

# MQM-107B TARGET SYSTEM



**Beechcraft**  
A **Raytheon** Company

# MQM-107B

The battlefield is no place to discover the readiness of your air defense. Yet, how else can the military create the environment necessary to provide adequate training for its personnel? By accurately simulating air defense threat situations with the MQM-107B, weapon systems can be used and evaluated, tactics can be employed and reviewed, and crews can be trained and critiqued in their handling of the simulated attacks.

## Effective Training Through Air Combat Simulation.

### Turbojet power and performance

The MQM-107B simulates the performance of modern attack aircraft with its Microturbo TRI 60-2 turbojet engine. The TRI 60-2 powerplant delivers 377 kg of thrust providing a maximum level speed of 516 KTAS with an altitude capability ranging from 15 m to a nominal 13.4 km.

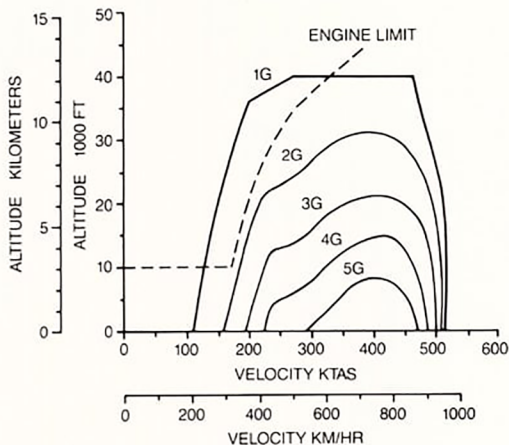
### Maneuverability

The MQM-107B's evasive maneuvering capabilities provide unsurpassed realism in simulating aerial threats. Sustained 5g maneuvering has been routinely performed by the MQM-107B and is

### Performance specifications

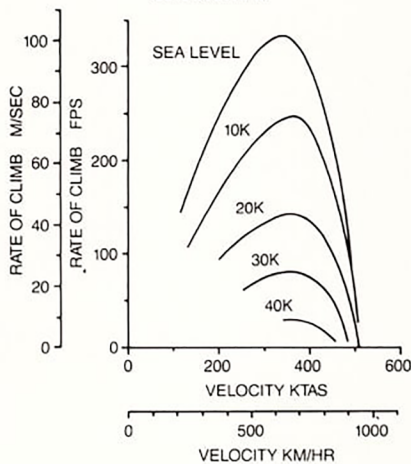
#### FLIGHT ENVELOPE

STANDARD DAY  
835 LBS. MID FLIGHT WEIGHT



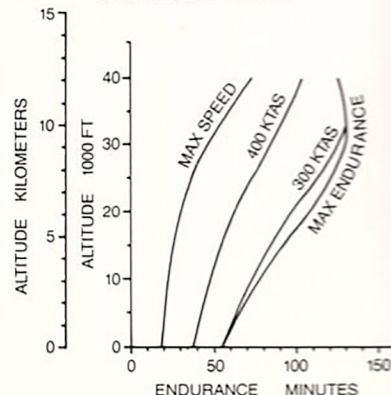
#### RATE OF CLIMB

STANDARD DAY  
835 LBS. MID FLIGHT WEIGHT  
100% MAX RPM



#### ENDURANCE

STANDARD DAY  
388.4 LBS. USABLE FUEL

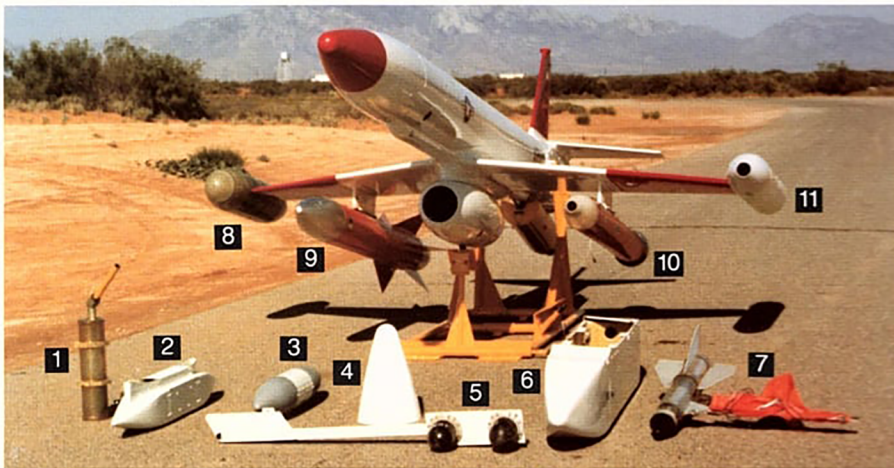


particularly advantageous for realistic air-to-air combat training.

Each MQM-107B mission is controlled by transmitted commands from a ground based operator. When a mission requires complex or precise control of the drone, an optional onboard autopilot allows for even greater maneuvering capabilities. For example, constant g/constant altitude maneuvers, or constant g/constant airspeed maneuvers can be selected.

### Versatile payload capabilities

The MQM-107B's internal payload weight capacity is 45 kg in a .136 cubic meter area. When



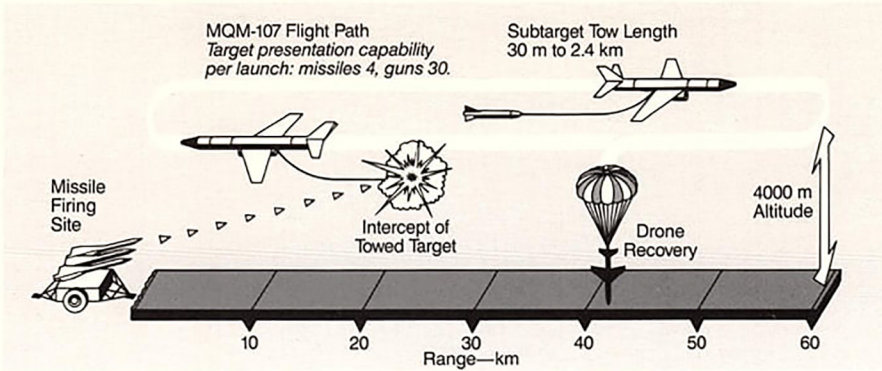
MQM-107B external payloads:

1. Pyrotechnic optical plume simulator (POPS)
2. Flare dispenser pod
3. Scorer pod
4. Foam cone radar reflector
5. Infrared augments boom
6. Flare/chaff dispenser
7. Bullet scorer/tow banner
8. Bistatic radar reflective pod
9. Radar tow target
10. Infrared tow target
11. Infrared tip pod

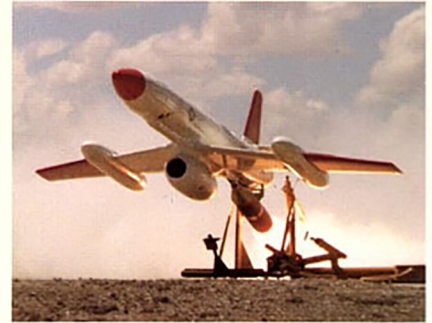
coupled with an external weight capacity of 160 kg, the MQM-107B will accommodate a wide variety of target equipment and can effectively simulate virtually any air defense threat situation.

## A Versatile and Cost Effective Target System.

The usual high cost of destroyed targets can limit military training. However, the target towing capabilities of the MQM-107B provide greater drone life expectancy. And, with the U.S. Army reporting a 2.1 missile firings per launch multiple presentation record, each mission becomes highly cost effective.



Air defense training exercise shows subtarget "kill"; drone recovery. MQM-107B can make multiple target presentations if desired.



The MQM-107B can be rocket launched from the ground under adverse wind conditions including 50 kt headwinds, 20 kt crosswinds or tailwinds of 25 kt.

### Target towing

The MQM-107B can independently deploy two expendable targets as close as 30 m behind the vehicle or as far away as 2.4 km, depending on the weapon system being exercised. Towed targets, both radar augmented and I.R. augmented, permit multiple intercepts without destroying the vehicle itself.

Air defense training involves diversified threat situations (high level, low level and numerous flight patterns) and, therefore, a variety of weapon systems. The MQM-107B satisfies the specific target needs of air-to-air weapons such as the Sparrow and Sidewinder as well as surface to air weapons—Chaparral, Hawk, Skyguard, Rapier, Crotale, and guns—without performing expensive modifications to the drone itself. Target devices can be changed on location so the MQM-107B can perform numerous specialized missions in a relatively short period of time.

### A transportable system

The zero length ground launch equipment, and tracking and control units are completely self contained making relocation of drone operations practical. The Target

Tracking and Control System shelter requires no permanent moorings or pads. The shelter's own climate control system permits its use in tropic, arctic or desert conditions.



Target Tracking and Control System shelter—range 115 NM (213 km).

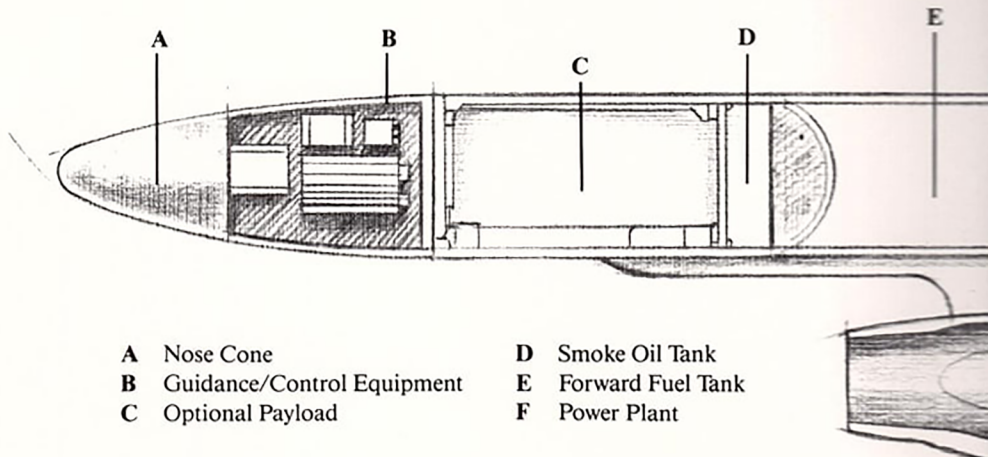
### Reliability

The U.S. Army, U.S. Air Force and other users report a mission reliability record of over 90%. High reliability makes the MQM-107B an economic success as well as an operational success.

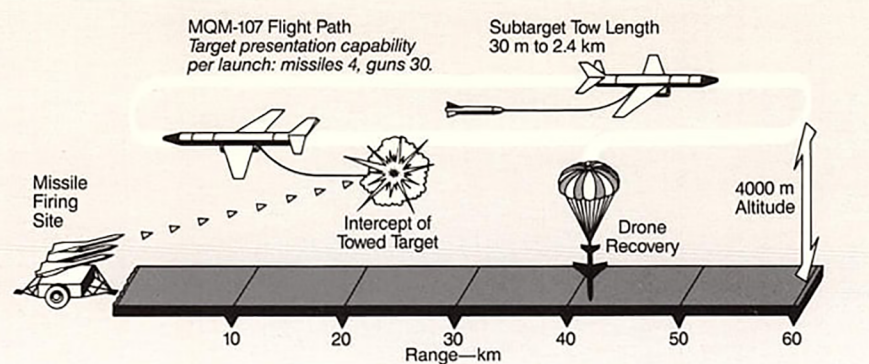
### Durability and reusability

The drone's durability is evidenced by the average MQM-107B life of 20 missions.

Upon completion of a flight, the recovery sequence includes a two stage parachute which returns the drone at a safe rate of descent before impacting a collapsible foam-filled nose cone for land recoveries.



- |   |                            |   |                   |
|---|----------------------------|---|-------------------|
| A | Nose Cone                  | D | Smoke Oil Tank    |
| B | Guidance/Control Equipment | E | Forward Fuel Tank |
| C | Optional Payload           | F | Power Plant       |



Air defense training exercise shows subtarget "kill"; drone recovery. MQM-107B can make multiple target presentations if desired.

### Target towing

The MQM-107B can independently deploy two expendable targets as close as 30 m behind the vehicle or as far away as 2.4 km, depending on the weapon system being exercised. Towed targets, both radar augmented and I.R. augmented, permit multiple intercepts without destroying the vehicle itself.

Air defense training involves diversified threat situations (high level, low level and numerous flight patterns) and, therefore, a variety of weapon systems. The MQM-107B satisfies the specific target needs of air-to-air weapons such as the Sparrow and Sidewinder as well as surface to air weapons—Chaparral, Hawk, Skyguard, Rapier, Crotale, and guns—without performing expensive modifications to the drone itself. Target devices can be changed on location so the MQM-107B can perform numerous specialized missions in a relatively short period of time.

### A transportable system

The zero length ground launch equipment, and tracking and control units are completely self contained making relocation of drone operations practical. The Target

Tracking and Control System shelter requires no permanent moorings or pads. The shelter's own climate control system permits its use in tropic, arctic or desert conditions.



Target Tracking and Control System shelter—range 115 NM (213 km).

### Reliability

The U.S. Army, U.S. Air Force and other users report a mission reliability record of over 90%. High reliability makes the MQM-107B an economic success as well as an operational success.

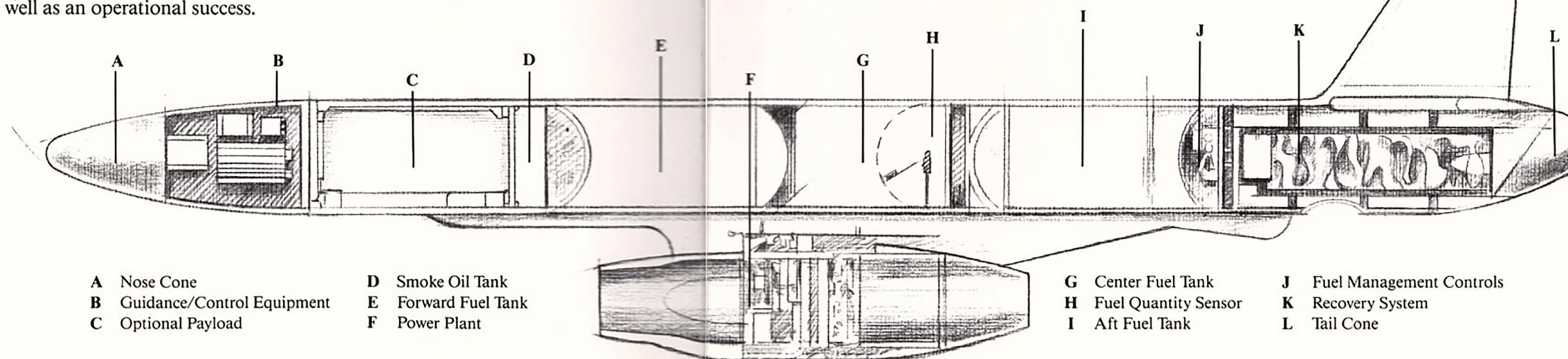


The MQM-107B can be rocket launched from the ground under adverse wind conditions including 50 kt headwinds, 20 kt crosswinds or tailwinds of 25 kt.

### Durability and reusability

The drone's durability is evidenced by the average MQM-107B life of 20 missions.

Upon completion of a flight, the recovery sequence includes a two stage parachute which returns the drone at a safe rate of descent before impacting a collapsible foam-filled nose cone for land recoveries.



- A Nose Cone
- B Guidance/Control Equipment
- C Optional Payload

- D Smoke Oil Tank
- E Forward Fuel Tank
- F Power Plant

- G Center Fuel Tank
- H Fuel Quantity Sensor
- I Aft Fuel Tank

- J Fuel Management Controls
- K Recovery System
- L Tail Cone



A sealed equipment bay permits water recoveries.

A team of three or four people need only three hours to prepare the recovered drone for reuse. When it's flight ready, simple changes in payload allow the MQM-107B to fly a different mission with every launch.

### Modular design

The MQM-107B airframe incorporates modular and interchangeable parts to provide a low cost, easily repairable air vehicle.

### Training and Support.

Beech Aerospace Services, Inc., (BASI) a wholly owned subsidiary of Beech Aircraft, offers customers complete training for the independent operation of the MQM-107B

system or can provide technical personnel to successfully conduct the target missions.

The Beechcraft MQM-107B aerial target system is powerful enough to fly specialized missions with variable payloads, agile enough to perform evasive maneuvers and durable enough to survive multiple firings and missions. And, because of its high reuse rate and its ability to exercise a variety of air and ground weapon systems, the MQM-107B makes air defense training affordable.

The MQM-107B is the key to realistic air defense training and training is the key to military success.

### MQM-107B Specifications

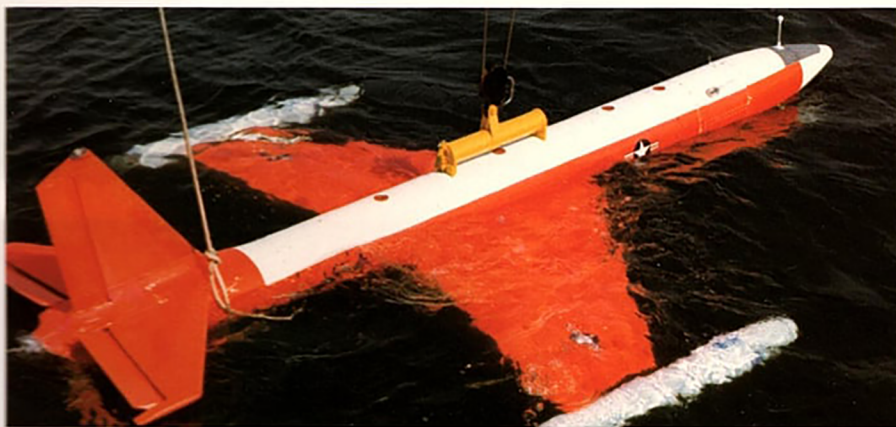
- Dimensions
- Wing Span 3.01 M
  - Length 5.51 M
  - Fuselage Diameter 0.38 M

- Weight
- Basic Empty Wt. 261 KGS
  - Max Launch Wt. 664 KGS
  - Payload Internal 45 KGS
  - Payload External 160 KGS

- Performance
- Max Speed 516 KTAS (@ 4.6 KM)
  - Endurance 138 min. (300 KTAS @ 10.7 km)
  - 5 G's Sustained

- Electrical Power
- Engine Driven Alternator 1.2 KVA @ 28 VDC or 4.0 KVA @ 28 VDC
  - Redundant Recovery Battery

- Deployment
- U.S. Army and Air Force
  - Korea
  - Taiwan
  - Egypt
  - UAE
  - Sweden
  - Jordan



A sealed equipment bay permits water recoveries.

A team of three or four people need only three hours to prepare the recovered drone for reuse. When it's flight ready, simple changes in payload allow the MQM-107B to fly a different mission with every launch.

#### Modular design

The MQM-107B airframe incorporates modular and interchangeable parts to provide a low cost, easily repairable air vehicle.

#### Training and Support.

Beech Aerospace Services, Inc., (BASI) a wholly owned subsidiary of Beech Aircraft, offers customers complete training for the independent operation of the MQM-107B

system or can provide technical personnel to successfully conduct the target missions.

The Beechcraft MQM-107B aerial target system is powerful enough to fly specialized missions with variable payloads, agile enough to perform evasive maneuvers and durable enough to survive multiple firings and missions. And, because of its high reuse rate and its ability to exercise a variety of air and ground weapon systems, the MQM-107B makes air defense training affordable.

The MQM-107B is the key to realistic air defense training and training is the key to military success.

### MQM-107B Specifications

#### Dimensions

- Wing Span 3.01 M
- Length 5.51 M
- Fuselage Diameter 0.38 M

#### Weight

- Basic Empty Wt. 261 KGS
- Max Launch Wt. 664 KGS
- Payload Internal 45 KGS
- Payload External 160 KGS

#### Performance

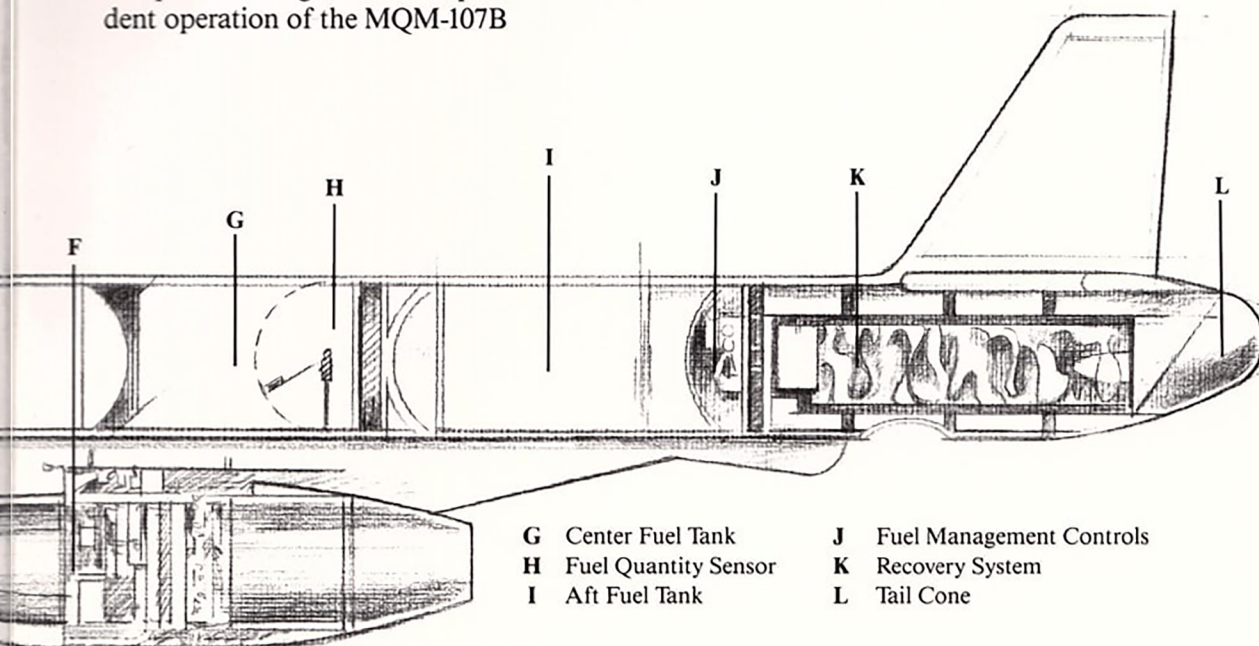
- Max Speed 516 KTAS (@ 4.6 KM)
- Endurance 138 min. (300 KTAS @ 10.7 km)
- 5 G's Sustained

#### Electrical Power

- Engine Driven Alternator 1.2 KVA @ 28 VDC or 4.0 KVA @ 28 VDC
- Redundant Recovery Battery

#### Deployment

- U.S. Army and Air Force
- Korea
- Taiwan
- Egypt
- UAE
- Sweden
- Jordan



- G Center Fuel Tank
- H Fuel Quantity Sensor
- I Aft Fuel Tank
- J Fuel Management Controls
- K Recovery System
- L Tail Cone



A rocket launched MQM-107B equipped with CHAFF dispensers emit particles of aluminum which disrupt weapon radars.

Realistic Training — the key to air defense readiness and combat success. The sophisticated MQM-107B aerial target system is a versatile, cost effective drone system for the realistic training of air defense crews. The MQM-107B has been in operation since 1976 and is in service with the U.S. Air Force, U.S. Army and six other nations.



For further information  
please contact:  
Manager International Aerospace Products  
Dept 96TM

**Beech Aircraft Corporation**  
**Wichita, Kansas 67201, U.S.A.**

All specifications subject to change without  
notice at the option of Beech Aircraft Corporation.  
Litho in U.S.A. © 1986 Beechcraft 86BR/MQM/ROS