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TACTICAL AIR COMMAND LANGLEY AFB VA  
F-106 TOW SYSTEM (IOT&E).(U)  
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DEPARTMENT OF THE AIR FORCE

HEADQUARTERS TACTICAL AIR COMMAND  
LANGLEY AIR FORCE BASE, VA 23066

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REPLY TO  
ATTN OF: DR

SUBJECT: Draft Test Plan, TAC/USAFADWC Project 82C-185A, F-106 Tow System (IOT&E)-  
Supersedes 79G-108A

TO: USAFADWC/CC

APRIL 1982

This headquarters has reviewed the subject test plan and concurs as written with the incorporation of the following changes:

a. Page 1, para 3: The target dates should be the same as those in the project order:

- (1) Class II mod approval - Jun 82
- (2) Test plan approval - Jun 82
- (3) Ground test completion - Jul 82
- (4) Flight test completion - Aug 82
- (5) Final report - Nov 82

b. Page 6, para 7: HQ TAC Project Officer is now LtCol Storey, HQ TAC/DRAA, AV 432-5914.

c. Page 6, para 8, first sentence, delete: "The USAFADWC has determined that." Capitalize "The." Rationale: Reads as if USAFADWC is the sole determiner of the environmental impact.

d. Page 8, para 1.a., fourth sentence: for clarity change the sentence to read: "...by personnel from tow reel maintenance and flight line maintenance."

e. Page 12, para 7.a.(1)(a): Same as b. above.

f. Page 13, para 7.a.(4)(a): 475 TESTS unit project manager should be Capt Arnold vice Maj Miller.

g. The date on the cover of the test plan should be subsequent to the date on the project order.

FOR THE COMMANDER

  
THOMAS L. CRAIG, Brig Gen, USAF  
DCS, Requirements

DTIC  
ELECTE  
AUG 24 1982

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DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS TACTICAL AIR COMMAND  
LANGLEY AIR FORCE BASE, VIRGINIA 23665

TAC PROJECT ORDER: F-106 Tow System (IOT&E)

PROJECT ORDER NO.: 82C-185A - Supersedes 79G-108A

TO: USAFADWC/CC ↓

1. Introduction: The impending deactivation of the F-101 fleet at Tyndall AFB will require an alternate means of providing gun tow target capability at the USAFADWC. The tow capabilities of the F-106 should be investigated as a method of meeting these requirements. The RM-60 tow system was originally considered for use on the F-106. The RM-60 is a two-way tow system developed to support the target requirements of the US Army Division Air Defense System (DIVADS) program. It has been tested by the New Mexico Air National Guard (NMANG) and found to be compatible with the A-7D aircraft. In the current configuration; however, the RM-60 is not compatible with F-106 aircraft pylon. The development of a smaller, improved version of the RM-60, designated the RM-30, may solve the F-106 compatibility problems. Additionally, current assets of the A/A 37U-15 (DART) tow reels may be useful in providing an interim tow capability for F-106 aircraft. Both the RM-30 and A/A 37U-15 tow reels can carry and tow the Low Cost Tow Target (LCTT) to fulfill the gun tow target requirement at the USAFADWC.

2. Test Item Description: ↑

a. RM-30 Tow Reel. The RM-30 tow reel is a thirty horsepower, semiautomatic, two-way reeling machine, that is designed to launch, tow and recover lightweight, low drag aerial targets such as the LCTT. This tow reel is identical in design and function to the large RM-60 tow reel, currently in operation at Kirtland AFB by the NMANG.

b. A/A 37U-15 Tow Reel. The A/A 37U-15 tow reel, commonly referred to as the DART reel, is manufactured by Anderson, Greenwood, and Company. This is a one-way reeling machine designed to launch and tow the TDU-10/B (DART) target. There are no provisions for reel in.

c. Low Cost Tow Target (LCTT). The LCTT is an aerial target used for gunnery testing and training. The target is constructed of aluminum, steel, and wood, and is 17 feet long, 15 inches in diameter, and weighs 135 pounds. The target is limited to a maximum speed of 550 KIAS and 6 g. The LCTT can carry the AN/DSQ-40 bullet scoring system, or other bullet scoring systems.

3. Objectives:

a. Purpose. The purpose of the test is to demonstrate the in-flight operation and assess the capability of the RM-30 and A/A 37U-15 tow systems installed on F-106 aircraft to support gun firing missions.

b. Scope. The test program will evaluate various configurations for a gun tow target capability on the F-106 with the goal of defining the optimum operational configuration for use at the USAFADWC and the field level units. A total of 14 F-106 sorties will be accomplished at Tyndall AFB over a two month period.

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c. Operational Effectiveness.

(1) Evaluate the compatibility of the RM-30 and A/A 37U-15 tow systems with the F-106 aircraft.

(2) Evaluate the operating characteristics of the RM-30 and A/A 37U-15 tow systems when employed on F-106 aircraft.

(3) Evaluate the capability of each tow system to provide realistic tow target presentations.

d. Operational Suitability.

(1) Develop and verify ground handling procedures and determine ground support equipment compatibility and requirements.

(2) Evaluate the reliability of the RM-30 and A/A 37U-15 tow systems.

(3) Evaluate and assess the maintainability of the RM-30 and A/A 37U-15 tow systems at the USAFADWC and field level units.

(4) Evaluate and assess logistic supportability of the RM-30 and A/A 37U-15 tow systems at the USAFADWC and field level units.

4. Concept of Employment:

a. The F-106 tow system will be employed at the USAFADWC to support gun tow target requirements. The initial operational capability will be provided by the F-106/A/A 37U-15/LCTT/DSQ-40 combination to provide for the launch and tow of a gun target and real-time scoring for each pass. A follow-on operational capability will be provided by the F-106/RM-30/LCTT/DSQ-40 combination for launch, tow, and recovery of a gun target and real-time scoring for each pass. The tow systems will be installed on TF- or CB-coded F-106 aircraft by personnel from tow reel maintenance and flight line maintenance. The left external fuel tank will be replaced with the appropriate tow system and the scoring system will be installed. The data link control panel will be removed and replaced with the tow reel and scoring system control panels. The aircraft pilot will operate the tow system and provide real-time scoring data to firing aircrews. After flight, the tow system will be downloaded by reversing the above procedure, thereby restoring the aircraft to full combat capability.

b. The F-106 tow system will also be employed at the F-106 unit level to support gun training requirements. The initial operational capability will be provided by the F-106/A/A 37U-15/LCTT combination with a scoring system to be defined later. A follow-on operational capability will be provided by the F-106/RM-30/LCTT combination with a scoring system to be defined later. The tow systems will be installed on CC-coded aircraft by flight line maintenance personnel. The tow systems will be loaded, operated, and removed as described in the previous paragraph. The aircraft will retain full combat capability when not in the tow configuration.



*Letter on file*

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5. Test Plan: The IOT&E test plan will be prepared by 475 TESTS, and submitted by the USAFADWC Commander to HQ TAC for approval IAW AFM 55-43 and TACR 55-10.

6. Responsibilities:

a. HQ TAC will:

(1) Assign a TAC project officer (LtCol Storey, HQ TAC/DRAA, AV 432-5914).

(2) Assume responsibilities in accordance with AFR 80-14, AFM 55-43, and TACR 55-10.

b. ADTAC will: Appoint an ADTAC project officer (LtCol Carpenter, ADTAC/DRT, AV 432-6214).

c. 325 FWW/TE will:

(1) Assign a USAFADWC project officer (1st Lt Szabo, 325 FWW/TEO, AV 970-4661).

(2) Direct participation of 475 TESTS and 82 TATS.

d. 475 TESTS will:

(1) Assign a unit project manager (Capt Arnold, 475 TESTS/TEOP, AV 970-3201).

(2) Schedule, brief, conduct, and debrief all testing.

(3) Be responsible for data collection, management, and analysis.

(4) Prepare the final report.

e. 82 TATS will:

(1) Assign a project NCO (SSgt Bradley, 82 TATS/TTMT, AV 970-2976).

(2) Provide expertise and perform tow reel operations as required.

f. PDA has agreed to and will provide:

(1) One RM-30 tow reel for test purposes.

(2) Engineering support as required.

(3) TO data as appropriate.

7. Target Dates: The following is a schedule of major events associated with the IOT&E, including target dates for the completion of each event:

Class II mod approval - Jun 82

Test Plan approval - Jun 82

Ground Test completion - Jul 82

Flight test completion - Aug 82

Final report - Nov 82

8. Test Reports: Progress reports will be forwarded IAW TACR 55-10. Messages will be forwarded to HQ TAC/DRPM, and ADTAC/DR indicating actual start date of the test and the date that TAC resources are released from the project. A final report will be prepared IAW AFM 55-43 and TACR 55-10. Service reports will be submitted in compliance with TO-00-35D-54, Section V.

9. Priority: TAC Priority 3.

10. Authority: The authority for conducting this test is contained in AFR 80-14, AFM 55-43, and TACR 55-10.

11. Resources: The A/A 37U-15 and RM-30 tow systems will be installed on TF- or CB-coded F-106 aircraft at the USAFADWC. Approximately 14 total F-106 dedicated tow sorties will be accomplished.

12. Safety: Mishap prevention is the responsibility of the commander of each participating unit. Mishaps will be investigated and reported by the respective unit sustaining the mishap in accordance with AFR 127-4. Personnel and equipment safety will take precedence over completion of any part of this test. The project manager is responsible for the overall safety of this IOT&E. A detailed safety review will be conducted prior to the start of active ground and flight evaluations. All potential hazards will be resolved to the satisfaction of the test participants prior to the start of testing. A certification of this review will be included in the permanent project case files.

13. Release of Information: News releases must be coordinated through the test project manager. News releases will not state or imply endorsement of items undergoing test.

14. Security: This IOT&E is unclassified. If any classified information is generated or used during the IOT&E, the project manager will ensure compliance with DOD 5200.1-R/AFR 205-1, as supplemented by TAC.

15. Environmental Impact: The conduct of this evaluation will not have adverse effects on the environment since no events are planned which differ from normal missions conducted at the USAFADWC. AFR 19-1, as supplemented, will be complied with.

16. Statement of Investigation: The objectives of this project do not duplicate previous or current projects accomplished and documented by this or other government agencies. This project order supersedes project order 79G-108A. All subtasks under project 79G-108A are cancelled. Status/final reports published under 79G-108A, Task 6, will be reviewed and considered in accomplishing this test to avoid unnecessary duplication of effort.

17. Distribution: See attached list.

FOR THE COMMANDER

  
THOMAS L. CRAIG, Brig Gen, USAF  
DCS, Requirements

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