TMS, DMS and CMS Usage Guide for Falcon BMS 4.38.1

Carlos “Metal” Nader

Version 0.1.4.0+20260106
Progress: Chapters 1/7 | Tables 0%
January 2026

Contents

1 Introduction **1**

2 HOTAS fundamentals **2**

2.1 Sensor of Interest (SOI) and display logic . . . 2
2.2 Short vs long presses and timing . . . 2
2.3 Master modes and context-sensitive behaviour . . . 2
2.4 Overview of TMS, DMS and CMS . . . 2

3 TMS – Target Management Switch **3**

3.1 Concept and general behaviour . . . 4
3.2 TMS and Situational Awareness displays . . . 4
3.2.1 HSD: Cursor control and waypoint management . . . 4
3.2.2 Integration with NAV master mode . . . 4
3.2.3 Cross-mode SA display interaction . . . 4
3.3 TMS in Air-to-Air . . . 4
3.3.1 FCR CRM (RWS / ULS / VSR) . . . 4
3.3.2 SAM / DT-SAM . . . 4
3.3.3 TWS . . . 4
3.3.4 STT . . . 4
3.3.5 ACM (30x20, 10x60, BORE, SLEW) . . . 4
3.3.6 IFF interrogations (SCAN / LOS) . . . 4
3.4 TMS in Air-to-Ground – sensors and SPI . . . 4
3.4.1 FCR A-G (GM / GMT / SEA / AGR) . . . 4
3.4.2 TGP A-G . . . 4
3.4.3 HUD / HMCS (SPI, Snowplow, CZ, VIP/VRP cues) . . . 4
3.4.4 Markpoints and steerpoint management . . . 4
3.5 TMS in A-G weapon employment . . . 4
3.5.1 Unguided bombs and rockets (CCIP / CCRP / DTOS) . . . 4
3.5.2 EO weapons – Maverick (VIS / PRE / BORE) . . . 4
3.5.3 IAMs (JDAM / JSOW / WCMD / SPICE / others) . . . 4
3.5.4 LGBs and laser employment . . . 4
3.5.5 Anti-radiation (HARM POS / HAS / HAD) . . . 4
3.5.6 Naval weapons (Harpoon, others) . . . 4
3.6 TMS – Block / variant notes . . . 4

4 DMS – Display Management Switch **5**
4.1 Concept and Sensor of Interest (SOI) . . . 5
4.1.1 SOI definition and scope across displays . . . 5
4.1.2 Role of the DMS in SOI selection . . . 5
4.1.3 Example SOI flow (overview) . . . 5
4.2 DMS in MFDS format selection and SWAP . . . 5
4.2.1 MFDS format selection and cycling . . . 5
4.2.2 SWAP and display management . . . 5
4.2.3 HSD control via SOI and MFDS functions . . . 5
4.3 DMS in sensor and weapon context . . . 5
4.3.1 SOI changes between FCR, TGP, HSD and HUD in Air-to-Air . . . 5
4.3.2 SOI changes between FCR, TGP, HSD, HAD and WPN in Air-to-Ground 5
4.3.3 DMS with HARM – HAD page as SOI . . . 5
4.3.4 DMS with IAMs and other weapon-driven MFDS pages (SMS/WPN) . . 5
4.4 DMS – Block / variant notes . . . 5

5 CMS – Countermeasures Management Switch **6**
5.1 Concept and interaction with CMDS / ECM / RWR . . . 6
5.1.1 Concept . . . 6
5.1.2 Interaction with CMDS / ECM . . . 6
5.2 CMS Switch Actuation . . . 6
5.2.1 CMS Actuation with CMDS . . . 6
5.2.2 CMS Actuation with ECM . . . 6
5.2.3 CMS Consent & Constraints . . . 6
5.2.4 Important Operational Notes . . . 6
5.3 CMS – Block and variant notes . . . 6

6 Training references and practical flows **7**
6.1 How to use this guide with BMS training missions . . . 7
6.2 Recommended progression . . . 7
6.3 Example flows for typical missions . . . 7
6.4 Checklist: what to practice next . . . 7

7 HOTAS visual reference **8**
7.1 F-16 HOTAS overview . . . 8
7.2 TMS diagrams . . . 8
7.3 DMS diagrams . . . 8
7.4 CMS diagrams . . . 8

A Block / variant overview **9**
A.1 F-16CM Block 50/52 . . . 9
A.2 F-16C/D Block 40/42 . . . 9
A.3 F-16AM/BM MLU . . . 9
A.4 F-16I Sufa and Israeli variants . . . 9

A.5 Other export variants 9

B Tables index **10**

B.1 TMS tables 10

B.2 DMS tables 10

B.3 CMS tables 10

Chapter 1

Introduction

Chapter 2

HOTAS fundamentals

2.1 Sensor of Interest (SOI) and display logic

2.2 Short vs long presses and timing

2.3 Master modes and context-sensitive behaviour

2.4 Overview of TMS, DMS and CMS

Chapter 3

TMS – Target Management Switch

3.1 Concept and general behaviour

3.2 TMS and Situational Awareness displays

3.2.1 HSD: Cursor control and waypoint management

3.2.2 Integration with NAV master mode

3.2.3 Cross-mode SA display interaction

3.3 TMS in Air-to-Air

3.3.1 FCR CRM (RWS / ULS / VSR)

3.3.2 SAM / DT-SAM

3.3.3 TWS

3.3.4 STT

3.3.5 ACM (30x20, 10x60, BORE, SLEW)

3.3.6 IFF interrogations (SCAN / LOS)

3.4 TMS in Air-to-Ground – sensors and SPI

3.4.1 FCR A-G (GM / GMT / SEA / AGR)

3.4.2 TGP A-G

3.4.3 HUD / HMCS (SPI, Snowplow, CZ, VIP/VRP cues)

3.4.4 Markpoints and steerpoint management

3.5 TMS in A-G weapon employment

3.5.1 Unguided bombs and rockets (CCIP / CCRP / DTOS)

3.5.2 EO weapons – Maverick (VIS / PRE / BORE)

3.5.3 IAMs (JDAM / JSOW / WCMD / SPICE / others)

3.5.4 LGBs and laser employment

Chapter 4

DMS – Display Management Switch

4.1 Concept and Sensor of Interest (SOI)

4.1.1 SOI definition and scope across displays

4.1.2 Role of the DMS in SOI selection

4.1.3 Example SOI flow (overview)

4.2 DMS in MFDS format selection and SWAP

4.2.1 MFDS format selection and cycling

4.2.2 SWAP and display management

4.2.3 HSD control via SOI and MFDS functions

4.3 DMS in sensor and weapon context

4.3.1 SOI changes between FCR, TGP, HSD and HUD in Air-to-Air

4.3.2 SOI changes between FCR, TGP, HSD, HAD and WPN in Air-to-Ground

4.3.3 DMS with HARM – HAD page as SOI

4.3.4 DMS with IAMs and other weapon-driven MFDS pages (SMS/WPN)

4.4 DMS – Block / variant notes

Chapter 5

CMS – Countermeasures Management Switch

5.1 Concept and interaction with CMDS / ECM / RWR

5.1.1 Concept

5.1.2 Interaction with CMDS / ECM

5.2 CMS Switch Actuation

5.2.1 CMS Actuation with CMDS

5.2.2 CMS Actuation with ECM

5.2.3 CMS Consent & Constraints

5.2.4 Important Operational Notes

5.3 CMS – Block and variant notes

Chapter 6

Training references and practical flows

6.1 How to use this guide with BMS training missions

6.2 Recommended progression

6.3 Example flows for typical missions

6.4 Checklist: what to practice next

Chapter 7

HOTAS visual reference

7.1 F-16 HOTAS overview

7.2 TMS diagrams

7.3 DMS diagrams

7.4 CMS diagrams

Appendix A

Block / variant overview

A.1 F-16CM Block 50/52

A.2 F-16C/D Block 40/42

A.3 F-16AM/BM MLU

A.4 F-16I Sufa and Israeli variants

A.5 Other export variants

Appendix B

Tables index

B.1 TMS tables

B.2 DMS tables

B.3 CMS tables