

Department of Transportation
FEDERAL AVIATION ADMINISTRATION
IFR PILOT EXAM-O-GRAM* NO. 2
USE AND ABUSE OF RADAR

The following transmission (except for the fictitious names) was received on 121.5 MHz by Approach Control in an area of high traffic activity:

"FAA RADAR, THIS IS SKYCRAFT 1234 AT 4500 ON A 065 HEADING. I CAN'T LOCATE MY POSITION. WILL THIS HEADING TAKE ME TO BEDROCK?"

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Fortunately for the pilot, this contact with radar control terminated in a safe landing, followed by suspension of his pilot's license after these additional facts emerged:

1. Radar had observed Skycraft 1234 approaching the airport traffic area well before receiving his initial call. Approach Control had made repeated attempts to establish radio contact without success. The pilot turned his radio on only to request a vector.
2. The pilot was directly over a metropolitan airport traffic area when two-way communications were established with Approach Control. Ceiling and visibility at the airport were 500 feet broken and 1 mile, PIREPS tops 12,000.
3. The pilot had filed no flight plan and did not hold an instrument rating. Total instrument experience: 10 hours simulated.
4. The pilot had not checked the enroute weather prior to departure. Reasons? The route was familiar, and no weather service was located on the airport of departure.
5. His destination was below VFR minimums at the time of his request for a heading. He did not consider the situation an emergency.

Apart from the pilot's lack of good judgment, and his indifference to air traffic rules, the incident reflects a common misconception about the use of radar services. Radar is not to be considered a convenience for careless pilots who ignore the practice of careful flight planning, nor is it to be used only as a last resort for pilots who have run out of luck.

Because radar service is available to both VFR and IFR traffic, an understanding of radar functions and procedures is important to all pilots, whether instrument rated or not. Radar is used in the air traffic control system primarily to:

- maintain surveillance of enroute and terminal air traffic for more complete position information;
- vector departing aircraft for separation and radar navigation;
- vector enroute aircraft for maximum utilization of available airspace;
- vector arriving aircraft for transition to final approach;
- conduct precision or surveillance approaches.

* Exam-O-Grams are non-directive in nature and are issued solely as an information service to individuals interested in Airman Written Examinations.

On a "workload permitting" basis, additional radar services are available to:

- provide pilots with information on traffic observed by radar;
- provide radar navigation to, or between, established fixes;
- provide radar navigation between airways and jet routes;
- provide assistance to pilots of aircraft in distress;
- provide pilots with information on storm and precipitation areas observed on the radar scopes;
- monitor instrument approaches;
- coordinate the flow of VFR and IFR traffic in terminal areas.

Part 1 of the Airman's Information Manual contains general explanations of radar services. All pilots should read these pages frequently to know what to expect from radar services and what is expected of pilots by air traffic control when radar service is being provided.

The Airman's Information Manual is divided into four parts, which may be purchased separately:

- Part 1 Basic Flight Manual and ATC Procedures; annual subscription
- Part 2 Airport Directory; annual subscription
- Part 3 Operational Data and Notices to Airmen; annual subscription
- Part 4 Graphic Notices and Supplemental Data; annual subscription

Requests should be directed to the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. Orders should be accompanied by check or money order made payable to the Superintendent of Documents.

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