

Figure 25 — Dive Placard

d. When the above conditions are noticed, the following action should be taken immediately.

(1) In accelerated maneuvers (dive pullouts or steep turns) buffeting may be stopped by reducing the acceleration.

(2) In steady dives at high speed, buffeting may be stopped by reducing the airplane speed and pulling out using minimum acceleration. Use the elevator tab (figure 4-35) if necessary to assist recovery.

## WARNING

Elevator tab must be used with care in order to prevent an extreme tail heavy condition after buffeting stops.

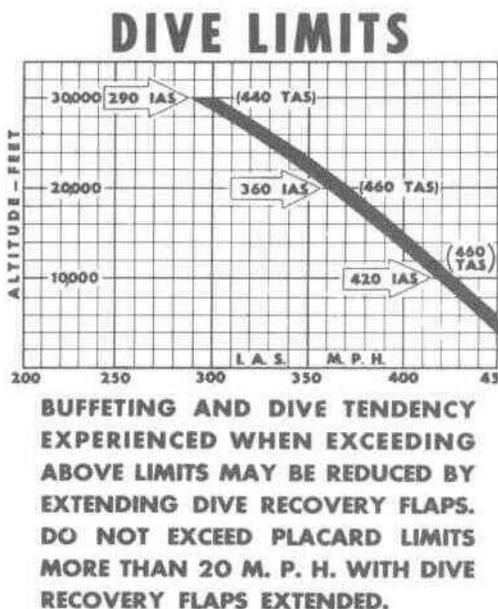


Figure 25A — Dive Placard

e. A new placard (figure 25A) will be installed in late airplanes and may be made retroactive to airplanes already in service. This new placard indicates the safe speed range at any altitude for one G flight. As the airplane approaches this critical one G condition, its ability to pull out is gradually reduced and at the critical speed, buffeting and nose heaviness will occur.

f. DIVE RECOVERY FLAPS.—P-38L and Later P38J airplanes are provided with dive recovery flaps to improve the dive recovery characteristics of the airplane. As described above, the airplane without these flaps becomes very nose heavy and starts to buffet above placard dive speeds. This condition is caused by a high speed stall and a consequent decrease in lift in the wing producing the nose heavy condition. The dive recovery flaps which are installed under the wings between the booms and the ailerons, restore the lift to this portion of the wing and thus cause the uncontrollable nose heaviness to occur at a higher speed. The flaps also add some drag to the airplane, which in conjunction with the higher allowable dive speed, permits safe dives at a much steeper diving angle. The dive recovery flaps should be extended before starting the dive or immediately after the dive has started before a buffeting speed has been reached. If the airplane is buffeting before the dive recovery flaps are extended, the buffeting will momentarily increase and then diminish. With these flaps extended, the nose heaviness is definitely reduced but the diving speed should never be allowed to exceed the placard by more than 15 or 20 mph. With the dive recovery flaps extended before entering the dive, angles of dive up to 45° may be safely accomplished. Without dive recovery flaps extended, the maximum angle for extended dives is 15°. Diving characteristics are better with power off than with power on.

## WARNING

Although the dive recovery flaps greatly improve the diving characteristics of the airplane, dangerous buffeting and nose heaviness will still be encountered at diving angles above 45° if the diving speed is allowed to exceed the placard limits by more than 15 to 20 mph.

## 19. NIGHT FLYING.

a. Very little light need be used for normal cruising flight as all instrument dials are coated with phosphorescent paint. Fluorescent lights (figure 5-5) should be dimmed down until the instruments are barely visible. This will enable the eyes to become accustomed to the