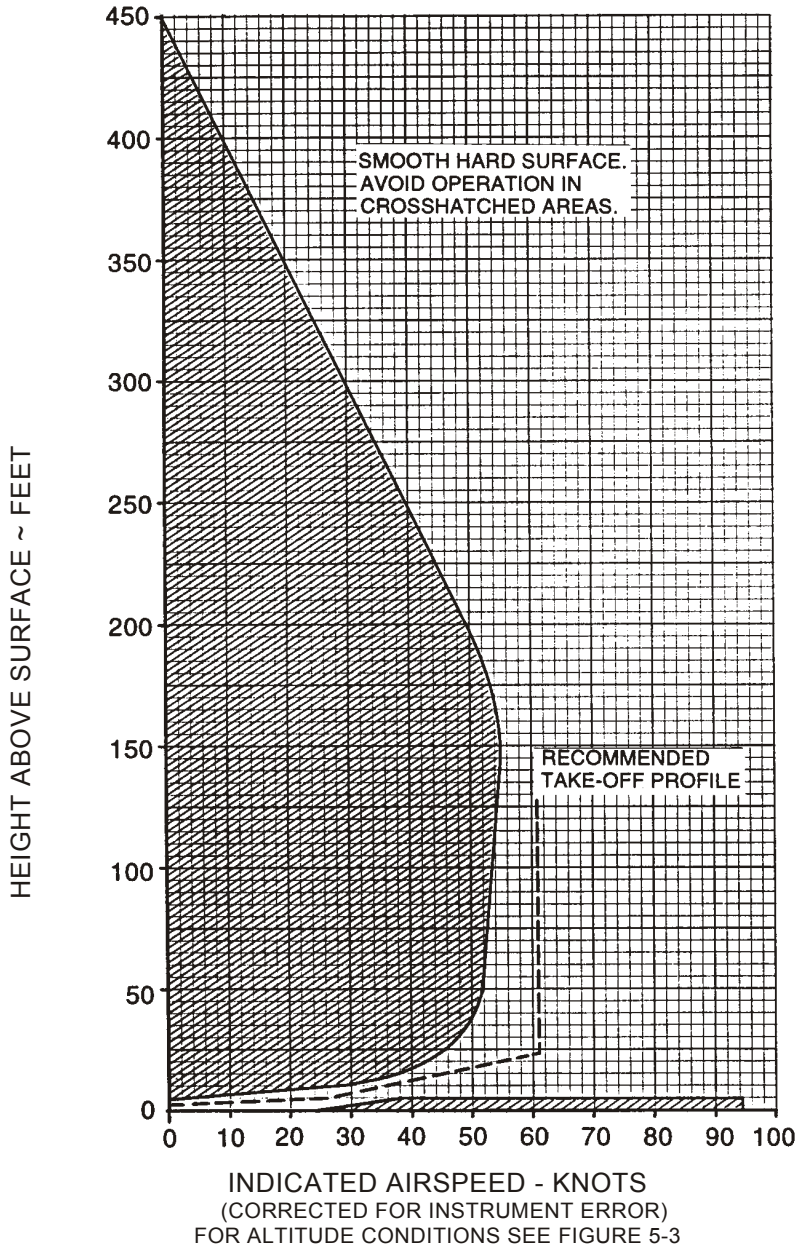


Figure 5-2. Height Velocity Diagram at Sea Level