


ETHIOPIAN AVIATION ACADEMY
Multi-Pilot Licence Training



Part II: Phase III: B-737NG Flight Training


August 2016

	ETHIOPIAN AVIATION ACADEMY		Rev. No. 2
	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Flight Training (B-737NG) - Stage 6		

2. Flight Training: B-737NG Type Rating

1. Flight Training: B 737 Type Rating						
Phase	Stage	Stage Title	Duration (Hrs.)			
			FTD		Aeroplane	Total
			PF	PNF		
II (Basic)	6	Multi Crew	20	20	0	40
	7	Multi-crew Instrument	20	20	0	40
III (Intermediate)	8A	Multi-crew Commercial Operations	20	20	0	40
	8B	Multi-crew Commercial Operations	20	20	0	40
IV (Advanced)	9	B 737 Type Rating	20	20	0	40
Total			100	100	0	200

Table 2-1: Summary of B-737NG Flight Training

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2.1. FLIGHT TRAINING (B-737 TYPE RATING) - STAGE 6

Overview

This stage of training is designed to introduce the students to commercial operations in a multi-crew environment on a multi-engine aircraft in IFR conditions. Scenario Based Training is used to place emphasis on developing CRM skills such as Leadership, Monitor and Feedback and Crew Briefings in a commercial environment. Students will complete training in both crew positions (Captain and First Officer) and operate as Pilot Flying (PF) and Pilot Not Flying (PNF).

Objectives

To develop IFR multi-crew skills and knowledge

To gain experience in a multi-crew IFR commercial flight operations through scenario based training sessions;

To apply CRM skills at the commercial pilot level to real world situations; and

To demonstrate sound risk management and leadership skills and a positive attitude towards safety.

Instructional Methods to be Used

This stage of training uses the traditional method of instruction along with Line Oriented Flight Training. Crew lead debriefing and self-assessment techniques are used to develop the student's command (Leadership) and CRM skills.

Competency Standards

Prior to advancing to Stage VII, students must successfully:


Pass the Stage Examination

Pass the Flight Check by demonstrating:

Advanced proficiency in IFR multi-engine skills and knowledge;


Ability to serve as a member of a multi-crew during IFR commercial flight operations;

Proficiency in application of theoretical knowledge of aircraft systems, theory of flight, meteorology and air regulations;

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Necessary leadership skills, CRM and Threat Error Management (TEM) at the level expected of a commercial pilot; and

Sound risk management skills and a positive attitude towards safety.

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Lesson No.	Description	Equip	Flight Time		Total
			PF	PNF	
			FTD	FTD	
6.1	Cockpit Familiarization	B737 CPT	-	-	
6.2	Cockpit Familiarization	B737 CPT	-	-	
6.3	Cockpit Familiarization	B737 VPT	-	-	
6.4	Cockpit Familiarization	B737 VPT	-	-	
6.5	Cockpit Familiarization	B737 VPT	-	-	
6.6	Basic Handling and ILS Approach	B737 FTD	2.0	2.0	
6.7	Basic Handling and ILS Approach	B737 FTD	2.0	2.0	
6.8	Basic Handling and ILS Approach	B737 FTD	2.0	2.0	
6.9	Basic Handling and ILS Approach	B737 FTD	2.0	2.0	
6.10 (P)	Progress Check	B737 FTD	2.0	2.0	
6.11	Basic handling and VOR/DME Approaches	B737 FTD	2.0	2.0	
6.12	Basic handling and RNAV Approaches	B737 FTD	2.0	2.0	
6.13	Basic Handling and Localizer Approaches	B737 FTD	2.0	2.0	
6.14	Basic Handling and NDB Approaches	B737 FTD	2.0	2.0	
6.15	Validation Check	B737 FTD	2.0	2.0	
Stage 6 Total Hours			20	20	40
Total Hours (Stages 1-6)					236.5

Table 2-2: Summary of Training Stage 6 Summary – B737 Type Rating

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Key


(p)- Progress Check

(v)- Validation Check

PF- Pilot Flying

PM- Pilot Monitoring

FTD- Flight Training Device

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2.1.1. Lesson Plan 6.1 – Cockpit Procedures Trainer B737 NG

Lesson	Description	Equip.	Flight Time			
			PF	PM	Instrument flight	
					A/C	SIM
6.1	Cockpit Familiarization	B737NG CPT	2.0	2.0		

Topics

1. Captain/First Officer Duties
2. Checklist Protocol
3. Normal Checklist
4. Electric Power Up Procedures
5. Preliminary Pre-flight Procedures
6. Pre-flight Procedures
7. Engine Start Procedures

Objectives

- To familiarize the trainee with Pre-flight duties, Procedures, and the Normal Checklist from an unpowered airplane up to the "Before Taxi Checklist".


References

- a. B737NG FCOM
- b. B737NG FCTM
- c. ET B737 SOP
- d. ET B737NG QRH

Instructor Pre-brief

- The aircraft is to be sitting on the ramp with GPU available, but not supplying power to the aircraft.
- This scenario is designed to let the student practice the Procedures and operation of the various systems in the cockpit.
- The Instructor should brief all of the Topics listed above. Assume the External Checks have been completed.

Lesson Plan

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As this lesson plan is being conducted, the Instructor should ask a question or two about each system or set of switches to ensure their understanding.

- Electrical Power Up – Left Seat Pilot

- Preliminary Pre-flight Procedure – Left Seat Pilot

- Pre-flight Procedure

First Officer then Captain

- Call "PRE-FLIGHT CHECKLIST."

C

Do the PREFLIGHT checklist on the captain's command.

F/O

- Before Engine Start Procedure

- Call Before Start Checklist

C

Do the Pre-flight Checklist on Captain's command

F/O

Pushback

- Engine Start Procedure


- Call Before Taxi Checklist

C

Do the Before Taxi Checklist on Captain's command

F/O

TAKE A BREAK THEN REPEAT WITH THE STUDENTS SWITCHING SEATS

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	Flight Training (B-737NG) - Stage 6		

2.1.2. Lesson Plan 6.2 – Cockpit Procedures Trainer B737 NG

Lesson	Description	Equip.	Flight Time			
			PF	PM	Instrument flight	
					A/C	SIM
6.2	Cockpit Familiarization	B737NG CPT	2.0	2.0		

Topics


1. Normal Checklist
2. Pre-flight Procedures
3. Engine Start Procedures
4. Before Taxi
5. Before Takeoff
6. Normal Takeoff
7. Climb, Cruise, and Descent
8. Landing

Objectives

The purpose is to familiarize the student with the switch positions, the flows, and the operation of the various systems in the cockpit during a station stop. Flows and checklists are to be done from Pre-flight, to Engine Start, Taxi, Takeoff, Cruise, Landing, and a Shutdown.

References

- a. B737NG FCOM
- b. B737NG FCTM
- c. ET B737 SOP
- d. ET B737NG QRH

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Instructor Pre-brief

Ask the students if they have any questions from the previous trainer.

This scenario is designed to let the student practice the flows and operation of the various systems in the cockpit.

The Instructor should brief all of the Topics listed above. Assume the External Checks have been completed.

Lesson Plan

As this lesson plan is being conducted, the Instructor should ask a question or two about each system or set of switches to ensure their understanding.

- Pre-flight Procedure First Officer then Captain
Call "PRE-FLIGHT CHECKLIST."

- Before Engine Start Procedure
Call "Before Start Checklist"

- Engine Start Procedure
Call "Before Taxi Checklist"

- Before Taxi Procedure
Call "Before Taxi Checklist"

- Takeoff Procedure
Call "Before Takeoff Checklist"

- Climb and Cruise Procedure
Call "After Takeoff Checklist"

Call "Descent Checklist"

- Approach Procedure
Call "Approach Checklist"


- Landing Procedure
Call "Landing Checklist"

- Landing Roll Procedure

- After Landing Procedure

-Shutdown Procedures
Call "Shutdown Checklist"

TAKE A BREAK THEN REPEAT WITH THE STUDENTS SWITCHING SEATS

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	Flight Training (B-737NG) - Stage 6		

2.1.3. Lesson Plan 6.3 – Virtual Procedures Trainer B737 NG

Lesson	Description	Equip.	Flight Time			
			PF	PM	Instrument flight	
					A/C	PIC
6.3	Cockpit Familiarization	B737NG VPT	2.0	2.0		

Topics

1. Pre-flight Procedures
2. MCP operation
3. Engine Start Procedures
4. Before Taxi

Objectives

This scenario is primarily designed to let the student observe and practice the operation of the MCP (mode control panel), the Glare Shield panel, the MFD display, the EFIS control panel, and Display switching.

3) References


- a. B737NG FCOM
- b. B737NG FCTM
- c. ET B737 SOP
- d. ET B737 QRH

Instructor Pre-brief

The aircraft is to be sitting on the ramp with APU Power supplying the aircraft.

Lesson Plan

- Have them begin the flows from the Preliminary Pre-flight
- Procedures and complete the Pre-flight Checklist. Takeoff briefings are not required at this point.
- Then demonstrate the MCP (mode control panel), the Glare Shield Panel, the MFD display, the EFIS control panel, and Display switching. Make sure they get a chance to move the switches and knobs after proper use has been demonstrated.

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- When this is completed, continue with the engine start until they are ready for Taxi.
- When they are ready to taxi, take a break, and then repeat the whole exercise with the students in the opposite seats. Repeating from the beginning will be a good review for both students.
- If you have time at the end of the day, practice some takeoffs with each pilot as PF.


Trainee Competency Criteria

The trainee should be able to:

- a) Follow instructions and directions from the instructor
- b) Demonstrate comprehension of how to use the SOP and checklists
- c) Demonstrate knowledge of the MCP, Glare Shield Panel

MFD, and Display Switching

- d) Complete an engine start

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2.1.4. Lesson Plan 6.4 – Virtual Procedures Trainer B737 NG

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
6.4	Cockpit Familiarization	B737N G VPT	2.0	2.0			

1) Topics

- a) Electric Power Up Procedures
- b) Preliminary Pre-flight Procedures
- c) Pre-flight Procedures
- d) Engine Start Procedures

2) Objectives


The purpose is to familiarize the student with the switch positions, the flows, and the operation of the various systems in the cockpit. Unlike CPT session Day 1, they will now be able to see and interact with the Virtual Procedures Trainer.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief

The aircraft is to be sitting on the ramp with GPU available, but not supplying power to the aircraft.

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5) Lesson Plan

As this lesson plan is being conducted, the Instructor should ask a question or two about each system or set of switches to ensure their understanding.

- Electrical Power Up – Left Seat Pilot

- Preliminary Pre-flight Procedure – Left Seat Pilot

- Pre-flight Procedure

First Officer then Captain

- Call "PRE-FLIGHT CHECKLIST."

C

Do the PREFLIGHT checklist on the captain's command. F/O

- Before Engine Start Procedure

- Call Before Start Checklist

C

Do the Pre-flight Checklist on Captain's command

F/O

Pushback

- Engine Start Procedure

- Call Before Taxi Checklist


C

Do the Before Taxi Checklist on Captain's command

F/O

TAKE A BREAK THEN REPEAT WITH THE STUDENTS SWITCHING SEATS

If you have time at the end of the day, practice some takeoffs with each pilot as PF.

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2.1.5. Lesson Plan 6.5 – Virtual Procedures Trainer B737 NG

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
6.5	Cockpit Familiarization	B737N G VPT	2.0	2.0			

1) Topics

- a) Pre-flight Procedures
- b) MCP operation
- c) Engine Start Procedures
- d) Before Taxi

2) Objectives

This scenario is designed to allow the student to see the SOPs, Normal Checklists, and Non-Normal Checklists implemented through a complete flight.

3) References


- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief

The aircraft is to be sitting on the ramp with APU Power supplying the aircraft.

5) Lesson Plan

The procedures being practiced are as follows:

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- Use of Normal and Non-Normal Checklists
- Preparation for Flight
 - Engine Start
 - Takeoff
 - Cruise
 - Landing
 - Shutdown
 - Electrical Power Down

TAKE A BREAK THEN REPEAT WITH THE STUDENTS SWITCHING SEATS

7) Trainee Competency Criteria

The trainee should be able to:

- a) Follow instructions and directions from the instructor
- b) Demonstrate comprehension of how to use the SOP and Normal and Non-normal checklists
- c) Demonstrate knowledge of the MCP, Glare Shield Panel, MFD, and Display Switching
- d) Complete an engine start

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2.1.6. Lesson Plan 6.6- B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
6.6	B737 Basic Handling	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- MCP operation
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Minimum Maneuvering Speeds
- Shutdown

2) Objectives

This scenario is designed to introduce the student to the basic flying operations of the B737NG.


This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and it's handling.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HAAB local
- Have students do Weight and Balance
- Have students do Takeoff and Landing Distance calculations
- Review MCP Procedures for Auto Throttle and Autopilot ON
- Review Taxi Procedures, Nose wheel Steering ON and OFF - Review Takeoff Flap 5 Procedures

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- Review Minimum Maneuvering Speeds
- Review Climb, Level OFF and Resume Climb technique - Review Descent and Level OFF technique
- Review ILS RW25L
- Review Normal Landing Procedures

5) Simulator Set Up

- Aircraft on Gate 7 HAAB
- GPU available, power OFF
- Day Visual, CAVOK
- Motion OFF
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26
- Switches incorrectly set (before crew enters FTD)
 - VHF NAV switch "OVERRIDE"
 - Pressurization Mode Selector "ALT"
 - STAB TRIM override switch "OVERRIDE"

6) Lesson Plan

- ATIS info "A" ____ Z CALM CAVOK 23/14 QNH1023
- ATC Clears ET401 for a local Training Flight, Depart RW25L
- Maintain Runway Heading 14,000ft, Squawk 2314
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 25L (with Nose Steering OFF, then ON)
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- After Level Off at 14,000ft have crew do various turns, climbs/descents for practice
- Have crew do speeds 200KTS, 250KTS, 300KTS
- Have crew fly at min maneuvering speed for

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- Flap Zero, Flap 5, Flap 15, Flap 30 (straight and level and turns)
- ILS Approach RW25L & Land
- (Full Automation ON, Auto land for demonstration purpose)
- Reposition 10NM Final
- ILS Approach RW25L & Manual Landing
(Auto Throttle, Autopilot, Flight Director ON)


- BREAK -
(Switch seats)

- ATIS info "A" ____ Z CALM CAVOK 23/14 QNH1023
- ATC Clears ET401 for a local Training Flight, Depart RW25L
- Maintain Runway Heading 14,000ft, Squawk 2314
- Aircraft at Hold Point short of RW 25L (original aircraft weights)
- Before Takeoff Procedure and Checklist
- Line-up Runway 25L (Nose Steering OFF, then ON)
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- After Level Off at 14,000ft have crew do various turns, climbs/descents for practice
- Have crew do speeds 200KTS, 250KTS, 300KTS
- Have crew fly at min maneuvering speed for
- Flap Zero, Flap 5, Flap 15, Flap 30 (straight and level and turns)
- ILS Approach RW25L & Land
- (Full Automation ON, Auto land for demonstration purpose)
- Reposition 10NM Final
- ILS Approach RW25L & Manual Land
- (Auto Throttle, Autopilot, Flight Director ON)
- After Landing/Shutdown/Electrical Power Down Procedures and Checklists


7) Trainee Competency Criteria

The trainee should be able to:

- a) Complete a Weight and Balance and calculate Takeoff and Landing Performance

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- b) Demonstrate proper use of the MCP and Flight Instruments
- c) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- d) Complete an ILS Approach
- e) Demonstrate comprehension of how to use the SOP and checklists

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2.1.7. Lesson Plan 6.7- B737NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
6.7	B737 Basic Handling	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- MCP operation
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Minimum Maneuvering Speeds
- Shutdown

2) Objectives

This scenario is designed to introduce the student to the basic operations of the B737NG.


This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and it's handling.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HAAB local
- Have students do Weight and Balance
- Have students do Takeoff and Landing Distance calculations
- Review MCP Procedures (Autopilot, Flight Director, Auto Throttle ON)
- Review Taxi Procedures, Nose wheel Steering ON and OFF - Review Takeoff Flap 15 Procedures
- Review Minimum Maneuvering Speeds
- Review Climb, Level OFF and Resume Climb technique
- Review Climb IAS, transition to Mach

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- Review Descent and Level OFF technique
- Review ILS RW25L (full automation) - -Review Normal Landing Procedures

5) Simulator Set Up

- Aircraft on Gate 7,
- GPU available, power OFF
- Day Visual, CAVOK
- Motion OFF
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26
- Switches incorrectly set (before crew enters FTD)
 - FLT CONTROL A switch "OFF"
 - ANTI COLLISION LIGHT "ON"
 - LOWER DU switch "ENG PRI"

6) Lesson Plan

- ATIS info "B" ____ Z CALM 10KM CAVOK 20/14 QNH1023
- ATC Clears ET 402 for a local Training Flight, Depart RW07R
- Maintain Runway Heading 14,000ft, Squawk 2213
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 07R (Nose Steering OFF, then ON)
- Normal Flap 15 Takeoff (Autopilot ON, Flight Director ON, Auto Throttle ON)
- After Level Off at 14,000ft , Clear to FL160, Turn Left to 360 degrees
- After Level off at FL 160, Clear crew to FL270, climb at 300KTS,
- Transition at Mach.70
- Various turns at FL250
- Descend to FL160 at Mach.70 Transition 300KTS

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- After Level off at FL 160, clear crew to fly at min maneuvering speed for
- Flap Zero, Flap 5, Flap 15, Flap 30 (straight and level and turns)
- ILS Approach RW25L & Manual Landing
- (Autopilot ON, Flight Director ON, Auto Throttle ON)
- ATIS info "B" ____ Z CALM 10KM BKN010 20/14 QNH1023
- Normal Flap 15 Takeoff RW25L (original aircraft weights) (Autopilot ON, Flight Director ON, Auto Throttle ON)
- ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot OFF, Flight Director ON)

- BREAK -

(Switch seats)

ATIS info "B" ____ Z CALM 10KM CAVOK 20/14 QNH1023

Aircraft at Hold Point short of RW 07R

Before Takeoff Procedure and Checklist (original aircraft weights)

Line-up Runway 07R (Nose Steering OFF, then ON)

Normal Flap 15 Takeoff (Autopilot ON, Flight Director ON, Auto Throttle ON)

After Level Off at 14,000ft, Clear to FL160, Turn Left to 360 degrees

After Level off at FL 160, Clear crew to FL270, climb at 300KTS,
Transition at Mach.70

Various turns at FL250

Descend to FL160 at Mach.70 Transition 300KTS


After Level off at FL 160, clear crew to fly at min maneuvering speed for
Flap Zero, Flap 5, Flap 15, Flap 30 (straight and level and turns)

ILS Approach RW25L & Manual Landing
(Autopilot, Flight Director, Auto Throttle ON)

ATIS info "B" ____ Z CALM 10KM BKN010 20/14 QNH1023

Normal Flap 15 Takeoff RW25L (original aircraft weights)
(Autopilot, Flight Director, Auto Throttle ON)

ILS Approach RW25L & Manual Landing

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(Auto Throttle, Autopilot OFF, Flight Director ON)

After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:

- a) Complete a Weight and Balance and calculate Takeoff and Landing Performance
- b) Demonstrate proper use of the MCP and Flight Instruments
- c) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
(Autopilot, Flight Director, Auto Throttle ON)
- d) Complete an ILS Approach
- e) Demonstrate comprehension of how to use the SOP and checklists

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6.8 Lesson Plan 6.8 – B737 NG FTD

Lesson	Description	Equip	Flight Time					
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)	
6.8	B737 Basic Handling	B737N G FTD	2.0	2.0				

1) Topics

- Pre-flight Procedures
- MCP operation
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Shutdown

2) Objectives

This scenario is designed to introduce the student to the basic operations of the B737NG.


This lesson will focus on flying without the Auto Throttle.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HAAB local
- Have students do Weight and Balance
- Have students do Takeoff and Landing Distance calculations

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- Review MCP Procedures for Autopilot ON,

Flight Director ON, Auto Throttle OFF

- Review Taxi Procedures
- Review Takeoff Flap 15 Procedures
- Review Climb, Level OFF and Resume Climb technique
- Review Descent and Level OFF technique
- Review ILS RW25L
- Review Normal Landing Procedures

5) Simulator Set Up

- Aircraft on Gate 7,
- GPU available, power OFF
- Day Visual, CAVOK
- Motion OFF
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6) Lesson Plan

ATIS info "C" ____ Z CALM 10KM BKN180 20/14 QNH1023

ATC Clears ET 403 for a local Training Flight, Depart RW07R
Maintain Runway Heading 14,000ft, Squawk 2213

Power Up/Pre-flight Procedures and Checklists

Normal Engine Start


Taxi Runway 07R

Normal Flap 15 Takeoff (Autopilot, Flight Director ON, Auto Throttle OFF)

After Level Off at 14,000ft, Clear to FL160, Turn Left to 360 degrees,

After Level off at FL 160, Clear crew to FL370, climb at 280KTS, Transition at Mach.75

Various turns at FL370

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(Autopilot, Flight Director ON and OFF, Auto Throttle OFF)

Descend to FL160 at Mach.75 Transition 280KTS

ATIS info "D" ____ Z CALM 10KM BKN010 20/14 QNH1023

ILS Approach RW25L & Manual Landing

(Autopilot, Auto Throttle OFF, Flight Director ON)

ATIS info "E" ____ Z CALM 10KM BKN180 20/14 QNH1023

Normal Flap 15 Takeoff RW07R (original aircraft weights)

(Autopilot, Flight Director ON, Auto Throttle OFF)

Visual Approach RW07R

(Autopilot, Flight Director ON, Auto Throttle OFF)

- BREAK -

(Switch seats)

ATIS info "C" ____ Z CALM 10KM BKN180 20/14 QNH1023

Aircraft at Hold Point short of RW 07R

Before Takeoff Procedure and Checklist (original aircraft weights)

Line-up Runway 07R

Normal Flap 15 Takeoff (Autopilot, Flight Director ON, Auto Throttle OFF)

After Level Off at 14,000ft, Clear to FL160, Turn Left to 360 degrees

After Level off at FL 160, Clear crew to FL370, climb at 280KTS, transition at Mach.75

Various turns at FL370 (Autopilot, Flight Director ON and OFF, Auto Throttle OFF)

Descend to FL160 at Mach.75 Transition 280KTS

ATIS info "D" ____ Z CALM 10KM BKN010 20/14QNH1023


ILS Approach RW25L & Manual Landing

(Autopilot, Auto Throttle OFF, Flight Director ON)

ATIS info "E" ____ Z CALM 10KM BKN180 20/14QNH1023

Normal Flap 15 Takeoff RW07R (original aircraft weights)

(Autopilot, Flight Director ON, Auto Throttle OFF)

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Visual Approach RW07R
(Autopilot, Flight Director ON, Auto Throttle OFF)

After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:

- a) Complete a Weight and Balance and calculate Takeoff and Landing Performance
- b) Demonstrate proper use of the MCP and Flight Instruments
- c) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing without Auto Throttle
- d) Complete an ILS Approach
- e) Demonstrate comprehension of how to use the SOP and checklists

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	Flight Training (B-737NG) - Stage 6		

6.9 Lesson Plan 6.9 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
6.9	B737 Basic Handling	B737N G FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- MCP operation
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Shutdown

2) Objectives

This scenario is designed to introduce the student to the basic operations of the B737NG.


This lesson will focus on flying without the Auto Pilot & Auto Throttle.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HAAB local
- Have students do Weight and Balance
- Have students do Takeoff and Landing Distance calculations

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	Flight Training (B-737NG) - Stage 6		

- Review MCP Procedures for Autopilot & Auto Throttle OFF,

Flight Director ON

- Review Taxi Procedures
- Review Takeoff Flap 15 Procedures
- Review Climb, Level OFF and Resume Climb technique
- Review Descent and Level OFF technique
- Review ILS RW25L
- Review Normal Landing Procedures

5) Simulator Set Up

- Aircraft on Gate 7,
- GPU available, power OFF
- Day Visual, Weather as per ATIS
- Motion OFF
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6) Lesson Plan

ATIS info "D" ____ Z 110/05KTS 10KM BKN210 25/14 QNH1026

ATC Clears ET 404 for a local Training Flight, Depart RW07R
Maintain Runway Heading 14,000ft, Squawk 2213


Power Up/Pre-flight Procedures and Checklists

Normal Engine Start

Taxi Runway 07R

Normal Flap 15 Takeoff (Autopilot & Auto Throttle OFF, Flight Director ON)

After Level Off at 14,000ft, Clear to FL160, Turn Left to 360 degrees

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	Flight Training (B-737NG) - Stage 6		

After Level off at FL 160, Clear crew to FL370, climb at 280KTS, Transition at Mach.75

Various turns at FL370 (Autopilot ON, and OFF)

Descend to FL160 at Mach.75 Transition 280KTS

ATIS info "E" ____ Z 160/05KTS 6KM BKN005 25/22 QNH1025

ILS Approach RW25L & Manual Landing
(Autopilot & Auto Throttle OFF, Flight Director ON)

ATIS info "F" ____ Z 110/05KTS 10KM BKN210 25/14 QNH1025

Normal Flap 15 Takeoff RW07R (original aircraft weights)
(Autopilot & Auto Throttle, Flight Director OFF)

Visual Approach RW07R
(Autopilot & Auto Throttle, Flight Director OFF)

- BREAK -
(Switch seats)

ATIS info "D" ____ Z 110/05KTS 10KM BKN210 25/14 QNH1025

Aircraft at Hold Point short of RW 07R

Before Takeoff Procedure and Checklist (original aircraft weights)

Line-up Runway 07R

Normal Flap 15 Takeoff (Autopilot & Auto Throttle OFF, Flight Director ON)

After Level Off at 14,000ft, Clear to FL160, Turn Left to 360 degrees


After Level off at FL 160, Clear crew to FL370, climb at 280KTS, transition at Mach.75

Various turns at FL370 (Autopilot ON, and OFF)

Descend to FL160 at Mach.75 Transition 280KTS

ATIS info "E" ____ Z 160/05KTS 6KM BKN005 25/22 QNH1025

ILS Approach RW25L & Manual Landing
(Autopilot & Auto Throttle OFF, Flight Director ON)

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ATIS info "F" ____ Z 110/05KTS 10KM BKN210 25/14 QNH1025

Normal Flap 15 Takeoff RW07R (original aircraft weights)
(Autopilot & Auto Throttle, Flight Director OFF)


Visual Approach RW07R
(Autopilot & Auto Throttle, Flight Director OFF)

After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:

- a) Complete a Weight and Balance and calculate Takeoff and Landing Performance
- b) Demonstrate proper use of the MCP and Flight Instruments
- c) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing without
 - a. Auto Pilot and Auto Throttle
- d) Complete an ILS approach and Missed Approach
- e) Demonstrate comprehension of how to use the SOP and checklists

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	Flight Training (B-737NG) - Stage 6		

6.10 Lesson Plan 6.10 – B737 NG FTD (Progress Check)

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
6.10	B737 Basic Handling	B737N G FTD	2.0	2.0			

1) Topics

- Standard Operating Procedures
- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- ILS Approach
- Shutdown

2) Objectives

This scenario is designed to check the progress of the student demonstrating the basic operations of the B737NG.


This lesson is again flying without the Auto Pilot and Auto Throttle, using the Flight Director. .

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HAAB local
- Have students do Weight and Balance
- Have students do Takeoff and Landing Distance calculations
- Review Taxi Procedures
- Review flight without the Auto Pilot and Auto Throttle, using the Flight

	ETHIOPIAN AVIATION ACADEMY		Rev. No. 2
	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Flight Training (B-737NG) - Stage 6		

Director

- Review Takeoff Flap 5 Procedures
- Review Climb, Level OFF and Resume Climb technique - Review Descent and Level OFF technique
- Review Normal Landing Procedures

5) Simulator Set Up

- Aircraft on Gate 7,
- GPU available, power OFF
- Day Visual, Weather as per ATIS
- Motion OFF
 - ZFW - 51.8
 - Fuel - 20.8
 - GTOW - 72.6
 - CG - 13.1
 - Stab Trim - 5.26
 - Switches incorrectly set (before crew enters FTD)
 - Pressurization Mode Selector "ALT"
 - STAB TRIM override switch "OVERRIDE"

6) Lesson Plan

ATIS info "E" ____ Z CALM 10KM BKN180 22/14 QNH1028

ATC Clears ET 405 for a local Training Flight, Depart RW07R
Maintain Runway Heading 14,000ft, Squawk 2213

Power Up/Pre-flight Procedures and Checklists


Normal Engine Start

Taxi Runway 07R

Normal Flap 5 Takeoff (Auto Pilot, Auto Throttle OFF, Flight Director ON)

After Level Off at 14,000ft, Clear to FL160, Turn Left to 360 degrees

After Level off at FL 160, Clear crew to FL210

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	Flight Training (B-737NG) - Stage 6		

Various turns at FL210 (Auto Pilot, Auto Throttle OFF, Flight Director ON)

Descend to FL160

Clear crew to fly at min maneuvering speed for
Flap Zero, Flap 5, Flap 15, Flap 30 (straight and level and turns)

ATIS info "F" ____ Z 200/05KTS 6KM BKN008 22/14 QNH1028
ILS Approach RW25L & Manual Landing
(Auto Pilot, Auto Throttle OFF, Flight Director ON)

ATIS info "G" ____ Z 110/05KTS 10KM BKN180 22/14 QNH1028

Normal Flap 5 Takeoff RW07R (original aircraft weights)
(Auto Pilot, Auto Throttle, Flight Director OFF)

Visual Approach RW07R
(Auto Pilot, Auto Throttle, Flight Director OFF)

- BREAK -
(Switch seats)

ATIS info "E" ____ Z CALM 10KM BKN180 22/14 QNH1028

Aircraft at Hold Point short of RW 07R

Before Takeoff Procedure and Checklist (original aircraft weights)

Line-up Runway 07R

Normal Flap 5 Takeoff (Auto Pilot, Auto Throttle OFF, Flight Director ON)

After Level Off at 14,000ft, Autopilot ON, Clear to FL160, Turn Left to 360 degrees

After Level off at FL 160, Clear crew to FL210

Various turns at FL210 (Auto Pilot, Auto Throttle OFF, Flight Director ON)


Descend to FL160

Clear crew to fly at min maneuvering speed for
Flap Zero, Flap 5, Flap 15, Flap 30 (straight and level and turns)

ATIS info "F" ____ Z 200/05KTS 6KM BKN008 22/14 QNH1028

ILS Approach RW25L & Manual Landing
(Auto Pilot, Auto Throttle OFF, Flight Director ON)

ATIS info "G" ____ Z 110/05KTS 10KM BKN180 22/14 QNH1028
Normal Flap 15 Takeoff RW07R (original aircraft weights) (Auto

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Pilot, Auto Throttle, Flight Director OFF)

Visual Approach RW07R

(Auto Pilot, Auto Throttle, Flight Director OFF)

After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:


- a) Perform all pre and post flight duties without assistance
- b) Complete a Weight and Balance and calculate Takeoff and Landing

Performance

- c) Demonstrate comprehension of how to use the SOP and checklists
- d) Demonstrate proper use of the MCP and Flight Instruments
- e) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing without Auto Pilot and Auto Throttle
- f) Smoothly control the aircraft at minimum maneuvering speeds

for various Flap settings

- g) Complete an ILS approach

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	Flight Training (B-737NG) - Stage 6		

6.11 Lesson Plan 6.11 – B737 NG FTD

Lesson	Description	Equip	Flight Time					
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)	
6.11	B737 Basic Handling	B737N G FTD	2.0	2.0				

1) Topics

- a) Standard Operating Procedures
- b) Pre-flight Procedures
- c) Engine Start Procedures
- d) Before Taxi
- e) Climb, Cruise, Descend, Land
- f) Minimum Maneuvering Speeds
- g) VOR DME Approach and Missed Approach
- h) Shutdown

2) Objectives

This scenario is designed to introduce the student to the basic operations of the B737NG.


This lesson will introduce flying without Auto Pilot, Auto Throttle, or Flight Director..

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HAAB local
- Have students do Weight and Balance
- Have students do Takeoff and Landing Distance calculations

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	Flight Training (B-737NG) - Stage 6		

- Review 737-700 Minimum Maneuvering Speeds
- Review Takeoff Flap 5 Procedures
- Review Climb, Level OFF and Resume Climb technique - Review VOR DME Approach runway 25L
- Review Missed Approach Procedures
- Review Normal Landing Procedures

5) Simulator Set Up

- Aircraft on Gate 7,
- GPU unavailable, APU power ON
- Day Visual, Weather as per ATIS
- Motion OFF
- ZFW - 57.0
- Fuel - 11.0
- GTOW - 67.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan

ATIS info "F" ____ Z 16005KTS 10KM BKN130 18/10 QNH1024

ATC Clears ET 406 for a local Training Flight, Depart RW07R
Maintain Runway Heading 14,000ft, Squawk 2213

Pre-flight Procedures and Checklists

Normal Engine Start

Taxi Runway 07R


Normal Flap 5 Takeoff (Autopilot, Auto Throttle, Flight Director OFF)

After Level Off at 14,000ft, Clear to FL160, Turn Left to 030 degrees

After Level off at FL 160, Clear crew to fly at min maneuvering speed for
Flap Zero, Flap 30 (straight and level and turns)

ATIS info "G" ____ Z 16005KTS 4KM BKN008 18/14 QNH1024
(Set the Weather at 0/0)

VOR DME Approach RW25L (Autopilot, Auto Throttle, Flight Director ON)

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	Flight Training (B-737NG) - Stage 6		

Missed Approach

ATIS info "H" ____ Z 16005KTS 6KMBKN009 18/10QNH1024

VOR DME Approach RW25L and Manual Landing
(Autopilot, Auto Throttle OFF, Flight Director ON)

ATIS info "I" ____ Z 16005KTS 10KMBKN180 18/10QNH1024

Normal Flap 5 Takeoff RW07R (original aircraft weights)
(Autopilot, Auto Throttle OFF, Flight Director ON)

Visual Approach RW25L and Manual Landing (backed up with ILS)
(Autopilot, Auto Throttle OFF, Flight Director ON)

- BREAK -
(Switch seats)

ATIS info "F" ____ Z 16005KTS 10KM BKN130 18/10 QNH1024

Before Takeoff Checklist (original aircraft weights)

Taxi Runway 07R

Normal Flap 5 Takeoff (Autopilot, Auto Throttle, Flight Director OFF)

After Level Off at 14,000ft, Clear to FL160, Turn Left to 030 degrees

After Level off at FL160, Clear crew to fly at min maneuvering speed for
Flap Zero, Flap 30 (straight and level and turns)

ATIS info "G" ____ Z 16005KTS 4KM BKN008 18/14 QNH1024
(Set the weather at 0/0)

VOR DME Approach RW25L (Autopilot, Auto Throttle, Flight Director ON)


Missed Approach

ATIS info "H" ____ Z 16005KTS 6KMBKN009 18/10QNH1024

VOR DME Approach RW25L and Manual Landing
(Autopilot, Auto Throttle OFF, Flight Director ON)

ATIS info "I" ____ Z 16005KTS 10KMBKN180 18/10QNH1024

Normal Flap 5 Takeoff RW07R (original aircraft weights)
(Autopilot, Auto Throttle OFF, Flight Director ON)

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Visual Approach RW25L and Manual Landing (backed up with ILS)
(Autopilot, Auto Throttle OFF, Flight Director ON)

After Landing/Shutdown

7) Trainee Competency Criteria

The trainee should be able to:

- a) Perform all pre and post flight duties without assistance
- b) Complete a Weight and Balance and calculate Takeoff and Landing Performance
- c) Demonstrate comprehension of how to use the SOP and checklists
- d) Demonstrate flight at various Minimum Maneuvering Speeds
- e) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- f) Complete a VOR DME Approach and Missed Approach

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6.12 Lesson Plan 6.12 – B737 NG FTD

Lesson		Description	Equip	Flight Time				
				PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
6.12		B737 Basic Handling	B737N G FTD	2.0	2.0			

1) Topics

- Standard Operating Procedures
- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- EGPWS Recognition and Recovery
- RNAV Approach and Missed Approach
- Shutdown

2) Objectives


This scenario is designed to introduce the student to the basic operations of the B737NG.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HAAB local
- Have students do Weight and Balance
- Have students do Takeoff and Landing Distance calculations
- Review EGPWS Recognition and Recovery - Review Takeoff Flap 15 Procedures

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	Flight Training (B-737NG) - Stage 6		


- Review Climb, Level OFF and Resume Climb technique - Review RNAV Approach runway 07R
- Review Constant Descent Approaches
- Review Missed Approach Procedures
- Review Normal Landing Procedures

5) Simulator Set Up

- Aircraft on Gate 7,
- GPU unavailable, APU power ON
- Day Visual, Weather as per ATIS
- Motion OFF
- ZFW - 57.0
- Fuel - 11.0
- GTOW - 67.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan

- ATIS info "G" ____ Z 36010KTS 10KM BKN180 24/14 QNH1022
- ATC Clears ET 407 for a local Training Flight, Depart RW07R
- Maintain Runway Heading 14,000ft, Squawk 2213
- Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 07R
- Normal Flap 15 Takeoff (Autopilot, Auto Throttle, Flight Director ON)
- After Level Off at 14,000ft
- Demonstrate EGPWS (TERRAIN) Recovery
- ATIS info "H" ____ Z 36010KTS 6KM BKN010 24/18 QNH1022
- RNAV Approach RW07R (Autopilot, Auto Throttle, Flight Director ON)
- Missed Approach (truck on the runway)
- Have crew fly the complete Missed Approach Procedure
- ATIS info "H" ____ Z 36010KTS 6KM BKN010 24/18 QNH1022

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	Flight Training (B-737NG) - Stage 6		

- RNAV Approach RW07R and Manual Landing
- (Autopilot, Auto Throttle OFF, Flight Director ON)
- ATIS info "I" ____ Z 36010KTS 10KM BKN180 24/14 QNH1022
- Normal Flap 15 Takeoff RW07R (original aircraft weights)
(Autopilot, Auto Throttle, Flight Director ON)
- Visual Approach RW07R and Land
(Autopilot, Auto Throttle, Flight Director ON)

- BREAK -

(Switch seats)

ATIS info "G" ____ Z 36010KTS 10KM BKN180 24/14 QNH1022

- Before Takeoff Checklist (original aircraft weights)
- Taxi Runway 07R
- Normal Flap 15 Takeoff (Autopilot, Auto Throttle, Flight Director ON)
- After Level Off at 14,000ft
- Demonstrate EGPWS (TERRAIN) Recovery
- ATIS info "H" ____ Z 36010KTS 6KM BKN010 24/18 QNH1022
- RNAV Approach RW07R (Autopilot, Auto Throttle, Flight Director ON)
- Missed Approach (truck on the runway)
- Have crew fly the complete Missed Approach Procedure


ATIS info "H" ____ Z 36010KTS 6KM BKN010 24/18QNH1022

- RNAV Approach RW07R and Manual Landing
- (Autopilot, Auto Throttle OFF, Flight Director ON)

ATIS info "I" ____ Z 36010KTS 10KM BKN180 24/14QNH1022


- Normal Flap 15 Takeoff RW07R (original aircraft weights) (Autopilot, Auto Throttle, Flight Director ON)
- Visual Approach RW07R and Land
(Autopilot, Auto Throttle, Flight Director ON)
- After Landing/Shutdown

7) Trainee Competency Criteria

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The trainee should be able to:

- a) Perform all pre and post flight duties without assistance
- b) Complete a Weight and Balance and calculate Takeoff and Landing Performance
- c) Demonstrate comprehension of how to use the SOP and checklists
- d) Demonstrate recognition and recovery from an EGPWS Warning
- e) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- f) Complete an RNAV Approach and Missed Approach

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	Flight Training (B-737NG) - Stage 6				

6.13 Lesson Plan 6.13 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
6.13	B737 Basic Handling	B737NG FTD	2.0	2.0			

1) Topics

- Standard Operating Procedures
- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- TCAS Recognition and Recovery
- LOC Approach and Missed Approach
- Crosswind Landing
- Shutdown

2) Objectives


This scenario is designed to introduce the student to the basic operations of the B737NG.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HAAB local
- Have students do Weight and Balance
- Have students do Takeoff and Landing Distance calculations

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	Flight Training (B-737NG) - Stage 6		


- Review TCAS Recognition and Recovery
- Review Takeoff Flap 5 Procedures
- Review Climb, Level OFF and Resume Climb technique
- Review LOC Approach runway 25L
- Review Constant Descent Approaches
- Review Missed Approach Procedures
- Review Crosswind Landing Procedures

5) Simulator Set Up

- Aircraft on Gate 7,
- GPU unavailable, APU power ON
- Day Visual, Weather as per ATIS
- Motion OFF
- ZFW - 57.0
- Fuel - 11.0
- GTOW - 67.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan

- ATIS info "H" ____ Z 36015KTS 10KM BKN150 19/14 QNH1026
- ATC Clears ET 408 for a local Training Flight, Depart RW07R
- Maintain Runway Heading 14,000ft, Squawk 2215
- Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 07R
- Normal Flap 5 Takeoff (Autopilot, Auto Throttle, Flight Director ON)
- After Level Off at 14,000ft
- Demonstrate TCAS Recovery
- ATIS info "I" ____ Z 30015KTS 5KM BKN007 19/14 QNH1027 (Set the

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Weather at 0/0)

- LOC Approach RW25L (Autopilot, Auto Throttle, Flight Director ON)
- Missed Approach (full Missed Approach Procedure)
- ATIS info "I" ____ Z 30015KTS 5KM BKN007 19/14 QNH1027
- (set the weather as per the ATIS)
- LOC Approach RW25L (Autopilot, Auto Throttle OFF, Flight Director ON)
- Missed Approach (truck on the runway)
- ATIS info "J" ____ Z 34010KTS 10KM BKN150 19/14 QNH1026
- Visual Approach RW07R and Manual Crosswind Landing (back up with ILS)
(Autopilot, Auto Throttle OFF, Flight Director ON)
- Reposition 10NM final RW07R and repeat Manual Crosswind Landing

- BREAK -

(Switch seats)

ATIS info "H" ____ Z 36015KTS 10KM BKN150 19/14 QNH1026

- Before Takeoff Checklist (original aircraft weights)
- Taxi Runway 07R
- Normal Flap 5 Takeoff (Autopilot, Auto Throttle, Flight Director ON)
- After Level Off at 14,000ft
- Demonstrate TCAS Recovery

ATIS info "I" ____ Z 30015KTS 5KM BKN007 19/14 QNH1026


(Set the Weather at 0/0)

- LOC Approach RW25L (Autopilot, Auto Throttle, Flight Director ON)
- Missed Approach (full Missed Approach Procedure)

ATIS info "I" ____ Z 30015KTS 5KM BKN007 19/14 QNH1026

(set the weather as per the ATIS)

- LOC Approach RW25L (Autopilot, Auto Throttle OFF, Flight Director ON)
- Missed Approach (truck on the runway)

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ATIS info "J" ____ Z 34010KTS 10KM BKN150 19/14 QNH1026

- Visual Approach RW07R and Manual Crosswind Landing (back up with ILS)
- (Autopilot, Auto Throttle OFF, Flight Director ON)
- Reposition 10NM final RW07R and repeat Manual Crosswind Landing

After Landing/Shutdown


7) Trainee Competency Criteria

The trainee should be able to:

- a) Perform all pre and post flight duties without assistance
- b) Complete a Weight and Balance and calculate Takeoff and Landing

Performance

- c) Demonstrate comprehension of how to use the SOP and checklists
- d) Demonstrate recognition and recovery from TCAS RA
- e) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- f) Complete a Localizer Approach and Missed Approach

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6.14 Lesson Plan 6.14 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
6.14	B737 Basic Handling	B737N G FTD	2.0	2.0			

1) Topics

- Standard Operating Procedures
- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- TCAS Recognition and Recovery
- NDB Approach and Missed Approach
- Shutdown

2) Objectives


This scenario is designed to introduce the student to the basic operations of the B737NG.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HAAB local
- Have students do Weight and Balance
- Have students do Takeoff and Landing Distance calculations
- Review Takeoff Flap 5 Procedures

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- Review Climb, Level OFF and Resume Climb technique - Review NDB Approach runway 25R
- Review Missed Approach Procedures
- Review Normal Landing Procedures

5) Simulator Set Up

- Aircraft on Gate 7,
- GPU unavailable, APU power ON
- Day Visual, Weather as per ATIS
- Motion OFF
- ZFW - 51.2
- Fuel - 11.4
- GTOW - 62.6
- CG - 19.2
- Stab Trim - 5.37

6) Lesson Plan

ATIS info "L" ____ Z 16010KTS 10KM BKN050 17/14 QNH1020

ATC Clears ET 409 for a local Training Flight, Depart RW07R
Maintain Runway Heading 14,000ft, Squawk 2223

Power Up/Pre-flight Procedures and Checklists

Normal Engine Start

Taxi Runway 07R

Normal Flap 5 Takeoff (Autopilot, Auto Throttle, Flight Director ON)

After Level Off at 14,000ft , Clear to FL160, Turn Left to 360 degrees

After Level off at FL 160, Clear crew to FL210, climb at 250KTS


Various turns at FL210

Descend to FL160 at 250KTS

ATIS info "M" ____ Z 16010KTS 6KM BKN007 17/14 QNH1020

NDB Approach RW25R (Autopilot, Auto Throttle, Flight Director OFF)

Missed Approach (aircraft on runway)

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NDB Approach RW25R & Manual Landing
(Autopilot, Auto Throttle, Flight Director ON)

ATIS info "N" ____ Z 16010KTS 4KM BKN004 17/16 QNH1020

Normal Flap 5 Takeoff RW25L (original aircraft weights)
(Autopilot, Auto Throttle OFF, Flight Director ON)

ILS Approach RW25L and Manual Crosswind Landing
(Autopilot, Auto Throttle OFF, Flight Director ON)

- BREAK -
(Switch seats)

ATIS info "L" ____ Z 16010KTS 10KM BKN050 17/14 QNH1020

Aircraft at Hold Point short of RW 07R

Before Takeoff Procedure and Checklist (original aircraft weights)

Normal Flap 5 Takeoff (Autopilot, Auto Throttle, Flight Director ON)

After Level Off at 14,000ft , Clear to FL160, Turn Left to 360 degrees

After Level off at FL 160, Clear crew to FL210, climb at 250KTS

Various turns at FL210

Descend to FL160 at 250KTS

ATIS info "M" ____ Z 16010KTS 6KM BKN007 17/14 QNH1020

NDB Approach RW25R (Autopilot, Auto Throttle, Flight Director OFF)

Missed Approach (aircraft on runway)

NDB Approach RW25R & Manual Landing
(Autopilot, Auto Throttle, Flight Director ON)


ATIS info "N" ____ Z 16010KTS 4KM BKN004 17/16 QNH1013

Normal Flap 5 Takeoff RW25L (original aircraft weights)
(Autopilot, Auto Throttle OFF, Flight Director ON)

ILS Approach RW25L and Manual Crosswind Landing
(Autopilot, Auto Throttle OFF, Flight Director ON)


After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

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The trainee should be able to:

- a) Complete a Weight and Balance and calculate Takeoff and Landing Performance
- b) Demonstrate proper use of the MCP and Flight Instruments
- c) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- d) Complete an NDB Approach
- e) Complete a Missed Approach
- f) Complete an ILS Approach with a Crosswind Landing
- g) Demonstrate comprehension of how to use the SOP and checklists

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6.15 Lesson Plan 6.15 – B737 NG FTD Procedures Validation

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
6.15	B737 Basic Handling	B737NG FTD	2.0	2.0			

1) Topics

- Standard Operating Procedures
- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- TCAS Recognition and Recovery
- LOC Approach and Missed Approach
- Shutdown

2) Objectives


The Objective is to verify the knowledge of the Standard Operating Procedures; to verify the proficiency at basic flight maneuvers, to verify the basic knowledge to the operating systems of the B737 NG; and to verify the basic Pilot Decision Making and Workload Management skills in the B737 NG.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B37NG QRH

4) Instructor Pre-brief (1.0 Hour)

- Ask the students if they have any questions.
- Give flight plan HAAB-HAAB local
- Have students do Weight and Balance
- Have students do Takeoff and Landing Distance calculations

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	Flight Training (B-737NG) - Stage 6		


- Review Takeoff Flap 5 Procedures
- Review Climb, Level OFF and Resume Climb technique
- Review LOC and ILS Approach runway 25L
- Review Missed Approach Procedures
- Review Normal Landing Procedures

5) Simulator Set Up

- Aircraft on Gate 7,
- GPU available
- Day Visual, Weather as per ATIS
- Motion OFF
 - ZFW - 57.0
 - Fuel - 11.0
 - GTOW - 67.8
 - CG - 18.3
 - Stab Trim - 5.15
 - Switches incorrectly set (before crew enters FTD)
 - FLT CONTROL A switch "OFF"
 - LOWER DU switch "ENG PRI"

6) Lesson Plan


- ATIS info "L" ____ Z 16010KTS 10KM BKN050 17/14 QNH1020
- ATC Clears ET 410 for a local Training Flight, Depart RW07R
- Maintain Runway Heading 14,000ft, Squawk 2213
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 07R
- Line-up Runway 07R
- Normal Flap 5 Takeoff (Autopilot, Auto Throttle, Flight Director ON)
- After Level Off at 14,000ft, Clear to FL160, Turn Left to 360 degrees
- After Level off at FL 160, clear crew to FL270, climb at 300KTS, Transition at Mach.70
- Various turns at FL270

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	Flight Training (B-737NG) - Stage 6		

- Descend to FL160 at Mach.70 Transition 300KTS
- ATIS info "M" ____ Z 16010KTS 6KM BKN007 17/14 QNH1020
- LOC Approach RW25L
- (Autopilot, Auto Throttle, Flight Director ON)
- Missed Approach (truck on runway)
- ILS Approach RW25L & Manual Landing
- (Autopilot, Auto Throttle OFF, Flight Director ON)
- ATIS info "N" ____ Z 16010KTS 10KM BKN160 17/14 QNH1020
- Normal Flap 5 Takeoff RW25L (original aircraft weights) (Autopilot, Auto Throttle, Flight Director ON)
- Visual Approach RW25L

- BREAK -
(Switch seats)

- ATIS info "L" ____ Z 16010KTS 10KM BKN050 17/14 QNH1020
- ATC Clears ET 410 for a local Training Flight, Depart RW07R
- Maintain Runway Heading 14,000ft, Squawk 2213
- Power Up/Pre-flight Procedures and Checklists (original aircraft weights)
- Normal Engine Start
- Taxi Runway 07R
- Line-up Runway 07R
- Normal Flap 5 Takeoff (Autopilot, Auto Throttle, Flight Director ON)
- After Level Off at 14,000ft, Clear to FL160, Turn Left to 360 degrees
- After Level off at FL 160, clear crew to FL270, climb at 300KTS, Transition at Mach.70
- Various turns at FL270
- Descend to FL160 at Mach.70 Transition 300KTS
- ATIS info "M" ____ Z 16010KTS 6KM BKN007 17/14 QNH1020


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- LOC Approach RW25L
- (Autopilot, Auto Throttle, Flight Director ON)
- Missed Approach (truck on runway)
- ILS Approach RW25L & Manual Landing
- (Autopilot, Auto Throttle OFF, Flight Director ON)
- ATIS info "N" ____ Z 16010KTS 10KM BKN160 17/14 QNH1020
- Normal Flap 5 Takeoff RW25L (original aircraft weights) (Autopilot, Auto Throttle, Flight Director ON)
- Visual Approach RW25L
- After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:

- a) Complete a Weight and Balance and calculate Takeoff and Landing Performance
- b) Demonstrate proper use of the MCP and Flight Instruments
- c) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
(Autopilot & F/D ON and OFF)
- d) Complete an ILS Approach
- e) Complete a Localizer Approach
- f) Complete a Missed Approach
- g) Demonstrate comprehension of how to use the SOP and checklists

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2.2. FLIGHT TRAINING (B737NG TYPE RATING) - STAGE 7

Overview

This stage of training is designed to introduce the students to commercial operations in a multi-crew environment on a multi-engine aircraft in IFR conditions using advanced instrument procedures. Line Oriented Flight Training (LOFT) is used to develop commercial pilot CRM skills in a simulated Air Carrier flight environment. Scenario Based Training is used to place emphasis on developing CRM skills such as Leadership, Monitor and Feedback and Crew Briefings in a commercial environment. Training occurs in high density IFR environments to prepare the students for airline operations. Students will complete training in both crew positions (Captain and First Officer) and operate as Pilot Flying (PF) and Pilot Not Flying (PNF).

Objectives

- To develop IFR multi-engine skills and knowledge at level for airline operations.
- To gain experience in a multi-crew IFR commercial flight operations through scenario based training sessions;
- To apply CRM skills at the commercial pilot level to real world situations; and
- To demonstrate sound risk management and leadership skills and a positive attitude towards safety.


Instructional Methods to be Used

This stage of training uses the traditional method of instruction along with Line Oriented Flight Training. Crew lead debriefing and self-assessment techniques are used to develop the student's command (Leadership) and CRM skills.

Competency Standards

Prior to advancing to Stage VIII, students must successfully:


- Pass the Stage Examination
- Pass the Flight Check by demonstrating:
- Advanced proficiency in IFR multi-engine skills and knowledge;

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Ability to serve as a member of a multi-crew during IFR Air Carrier flight operations;


Necessary leadership skills, CRM and Threat Error Management (TEM) at the level expected of a airline pilot; and

Sound risk management skills and a positive attitude towards safety.

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Lesson No.	Description	Equip	Flight Time		Total
			PF	PNF	
			FTD	FTD	
7.1	Multi-Crew Instruments	B737 CPT	-	-	
7.2	Multi-Crew Instruments	B737 VPT	-	-	
7.3	Multi-Crew Instruments	B737 FTD	2.0	2.0	
7.4	Multi-Crew Instruments	B737 FTD	2.0	2.0	
7.5	Multi-Crew Instruments	B737 FTD	2.0	2.0	
7.6	Multi-Crew Instruments	B737 FTD	2.0	2.0	
7.7	Multi-Crew Instruments	B737 FTD	2.0	2.0	
7.8	Multi-Crew Instruments	B737 FTD	2.0	2.0	
7.9	Multi-Crew Instruments	B737 FTD	2.0	2.0	
7.9	Multi-Crew Instruments-LOFT	B737 FTD	2.0	2.0	
7.10	Multi-Crew Instruments-LOFT and Review	B737 FTD	2.0	2.0	
7.12	Validation (V)	B737 FTD	2.0	2.0	
Stage 7 Total Hours			20	20	40
Total Hours (Stages 1-7)					276.5

Table 2-3: Summary of Training Stage 7 Summary – B737 Type Rating

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	Flight Training (B-737NG) - Stage 7				

2.2.1. Lesson Plan 7.1 – Virtual Procedures Trainer B737 NG

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.1	Multi Crew Instruments	B737NG VPT	2.0	2.0			

1) Topics

- Pre-flight Procedures
- QRH Procedures (Engine Start; Electric; Hydraulic)
- Normal Flight Procedures
- Shutdown Procedures

2) Objectives

This scenario is primarily designed to let the student practice QRH Memory Actions and Procedures for various systems in the aircraft.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief

The aircraft is to be sitting on the ramp in Addis Ababa with APU Power supplying the aircraft.

5) Lesson Plan

Have them begin the flows from the Pre Flight Procedures.
All Normal Procedures and Checklists should then be completed at the appropriate times.

Before Start


2 Engine Start

“Hot Start”

(Maintenance fixes the problem after the Procedure)

Normal Engine StartAfter Start

- Taxi
- TRU 1 Fails (fixed after Checklist)
- Line Up
- Take off
- Climb

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	Flight Training (B-737NG) - Stage 7		

- Hydraulic Pump Low Pressure (2)
- Cruise
- Descent
- TRU 1 Fails
- Approach
- ILS Approach
- Land

- BREAK -


Switch Seats

- Have them begin the flows from the Before Engine Start
- Procedures.
- All Normal Procedures and Checklists should then be completed at the appropriate times.
- Before Start
- 1 Engine Start No Ignition for Start
- (Maintenance fixes the problem after the Procedure)
- Normal Engine Start
- After Start
- Taxi
- Generator 1 Fails
- (Re-sets when Gen selected ON via the Checklist)
- Line Up
- Takeoff
- Climb
- Hydraulic Pump Overheat (2)
- Cruise
- Descent Generator 1 Fails (Does not Re-set)
- Approach
- ILS Approach
- Land
- Shut Down

7) Trainee Competency Criteria

The trainee should be able to:

- a) Follow instructions and directions from the instructor
- b) Demonstrate comprehension of how to use the SOP and QRH Checklists
- c) Demonstrate knowledge of the Air, Engine, and Flight Instrument/Display Systems
- d) Complete a complete flight

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2.2.2. Lesson Plan 7.2 – Virtual Procedures Trainer B737 NG

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.2	Multi Crew Instruments	B737NG VPT	2.0	2.0			

1) Topics

- a) Pre-flight Procedures
- b) QRH Procedures

(Air Faults; Engine Malfunctions; Flight Instrument/Display Faults)

- c) Normal Flight Procedures
- d) Shutdown Procedures

2) Objectives

This scenario is primarily designed to let the student practice Engine System, Air System and Flight Instrument/Display Malfunctions, including QRH usage

3) References


- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief

The aircraft is to be sitting on the ramp in Addis Ababa with APU Power supplying the aircraft.

5) Lesson Plan

Have them begin the flows from the Pre Flight Procedures.

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All Normal Procedures and Checklists should then be completed at the appropriate times.

-
- Before Start
- Engine Start
- Start Valve remains Open
- (Valve light extinguishes after affected Engine Bleed air switched Off)

After Start

Taxi

- Line Up
- Takeoff
- Climb
- EEC Alternate Mode (normalize after QRH)
- Cruise
- Display Failure (no automatic switching) (normalize after QRH)
- Descent
- Equip Cooling Supply OFF
- (light does not extinguish)
- Approach
- ILS Approach
- Land

- BREAK -


Switch Seats

- Have them begin the flows from the Before Engine Start Procedures.
- All Normal Procedures and Checklists should then be completed at the appropriate times.
- Engine Start
- Low Engine Oil Pressure after start
- (fast start engines after QRH)
- After Start
- Taxi
- Line Up
- Takeoff
- Climb
- Auto Pressurization Fail (normalize after QRH)
- Cruise
- Display Source – one DEU supplying Display
- Descent
- Oil Filter Bypass indication
- (alert extinguishes when Thrust Lever is Idle)
- Approach
- ILS Approach
- Land
- Shut Down

7) Trainee Competency Criteria


The trainee should be able to:

- 6.4 Follow instructions and directions from the instructor
- 6.5 Demonstrate comprehension of how to use the SOP and QRH Checklists
- 6.6 Demonstrate knowledge of the Air, Engine, and Flight

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	Flight Training (B-737NG) - Stage 7		

Instrument/Display Systems

6.7 Complete an engine start

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	Flight Training (B-737NG) - Stage 7				

2.2.3. Lesson Plan 7.3 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.3	Multi Crew Instruments	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Air Faults and Fuel Failures
- ILS Approach
- Shutdown

2) Objectives


This scenario is designed to introduce the student to more advanced flying operations and procedures of the B737NG. This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HDAM
- Have students do Weight and Balance - Review Pack and Fuel Abnormalities
- Review MCP Procedures for Auto Throttle and Autopilot ON
- Review Taxi Procedures for HAAB
- Review Takeoff Flap 5 Procedures
- Review Minimum Maneuvering Speeds
- Review Climb, Level OFF and Resume Climb technique
- Review Descent and Level OFF technique - Review ILS

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	Flight Training (B-737NG) - Stage 7		

RW04R

- Review Normal Landing Procedures

3) Simulator Set Up

- a) Aircraft on Gate HAAB
- b) GPU available, power OFF
- c) Day Visual, Weather as per ATIS below
- d) Motion OFF
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26
- Switches incorrectly set (before crew enters FTD)

Supply Cool ALT

Fuel Crossfeed at Crossfeed


5) Lesson Plan

- ATIS info "A" ____ Z 01010KTS 3SM BR 004BKN 23/18 Q1026
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW07R ASOLE 1A Departure, expect FL290 10 minutes after departure, Squawk 1114
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 07R
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14000ft., do various turns, climbs/descents for practice
- Have crew do speeds 200KTS, 250KTS, 300KTS
- Single Pack Fails
- Fuel Pump Low Pressure
- Return to HAAB
- ATIS info "B" ____ Z 01010KTS 2SM BR 003BKN 22/18 Q1026
- ILS Approach RW25L & Land
- (Auto Throttle, Autopilot, Flight Director ON)
- Reposition 10NM Final
- ILS Approach RW04R & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)

- BREAK -

(Switch seats)

- ATIS info "A" ____ Z 01010KTS 3SM BR 004BKN 23/18 Q1026
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW07R ASOLE 1A Departure, expect FL290 10 minutes after departure, Squawk 1114
- Aircraft at Hold Point short of RW07R (original aircraft weights)
- Before Takeoff Procedure and Checklist


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	Flight Training (B-737NG) - Stage 7		

- Line-up Runway07R
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14000ft., do various turns, climbs/descents for practice
- Have crew do speeds 200KTS, 250KTS, 300KTS
- Fuel Imbalance (Leak NOT suspected)
- Duct Overheat
- Return to HAAB
- ATIS info "B" _____ Z 01010KTS 2SM BR 003BKN 22/18 Q1026
- ILS Approach RW25L & Land
- (Auto Throttle, Autopilot, Flight Director ON)
- Reposition 10NM Final
- ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)
- After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:

- a) Demonstrate proper use of the QRH
- b) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- c) Complete an Approach
- d) Demonstrate comprehension of how to use the SOP and Normal Checklist
- e) Operate effectively in a Multi Crew environment

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2.2.4. Lesson Plan 7.4 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.4	Multi Crew Instruments	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Steep Turns, Stickshaker Recoveries
- Unusual Attitudes
- ILS, LOC Approaches
- Engine Failure after V1

2) Objectives


This scenario is designed to introduce the student to more advanced flying operations and procedures of the B737NG. This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB-HKJK
- Review Steep Turns
- Review Stall Recoveries (ground contact not a factor)
- Review Unusual Attitudes

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- Review ILS RW25L
- Review Loc approach RW25L
- Review two engine Missed Approach
- Review Engine Failure after V1

5) Simulator Set Up

- Aircraft on threshold RW25L HAAB
- Engines Quick Started
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6) Lesson Plan


- ATIS info "B" ____ Z 01010KTS 3SM BR 004BKN 20/16 Q1025
- ATC Clears ET302 to the Jomo Kenyatta Airport, via Flight Plan Route, Depart RW07R,
- SHALA 1A Departure, expect FL360 10 minutes after departure, Squawk 1224
- Aircraft at Threshold RW04L
- Engine Quick Start
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14000ft
- 45 degree bank turn in each direction through 360 degrees

Stall Recoveries

- 6) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
- 7) A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle
- 8) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

Unusual Attitude Recoveries

- 1) Nose High
- 2) Nose Low
 - Return to HAAB
 - ATIS info "C" ____ Z 20010KTS 2SM BR 004BKN 20/19 Q1026 (instructor sets

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zero/zero)

- LOC Approach 25L
- (Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach
- (allow full procedure, then return for second approach)
- ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)
- Reposition RW25L (Original Aircraft Weight)
- ATIS info "D" ____ Z 02010KTS 2SM BR 004BKN 20/16 Q1026
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight)
- (Auto Throttle, Autopilot, Flight Director ON)
- Restore Engine after QRH completed
- ATIS info "E" ____ Z 20010KTS 2SM BR 004BKN 20/16 Q1026
- ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)

- BREAK -

(Switch seats)

- ATIS info "B" ____ Z 01010KTS 3SM BR 004BKN 20/16 Q1025
- ATC Clears ET302 to Jomo Kenyatta Airport, via Flight Plan Route, Depart RW25L, SHALA 1B Departure, expect FL360 10 minutes after departure, Squawk 1224
- Aircraft at Threshold RW25L(Original Aircraft Weights)
- Engine Quick Start
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14000ft.
- 45 degree bank turn in each direction through 360 degrees

Stall Recoveries


- 4) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
- 5) A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle
- 6) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

Unusual Attitude Recoveries

- f) Nose High
- g) Nose Low

Return to HAAB

- ATIS info "C" ____ Z 20010KTS 2SM BR 004BKN 20/19 Q1025 (instructor sets zero/zero)
- LOC Approach RW25L
- (Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach
- (allow full procedure, then return for second approach)
- ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)
- Reposition RW04L (Original Aircraft Weight)
- ATIS info "D" ____ Z 02010KTS 2SM BR 004BKN 20/16 Q1025
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight)
- (Auto Throttle, Autopilot, Flight Director ON)
- Restore Engine after QRH completed
- ATIS info "E" ____ Z 20010KTS 2SM BR 004BKN 20/16 Q1025


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- ILS Approach RW25L& Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)
- After Landing Checklist

7) Trainee Competency Criteria

The trainee should be able to:

- 6) Demonstrate proper use of the QRH
- 7) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- 8) Complete an Approach and Missed Approach
- 9) Demonstrate comprehension of how to use the SOP and Normal Checklist
- 10) Operate effectively in a Multi Crew environment

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2.2.5. Lesson Plan 7.5 – B737 NG FT

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.5	Multi Crew Instruments	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Steep Turns, Stickshaker Recoveries
- Inflight Engine Flameout and Relight
- VOR, RNAV Approaches
- Engine Failure after V1

2) Objectives


This scenario is designed to introduce the student to more advanced flying operations and procedures of the B737NG. This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB - HADR
- Review Steep Turns
- Review Stall Recoveries (ground contact a factor)
- Review Stall Recoveries High Altitude

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- Review VOR RW25L
- Review RNAV approach RW25L
- Review two engine Missed Approach
- Review Engine Failure and Relight

5) Simulator Set Up

- Aircraft on threshold RW25L HAAB
- Engines Quick Started
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 57.0
- Fuel - 11.0
- GTOW - 67.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan

- ATIS info "C" ____ Z 26010KTS 3SM BR 004BKN 20/16 Q1026
- ATC Clears ET326 to Dire Dawa Airport, via Flight Plan Route, Depart RW25L MIWAS 1B Departure, expect FL290 10 minutes after departure,
- Squawk 2112
- Aircraft at Threshold RW25L
- Engine Quick Start
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14000ft.
- 45 degree bank turn in each direction through 360 degrees
- Reposition to FL370
- High Altitude Stall Recovery
- (A/P Engaged, Gear & Flaps Up, Speedbrake Retracted, Flight Idle)
- Reposition to 14000ft
- Engine Flameout (relights when actioned by the QRH)
- Return to HAAB
- ATIS info "D" ____ Z 20010KTS 1SM BR 003BKN 20/19 Q1026
- Low Altitude Stall Recovery on the ILS Approach RW25L
- (A/P Engaged, Gear Down, Flaps 30, Thrust Flight Idle at 800 ft AGL)
- Missed Approach
- ATIS info "E" ____ Z 20010KTS 5SM BR 007BKN 20/14 Q1025
- VOR Approach RW25L
- (Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach (truck on the runway) (follow full missed approach procedure)
- ATIS info "E" ____ Z 20010KTS 5SM BR 007BKN 20/14 Q1025
- RNAV Approach RW25L and Manual Landing
- Reposition RW25L (Original Aircraft Weight)
- ATIS info "E" ____ Z 20010KTS 5SM BR 007BKN 20/14 Q1025

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- Engine Failure After V1 (reposition to runway after QRH)

- BREAK -


(Switch seats)

- ATIS info "C" ____ Z 20010KTS 3SM BR 004BKN 20/16 Q1026
- ATC Clears ET326 to Dire Dawa Airport, via Flight Plan Route, Depart
- RW25L MIWAS 1B Departure, expect FL290 10 minutes after departure, Squawk 2112
- Aircraft at Threshold RW25L (Original Aircraft Weights)
- Engine Quick Start
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14000ft.
- 45 degree bank turn in each direction through 360 degrees
- Reposition to FL370
- High Altitude Stall Recovery
- (A/P Engaged, Gear & Flaps Up, Speedbrake Retracted, Flight Idle)
- Reposition to 14000ft
- Engine Flameout (relights when actioned by the QRH)
- Return to HAAB
- ATIS info "D" ____ Z 20010KTS 1SM BR 003BKN 20/19 Q1025
- Low Altitude Stall Recovery on the ILS Approach RW25L
- (A/P Engaged, Gear Down, Flaps 30, Thrust Flight Idle at 800 ft AGL)
- Missed Approach
- ATIS info "E" ____ Z 20010KTS 5SM BR 007BKN 20/14 Q1025
- VOR Approach 25L
- (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "E" ____ Z 20010KTS 5SM BR 007BKN 20/14 Q1025
- Missed Approach (truck on the runway) (follow full missed approach procedure)
- ATIS info "E" ____ Z 20010KTS 5SM BR 007BKN 20/14 Q1025
- RNAV Y Approach RW04R and Manual Landing
- Reposition RW31L (Original Aircraft Weight)
- ATIS info "E" ____ Z 20010KTS 5SM BR 007BKN 20/14 Q1025
- Engine Failure After V1 (reposition to ramp after QRH)
- After Landing Checklist

7) Trainee Competency Criteria

The trainee should be able to:

- 6) Demonstrate proper use of the QRH
- 7) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- 8) Complete an Approach and Missed Approach
- 9) Demonstrate comprehension of how to use the SOP and Normal Checklist
- 10) Operate effectively in a Multi Crew environment

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2.2.6. Lesson Plan 7.6 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.6	Multi Crew Instruments	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Inflight Engine Malfunctions
- VOR, RNAV Approaches
- Circling Approaches
- Engine Failure after V1
- Rejected Takeoff

2) Objectives


This scenario is designed to introduce the student to more advanced flying operations and procedures of the B737NG. This lesson will be operated with the full and reduced automation.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB - HSSS
- Review Engine Fire, Engine Severe Damage/Separation, Engine Low Oil Pressure, Engine Surge/Stall, in flight
- Review Single Engine Approaches

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- Review VOR RW25L
- Review RNAV approach RW07R
- Review Circling Approaches
- Review Rejected Takeoff

5) Simulator Set Up

- Aircraft on threshold RW25L HAAB
- Engines Quick Started
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 57.0
- Fuel - 11.0
- GTOW - 67.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan

- ATIS info "D" ____ Z 31010KTS 6SM 024BKN 28/17 Q1025
-
- ATC Clears ET344 to KHARTOUM Airport, via Flight Plan Route, Depart
- RW25L MARCO 1B Departure, expect FL360 10 minutes after departure, Squawk 3124
- Aircraft at Threshold RW25L
- Engine Quick Start
- Rejected Takeoff (Engine Flameout)
- Reposition RW25L (Original Aircraft Weight)
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Clear the crew via the Flight Plan
- Leaving 13,000ft, Engine Severe Damage
- Return to HAAB
- ATIS info "E" ____ Z 31010KTS 5SM 012BKN 28/17 Q1025
- Single Engine RNAV Approach RW07R and Manual Landing
- Reposition RW25L (Original Aircraft Weight)
- ATIS info "F" ____ Z 31010KTS 5SM 010BKN 27/20 Q1026
- Normal Flap 5 Takeoff (Autopilot OFF, Auto Throttle, Flight Director ON)
- Engine Flameout through 14000ft (relights via QRH)
- Maintenance request return to HAAB to check engine
- ATIS info "F" ____ Z 34010KTS 5SM 010BKN 27/20 Q1026
- VOR Approach RW25L Circle RW07R
- (Autopilot OFF, Auto Throttle, Flight Director ON)
- Missed Approach

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- ATIS info "G" ____ Z 31010KTS 1SM BR 004BKN 26/24 Q1025
- ILS Approach RW25L and Manual Landing
- (Autopilot ON, Auto Throttle, Flight Director ON)
- Reposition Threshold RW25L
- ATIS info "G" ____ Z 31010KTS 1SM BR 004BKN 26/24 Q1025
- Engine Failure after V1
- (Autopilot ON, Auto Throttle, Flight Director ON)
- Reposition to Threshold RW25L after QRH is completed

- BREAK -


(Switch seats)

- ATIS info "D" ____ Z 31010KTS 6SM 024BKN 28/17 Q1025
- ATC Clears ET344 to Khartoum Airport, via Flight Plan Route, Depart
- RW25L MARCO 1B Departure, expect FL360 10 minutes after departure, Squawk 3124
- Aircraft at Threshold RW25L
- Rejected Takeoff (Engine Flameout)
- Reposition RW25L (Original Aircraft Weight)
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Clear the crew via the Flight Plan
- Leaving 13,000ft, Engine Low Oil Pressure
- Return to HAAB
- ATIS info "E" ____ Z 31010KTS 5SM 012BKN 28/17 Q1025
- Single Engine VOR Approach RW25L and Manual Landing
- Reposition RW25L (Original Aircraft Weight)
- ATIS info "F" ____ Z 31010KTS 5SM 010BKN 27/20 Q1025
- Normal Flap 5 Takeoff (Autopilot OFF, Auto Throttle, Flight Director ON)
- Engine through 14000ft Engine Surge/Stall
- (stabilizes and EGT decreases when Thrust Lever retarded)
- Maintenance request return to HAAB to check engine
- ATIS info "F" ____ Z 20010KTS 5SM 010BKN 27/20 Q1025
- RNAV Approach RW25L Circle RW25L
- (Autopilot OFF, Auto Throttle, Flight Director ON)
- Missed Approach
- ATIS info "G" ____ Z 02010KTS 1SM BR 004BKN 26/24 Q1025
- ILS Approach RW25L and Manual Landing
- (Autopilot ON, Auto Throttle, Flight Director ON)
- Reposition Threshold RW25L
- ATIS info "G" ____ Z 02010KTS 1SM BR 004BKN 26/24 Q1025
- Engine Failure after V1
- (Autopilot ON, Auto Throttle, Flight Director ON)
- Reposition to Threshold RW25L after QRH is completed
- After Landing Checklist


7) Trainee Competency Criteria

The trainee should be able to:

- 6) Demonstrate proper use of the QRH
- 7) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- c) Complete an Approach and Missed Approach
- d) Demonstrate comprehension of how to use the SOP and Normal Checklist

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e) Operate effectively in a Multi Crew environment

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2.2.7. Lesson Plan 7.7 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.7	Multi Crew Instruments	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Fuel Malfunctions
- VOR, RNAV Approaches
- Single Engine Approaches and Missed Approaches
- Engine Fire after V1
- Hold Patterns
- Rejected Takeoff with Passenger Evacuation

2) Objectives


This scenario is designed to introduce the student to more advanced flying operations and procedures of the B737NG. This lesson will be operated with the full and reduced automation.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB - HUEN
- Review Engine Fire after V1
- Review Single Engine Missed Approaches

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- Review VOR RW25L
- Review RNAV approach RW07R
- Review Fuel malfunctions
- Review Holding Pattern Procedures
- Review Rejected Takeoff with Passenger Evacuation

5) Simulator Set Up

- Aircraft on threshold RW07R HAAB
- Engines Quick Started
- Night Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 51.2
- Fuel - 11.4
- GTOW - 62.6
- CG - 19.2
- Stab Trim - 5.37

6) Lesson Plan

- ATIS info "E" ____ Z 01010KTS 1SM 004BKN 18/17 Q1025
- ATC Clears ET332 to ENTEBBE Airport, via Flight Plan Route, Depart RW07R BENDO 1A Departure, expect FL360 10 minutes after departure, Squawk 2223
- Aircraft at Threshold RW07R
- Engine Quick Start
- Engine Failure/Fire after V1, Flap 5 Takeoff
- (Auto Throttle, Autopilot, Flight Director ON)
- Issue crew Hold instruction while completing the QRH
- Return to HAAB
- ATIS info "E" ____ Z 20010KTS 5SM 008OVC 18/16 Q1025
- (Instructor sets zero/zero)
- Single Engine RNAV Approach RW07R
- (Autopilot, Auto Throttle OFF, Flight Director ON)
- Single Engine Missed Approach
- ATIS info "F" ____ Z 20010KTS 1SM 004OVC 18/17 Q1025
- Single Engine ILS RW25L and Land
- Reposition RW07R(Original Aircraft Weight)

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- ATIS info "G" ____ Z 01010KTS 5SM 010OVC 18/17 Q1025
- Normal Flap 5 Takeoff (Autopilot OFF, Auto Throttle, Flight Director ON)
- Fuel Filter Bypass (one)
- Maintenance request return to HAAB
- ATIS info "H" ____ Z 20010KTS 5SM 008OVC 17/15 Q1025
- LOC Approach RW25L (Autopilot OFF, Auto Throttle, Flight Director ON)
- Reposition RW07R (Original Aircraft Weight)
- Rejected Takeoff and Evacuation (Engine Fire)

- BREAK -


(Switch seats)

- ATIS info "E" ____ Z 01010KTS 1SM 004BKN 18/17 Q1025
- ATC Clears ET332 to Entebbe Airport, via Flight Plan Route, Depart RW07R BENDO 1A Departure, expect FL360 10 minutes after departure, Squawk 2223
- Aircraft at Threshold RW07R
- Engine Quick Start
- Engine Failure/Fire after V1, Flap 5 Takeoff
- (Auto Throttle, Autopilot, Flight Director ON)
- Issue crew Hold instruction while completing the QRH
- Return to HAAB
- ATIS info "E" ____ Z 01010KTS 5SM 008OVC 18/16 Q1025
(Instructor sets zero/zero)
- Single Engine VOR Approach RW07R
- (Autopilot, Auto Throttle OFF, Flight Director ON)
- Single Engine Missed Approach
- ATIS info "F" ____ Z 20010KTS 1SM 004OVC 18/17 Q1025
- Single Engine ILS RW25L and Land
- Reposition RW07R (Original Aircraft Weight)
- ATIS info "G" ____ Z 01010KTS 5SM 010OVC 18/17 Q1026
- Normal Flap 5 Takeoff (Autopilot OFF, Auto Throttle, Flight Director ON)
- Fuel Pump Low Pressure (both Left Engine lights illuminate)
- Maintenance request return to HAAB
- ATIS info "H" ____ Z 20010KTS 5SM 008OVC 17/15 Q1025
- LOC Approach RW25L (Autopilot OFF, Auto Throttle, Flight Director ON)
- Reposition RW07R (Original Aircraft Weight)
- Rejected Takeoff and Evacuation (Engine Fire)

7) Trainee Competency Criteria

The trainee should be able to:

- a) Demonstrate proper use of the QRH
- b) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- c) Complete an Approach and Missed Approach
- d) Demonstrate comprehension of how to use the SOP and Normal Checklist
- e) Operate effectively in a Multi Crew environment

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2.2.8. Lesson Plan 7.8 – B737 NG FTD

Lesson	Description	Equip	Flight time				
			PF	PM	Instr	Instr	Instr
					(A/C)	(Sim)	(PIC)
7.8	Multi Crew Instruments	B737NG FTD	2.0	2.0			

6) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Flight Instruments Malfunctions
- ILS, RNAV Approaches
- Single Engine Approaches and Missed Approaches
- Engine Fire on Missed Approach
- Hold Patterns

7) Objectives


This scenario is designed to introduce the student to more advanced flying operations and procedures of the B737NG.
This lesson will be operated with the full and reduced automation.

8) References

B737NG FCOM
B737NG FCTM
ET B737 SOP
ET B737NG QRH

9) Instructor Pre-brief (1.0 Hours)

Ask the students if they have any questions
Give flight plan HAAB - HDAM

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Review Engine Fire after V1

Review Missed Approaches with Engine Fire

Review Hold on an Approach Fix

Review RNAV approach RW 25L

Review Flight Instruments Malfunctions

Review Steep Turns/Stall Recoveries

Review Rejected Takeoff with Passenger Evacuation

5) Simulator Set Up


- Aircraft on threshold RW25L HAAB
- Engines Quick Started
- Night Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 51.2
- Fuel - 11.4
- GTOW - 62.6
- CG - 19.2
- Stab Trim - 5.37

6) Lesson Plan

- ATIS info "F" ____ Z 16010KTS 1SM 004BKN 18/17 Q1026
- ATC Clears ET306 to Djibouti Airport, via Flight Plan Route, Depart RW25L ASOLE 1B
- Departure, expect FL310 10 minutes after departure, Squawk 2223
- Aircraft at Threshold RW25L
- Engine Quick Start
- Engine Failure after V1 (relight via QRH)
(Autopilot ON, Auto Throttle, Flight Director ON)
- Have crew Level Off at 14000ft.
- Display Panel Control 1 fail
(normalize after QRH)
- 45 degree bank turn in each direction through 360 degrees
- Stall Recoveries
 - 1) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
 - 2) A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle
 - 3) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

Return to HAAB

- ATIS info "G" ____ Z 20010KTS 3SM BR 007BKN 18/15 Q1025
- (instructor sets zero/zero)
- LOC Approach RW25L

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- Missed Approach with Engine Flameout/Fire when Gear Up
- Clear to Hold on the Approach Fix for RW25L
- ATIS info "G" ____ Z 20010KTS 3SM BR 007BKN 18/15 Q1025
- Clear crew for Approach directly from Hold when crew ready
- Single Engine ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot OFF, Flight Director ON)
- Reposition RW25L (Original Aircraft Weight)
- ATIS info "H" ____ Z 16010KTS 5SM BR 009BKN 18/13 Q1025
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight) (Auto Throttle, Autopilot, Flight Director ON)
- Restore Engine after QRH completed
- ATIS info "H" ____ Z 16010KTS 5SM BR 009BKN 18/13 Q1025
- RNAV Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)

- BREAK -

(Switch seats)


- ATIS info "F" ____ Z 16010KTS 1SM 004BKN 18/17 Q1026
- ATC Clears ET506 to the Kennedy Airport, via Flight Plan Route, Depart RW25L ASOLE 1B Departure, expect FL310 10 minutes after departure, Squawk 2223
- Aircraft at Threshold RW25L
- Engine Quick Start
- Engine Failure after V1 (relight via QRH)
- (Autopilot ON, Auto Throttle, Flight Director ON)
- Have crew Level Off at 14000ft.
- IRS FAULT (normalize after QRH)
- 45 degree bank turn in each direction through 360 degrees

Stall Recoveries

- 1) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
- 2) A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle
- 3) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

Return to HAAB

- ATIS info "G" ____ Z 20010KTS 3SM BR 007BKN 18/15 Q1025 (instructor sets zero/zero)
- LOC Approach RW25L
- (Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach with Engine Flameout/Fire when Gear Up
- Clear to Hold on the Approach Fix for RW25L
- ATIS info "G" ____ Z 20010KTS 3SM BR 007BKN 18/15 Q1025
- Clear crew for Approach directly from Hold when crew ready
- Single Engine ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot OFF, Flight Director ON)
- Reposition RW25L (Original Aircraft Weight)
- ATIS info "H" ____ Z 20010KTS 5SM BR 009BKN 18/13 Q1025
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight) (Auto Throttle, Autopilot, Flight Director ON)
- Restore Engine after QRH completed


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- ATIS info "H" ____ Z 20010KTS 5SM BR 009BKN 18/13 Q1025
- RNAV Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)

7) Trainee Competency Criteria

The trainee should be able to:

- a) Demonstrate proper use of the QRH
- b) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- c) Complete an Approach and Missed Approach
- d) Demonstrate comprehension of how to use the SOP and Normal Checklist
- e) Operate effectively in a Multi Crew environment

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2.2.9. Lesson Plan 7.9 – B737 NG FTD (Progress Check)

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.9	Multi Crew Instruments	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Hydraulic Malfunctions
- ILS, RNAV, Circling Approaches
 - Single Engine Approaches and Missed Approaches
- Engine Fire on Missed Approach
- Hold Patterns

2) Objectives

This scenario is designed to check the progress of the student demonstrating the advanced flying operations and procedures of the B737NG.


This lesson will be operated with the full and reduced automation.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB - HKJK
- Review Engine Fire after V1
- Review Missed Approaches with Engine Fire
- Review Hold on an Approach Fix

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l) Review Hydraulic Malfunctions

m) Review RNAV approach RW 07R

n) Review Steep Turns/Stall Recoveries

o) Review Rejected Takeoff with Passenger Evacuation

5) Simulator Set Up

5) Aircraft on threshold RW07R HAAB

6) Engines Quick Started

7) Night Visual, Weather as per ATIS below

8) Motion OFF

- ZFW - 51.2

- Fuel - 11.4

- GTOW - 62.6

- CG - 19.2


- Stab Trim - 5.37

6) Lesson Plan

- ATIS info "G" ____ Z 16010KTS 1SM 004BKN 18/17 Q1025
- ATC Clears ET302 to Jomo Kenyatta Airport, via Flight Plan Route, Depart
- RW07R SHALA 1A Departure, expect FL360 10 minutes after departure, Squawk 2223
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 07R
- Engine Failure after V1 (relight via QRH)
- (Autopilot ON, Auto Throttle, Flight Director ON)
- Have crew Level Off at 14000ft.
- Hydraulic Pump Overheat (normalize after QRH)
- One 45 degree bank turn in one direction through 270 degrees
- Stall Recoveries
 - 1) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
 - 2) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

Return to HAAB

- ATIS info "H" ____ Z 16010KTS 3SM BR 007BKN 18/15 Q1025
- (instructor sets zero/zero)
- RNAV Approach RW25L , Circle RW07R
- (Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach with Engine Flameout/Fire when Gear Up
- Clear to Hold ADS VOR

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- ATIS info "H" ____ Z 29010KTS 3SM BR 007BKN 18/15 Q1025
- Clear crew for Approach directly from Hold when crew ready
- Single Engine ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot OFF, Flight Director ON)
- Reposition RW07R (Original Aircraft Weight)
- ATIS info "I" ____ Z 16010KTS 5SM BR 009BKN 18/13 Q1025
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight) (Auto Throttle, Autopilot, Flight Director ON)
- Restore Engine after QRH completed and Reposition Button RW07R

- BREAK -

(Switch seats)

- ATIS info "G" ____ Z 01010KTS 1SM 004BKN 18/17 Q1025
- ATC Clears ET302 to Jomo Kenyatta Airport, via Flight Plan Route, Depart
- RW07R SHALA 1A Departure, expect FL360 10 minutes after departure,
- Squawk 2223
- Aircraft at Threshold RW07R
- Engine Quick Start
- Engine Failure after V1 (relight via QRH)
- (Autopilot ON, Auto Throttle, Flight Director ON)
- Have crew Level Off at 14000ft.
- Standby Hydraulic Low Pressure (normalize after QRH)
- One 45 degree bank turn in one direction through 270 degrees

Stall Recoveries

- 1) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
- 2) A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle

Return to HAAB


- ATIS info "H" ____ Z 16010KTS 3SM BR 007BKN 18/15 Q1025
(instructor sets zero/zero)
- RNAV Approach RW25L Circle RW07R
- (Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach with Engine Flameout/Fire when Gear Up
- Clear to Hold ADS VOR
- ATIS info "H" ____ Z 20010KTS 3SM BR 007BKN 18/15 Q1025
- Clear crew for Approach directly from Hold when crew ready
- Single Engine ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot OFF, Flight Director ON)
- Reposition RW07R (Original Aircraft Weight)
- ATIS info "I" ____ Z 160010KTS 5SM BR 009BKN 18/13 Q1025
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight) (Auto Throttle, Autopilot, Flight Director ON)
- Restore Engine after QRH completed and Reposition Ramp

Shutdown

7) Trainee Competency Criteria


The trainee should be able to:

- 7) Demonstrate proper use of the QRH
- 8) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- 9) Complete an Approach and Missed Approach

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10) Demonstrate comprehension of how to use the SOP and Normal Checklist

11) Operate effectively in a Multi Crew environment

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2.2.10. Lesson Plan 7.10 – B737 NG FTD - Loft

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.10	Multi Crew Instruments-LOFT	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- ILS Approach
- Shutdown

2) Objectives


This scenario is designed to introduce the student to Line Oriented Flight Training operations and procedures of the B737NG.
This lesson will be operated with the full automation being available.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB - HSSS
- Review Taxi Procedures for HAAB
- Review Taxi Procedures for HSSS
- Review Departure Procedures for both airports

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	Flight Training (B-737NG) - Stage 7		

- Review Routings (HAAB-HSSS-HAAB)
- Review CRM Procedures
- Review Normal Procedures

h) Simulator Set Up

Aircraft on Gate HAAB

GPU available, power OFF

Day Visual, Weather as per ATIS below

Motion OFF

- ZFW - 53.0
- Fuel - 11.8
- GTOW - 64.8
- CG - 13.1
- Stab Trim - 5.26


6) Lesson Plan

- ATIS info "H" ____ Z 160/15KTS 3SM BR 006OVC 16/14 Q1025
- IFR Approach ILS 25L Departures RW25L
- ATC Clears ET344 to Khartoum, via Flight Plan Route, Depart RW25L
- MARCO 1B Departure, expect FL360 10 minutes after departure, Squawk 2112
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Clear ET 344 via Flight Planned Route
- When level at FL360, <Pack Fail>
- Boston ATIS info "B" ____ Z 00010KTS 1SM BR 003OVC 20/18 Q1014
- IFR Approach VOR 18 Departures RW18
- VOR Approach RW18& Land
- (Auto Throttle, Autopilot, Flight Director ON)
- Taxi to Ramp
- After Landing/Shutdown
- Maintenance Clears Fault

- BREAK -

(Switch seats)

- Have crew enter Flight Plan KSSS - HAAB (same weights as first leg)
- ATIS info "C" ____ Z 00010KTS 3SM BR 004BKN 22/18 Q1014
- VOR Approach 18 Departures RW18
- ATC Clears ET345 to Addis Ababa Airport, via Flight Plan Route, Depart

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RW18, expect FL350 10 minutes after departure,

- Squawk 3114
- ET345 Cleared Taxi short RW18
- Before Takeoff Procedure and Checklist
- Line-up Runway 18
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Clear ET 345 via Flight Planned Route
- When level at FL350, <Electric Stabilizer Trim Inoperative>
- ATIS info "J" _____ Z 20015KTS 3SM BR 0070VC 17/14 Q1025
- IFR Approach VOR 25L Departures RW25L
- VOR Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)
- Taxi to Ramp
- After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:

- a) Demonstrate proper use of the QRH
- b) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- c) Complete an Approach and Missed Approach
- d) Demonstrate comprehension of how to use the SOP and Normal Checklist
- e) Operate effectively in a Multi Crew environment

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2.2.11. Lesson Plan 7.11 – B737 NG FTD - Loft

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.11	Multi Crew Instruments – Loft & Review	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- VOR Approach
- Shutdown

2) Objectives

This scenario is designed to have the students conduct Line Oriented Flight Training operations and procedures of the B737NG. There will also be some review exercises of previously completed exercises.


This lesson will be operated with the full automation being available.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB - HKJK
- Review Taxi Procedures for HAAB
- Review Departure Procedures
- Review Routing (HAAB-HKJK)

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	Flight Training (B-737NG) - Stage 7		

- Review CRM Procedures
- Review Normal Procedures

h) Simulator Set Up

Aircraft on Gate HAAB

GPU available, power OFF


Day Visual, Weather as per ATIS below

Motion OFF

- ZFW - 57.0
- Fuel - 11.0
- GTOW - 67.8
- CG - 12.9
- Stab Trim - 5.20

6) Lesson Plan

- ATIS info "I" ____ Z 160/15KTS 5SM BR 0100VC 20/14 Q1025
- IFR Approach VOR 25L Departures RW25L
- ATC Clears ET302 to Jomo Kenyatta Airport, via Flight Plan Route, Depart RW25L SHALA 1B Departure, expect FL320 10 minutes after departure,
- Squawk 2112
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Clear ET 302 via Flight Planned Route
- Climbing through 15,000ft, Loss Hydraulic Quantity System A
- Maintenance Requests return to HAAB
- ATIS info "I" ____ Z 200/15KTS 5SM BR 0100VC 20/14 Q1025
- IFR Approach VOR 25L Departures RW25L
- VOR Approach RW25L& Land
- (Auto Throttle, Autopilot, Flight Director ON)
- Taxi to Ramp
- After Landing/Shutdown (Maintenance Clears Fault)
- Reposition to button RW25L (systems all restored, original aircraft weights)
- ATIS info "J" ____ Z 160/10KTS 1200RVR 0040VC 20/19 Q1026
- IFR Approach ILS 25L Departures RW25L
- Flap 5 Takeoff Engine Failure after V1 (restore after QRH called for) (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "K" ____ Z 200/15KTS 5SM BR 0100VC 20/14 Q1026
- IFR Approach 25L Departures RW25L
- RNAV Approach RW25L, Circle RW07R
- (Auto Throttle, Autopilot OFF, Flight Director ON)
- Missed Approach (Truck on Runway)
- Engine Severe Damage

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- Single Engine ILS Approach RW25L & Manual Landing
- (Autopilot OFF, Auto Throttle, Flight Director ON)

- BREAK -


(Switch seats)

- Have crew enter Flight Plan HAAB- HKJK (same weights as first leg)
- ATIS info "J" ____ Z 160/10KTS 1200RVR 004OVC 20/19 Q1026
- IFR Approach 25L Departures RW25L
- Before Takeoff Procedure and Checklist
- Line-up Runway 04L
- Flap 5 Takeoff Engine Failure after V1 (restore after QRH called for)
- (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "K" ____ Z 200/15KTS 5SM BR 010OVC 20/14 Q1025
- IFR Approach 25L Departures RW25L
- LOC Approach RW25L, Circle RW07R
- (Auto Throttle, Autopilot OFF, Flight Director ON)
- Missed Approach (Truck on Runway)
- Engine Fire
- Hold ADS VOR 3000ft
- Single Engine ILS Approach RW04R & Manual Landing
- (Autopilot OFF, Auto Throttle, Flight Director ON)
- Reposition to button RW25L (systems all restored, original aircraft weights)
- ATIS info "L" ____ Z 160/10KTS 1200RVR 004OVC 20/19 Q1025
- IFR Approach 25L Departures RW25L
- Flap 5 Takeoff Engine Failure/Fire Before V1
- (Auto Throttle, Autopilot, Flight Director ON)
- Passenger Evacuation (Fire does Not Extinguish)
- Taxi to Ramp
- After Landing/Shutdown (Maintenance Clears Fault)

7) Trainee Competency Criteria

The trainee should be able to:

- Demonstrate proper use of the QRH
- Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- Complete an Approach and Missed Approach
- Demonstrate comprehension of how to use the SOP and Normal Checklist
- Operate effectively in a Multi Crew environment

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2.2.12. Lesson Plan 7.12 – B737 NG FTD – Validation Flight

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
7.12	Multi Crew Instruments	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- VOR Approach
- Shutdown

2) Objectives

This scenario is a Validation Flight to assess the students on the operations and procedures of the B737NG.
This lesson will be operated with the full automation being available.


3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions.
- Give flight plan HAAB-HDAM
- Review Taxi Procedures for HAAB
- Review Departure Procedures
- Review Routing (HAAB-HDAM)
- Review CRM Procedures
- Review Normal Procedures

5) Simulator Set Up

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- Aircraft on Gate HAAB
- GPU available, power OFF
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 57.0
- Fuel - 11.0
- GTOW - 67.8
- CG - 12.9
- Stab Trim - 5.20

6) Lesson Plan

- ATIS info "J" ____ Z 180/15KTS 1SM BR 0150VC 20/18 Q1026
- IFR Approach 25L Departures RW25L
- ATC Clears ET306 to Djibouti Airport, via Flight Plan Route, Depart RW25L
- ASOLE 1B Departure, expect FL290 10 minutes after departure,
- Squawk 2112
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Clear ET 290 via Flight Planned Route, maintain FL180 for Traffic
- Climbing through FL160, Yaw Damper Failure (Restore after QRH)
- 45 degree bank turn in each direction through 360 degrees


Stall Recoveries

- 1) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
- 2) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

Unusual Attitude Recoveries

- 1) Nose High
- 2) Nose Low

- ATIS info "K" ____ Z 180/15KTS 5SM BR 0120VC 20/14 Q1025
- IFR Approach 25L Departures RW25L
- LOC Approach RW25L & Circle RW07R (Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach (Truck on Runway)
- Engine Fire
- Hold ADS VOR 13500ft
- Single Engine ILS Approach RW25L & Manual Landing
- (Autopilot OFF, Auto Throttle, Flight Director ON)
- Reposition to button RW25L (systems all restored, original aircraft weights)
- ATIS info "K" ____ Z 180/10KTS 1200RVR 0040VC 20/19 Q1025
- IFR Approach 25L Departures RW25L
- Flap 5 Takeoff Engine Failure after V1 (restore after QRH called for) (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "L" ____ Z 180/15KTS 25SM BR 0300VC 20/14 Q1025
- Visual Approach RW25L Departures RW25L

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- Visual Approach RW25L(Auto Throttle, Autopilot OFF, Flight Director ON)

- BREAK -

(Switch seats)

- Reposition Button RW25L (original Weights)
- ATIS info "J" ____ Z 180/15KTS 1SM BR 015OVC 20/18 Q1025
- IFR Approach 25L Departures RW25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Clear ET 306 via Flight Planned Route, maintain FL180 for Traffic
- Climbing through FL160, Generator Drive Failure (Restore after QRH)
- 45 degree bank turn in each direction through 360 degrees

Stall Recoveries

3) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle

4) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

Unusual Attitude Recoveries

3) Nose High


4) Nose Low

- ATIS info "K" ____ Z 180/15KTS 5SM BR 012OVC 20/14 Q1026
- IFR Approach 25L Departures RW25L
- LOC Approach RW25L& Circle RW07R
- (Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach (Truck on Runway)
- Engine Severe Damage
- Hold ADS VOR 13500ft
- Single Engine ILS Approach RW25L & Manual Landing
- (Autopilot OFF, Auto Throttle, Flight Director ON)
- Reposition to button RW25L (systems all restored, original aircraft weights)
- ATIS info "K" ____ Z 180/10KTS 1200RVR 004OVC 20/19 Q1025
- IFR Approach 25L Departures RW25L
- Flap 5 Takeoff Engine Failure after V1 (restore after QRH called for) (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "L" ____ Z 180/15KTS 25SM BR 030OVC 20/14 Q1025
- Visual Approach RW25L Departures RW25L
- Visual Approach RW25L (Auto Throttle, Autopilot OFF, Flight Director ON)
- Taxi to Ramp
- After Landing/Shutdown (Maintenance Clears Fault)

7) Trainee Competency Criteria

The trainee should be able to:

- Demonstrate proper use of the QRH
- Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- Complete an Approach and Missed Approach
- Demonstrate comprehension of how to use the SOP and Normal Checklist
- Operate effectively in a Multi Crew environment

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2.3. FLIGHT TRAINING (B-737NG TYPE RATING) - STAGE 8A

Overview

This stage of training is designed to build upon the students skills in Air Carrier operations in a multi-crew environment on a multi-engine jet powered aircraft in IFR conditions. Line Oriented Flight Training (LOFT) is extensively used to develop commercial pilot CRM skills in a simulated Air Carrier flight environment. Scenario Based Training is used to place emphasis on developing CRM skills such as Leadership, Monitor and Feedback and Crew Briefings in a commercial environment. Training occurs in both high density and uncontrolled IFR environments. Students will complete training in both crew positions (Captain and First Officer) and operate as Pilot Flying (PF) and Pilot Not Flying (PNF Objectives)

Objectives

To develop multi-engine jet powered skills and knowledge to safely operate a jet aircraft in airline operations

To gain experience in a multi-crew IFR Air Carrier flight operations through scenario based training sessions;

To apply CRM skills at the airline pilot level in real world situations; and

To demonstrate sound risk management and leadership skills and a positive attitude towards safety.

Table 30: Summary of Training Stage 8 A Summary – B737 Type Rating

Instructional Methods to be Used


This stage of training uses the traditional method of instruction along with Line Oriented Flight Training. Crew lead debriefing and self-assessment techniques are used to develop the student's command (Leadership) and CRM skills.

Competency Standards

Prior to advancing to Stage IX, students must successfully:

Pass the Stage Examination

Pass the Flight Check by demonstrating:


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Demonstrate the skills to safely operate a multi-engine jet powered aircraft in an Air Carrier Environment.

Ability to serve as a member of a multi-crew during IFR Air Carrier flight operations;


Necessary leadership skills, CRM and Threat Error Management (TEM) at the level expected of a airline pilot; and

Sound risk management skills and a positive attitude towards safety.

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Lesson No	Description	Equip	Flight Time		Total
			PF	PNF	
			FTD	FTD	
8.1	Multi-Crew Instruments	B737 CPT	-	-	
8.2	Multi-Crew Instruments	B737 VPT	-	-	
8.3	Multi-Crew Instruments	B737 FTD	2.0	2.0	
8.4	Approaches & Maneuvers	B737 FTD	2.0	2.0	
8.5	Approaches & Maneuvers	B737 FTD	2.0	2.0	
8.6	Approaches & Maneuvers	B737 FTD	2.0	2.0	
8.7	LOFT	B737 FTD	2.0	2.0	
8.8	LOFT	B737 FTD	2.0	2.0	
8.9	LOFT	B737 FTD	2.0	2.0	
8.10	Approaches & Maneuvers	B737 FTD	2.0	2.0	
8.11	Approaches & Maneuvers	B737 FTD	2.0	2.0	
8.12	LOFT Validation	B737 FTD	2.0	2.0	
Stage 8 Total Hours			20	20	40
Total Hours (Stages 1-8)					316.5

Table 2-4: Summary of Stage 8A Flight Training B737

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Stage 8 Lessons Flight

Stage 8 A:

- 1 CPT Lesson
- 2 VPT Lesson
- 10 FTD Lessons

Stage 8B

- 10 SIM Lessons

We will utilize Addis as the home airport for these lessons.

1 CPT: Review of flows and call outs

2 VPT: More QRH procedures

FTD 1- 3: Review of approaches and maneuvers

FTD:4- 7 LOFT's Nairobi, Dire Dawa and Djibouti scenarios with malfunction, Weather issues, thunderstorms.

FTD 8- 9 Review of approaches and maneuvers with more QRH

work FTD 10: Validation let's make this one a LOFT scenario event.


SIM 1-5: Review of all maneuvers and approaches with motion now.

SIM 6-8: LOFT

SIM 9: Prep for Validation

SIM 10: Validation

This should prepare them very well for Stage 9 which is the type training and these students should have no issues.

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2.3.1. Lesson Plan 8.1 – Cockpit Procedures Trainer B737 NG

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.1	Multi Crew Instruments	B737 NG CPT	2.0	2.0			

1) Topics

- Captain/First Officer Duties
- Checklist Protocol
- Normal Checklist
- Electric Power Up Procedures
- Preliminary Pre-flight Procedures
- Pre-flight Procedures
- Engine Start Procedures
- Takeoff, Climb, Cruise, Approach, Landing Procedures
- Shutdown

2) Objectives


- To have the trainee review the Flows and Callouts for the Pre-flight, Engine Start, Takeoff, Climb, Cruise, Approach, Landing, and Shutdown.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief

The aircraft is to be sitting on the ramp with GPU available, but not supplying power to the aircraft.

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This scenario is designed to let the student practice the Flows and Callouts.
The Instructor should brief all of the Topics listed above. Assume the External Checks have been completed

5) Lesson Plan

As this lesson plan is being conducted, the Instructor should ask a question or two about each system or set of switches to ensure their understanding.

- Electrical Power Up – Left Seat Pilot
- Preliminary Pre-flight Procedure – Left Seat Pilot
- Pre-flight Procedure

First Officer then Captain

- Call "PRE-FLIGHT CHECKLIST."

Do the PREFLIGHT checklist on the captain's command.

- Before Engine Start Procedure
- Call Before Start Checklist

Do the Pre-flight Checklist on Captain's command

Pushback

- Engine Start Procedure
- Call Before Taxi Checklist


Do the Before Taxi Checklist on Captain's command

- Engine Start,
- Takeoff, Climb, Cruise, Approach, Landing,
- Shutdown

TAKE A BREAK THEN REPEAT WITH THE STUDENTS SWITCHING SEATS

2.3.2. Lesson Plan 8.2 – Virtual Procedures Trainer B737 NG

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

8.2	Multi Crew Instruments	B737 NG VPT	2.0	2.0			

1) Topics

- a) Pre-flight Procedures
- b) QRH Procedures
(Engine Start; Tailpipe/Gear Fire; Gear Malfunctions)
- c) Normal Flight Procedures
- d) Shutdown Procedures

2) Objectives

This scenario is primarily designed to let the student practice QRH Memory Actions and Procedures for various systems in the aircraft.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH


4) Instructor Pre-brief

The aircraft is to be sitting on the ramp in Addis Ababa with APU Power supplying the aircraft.
Review Topics from above.

5) Lesson Plan

Have them begin the flows from the Pre Flight Procedures.
All Normal Procedures and Checklists should then be completed at the appropriate times.

- Before Start
- 2 Engine Start
- No Oil Pressure
(Maintenance fixes the problem after the Procedure)
- Normal Engine Start
-
- After Start

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

-
- Taxi
-
- ANTISKID INOP message (fixed after Checklist)
-
- Line Up
-
- Takeoff
- Gear Lever will not move Up after Takeoff
- (TAKEOFF CONFIG sounds when the Flaps are fully retracted
- - failure of Air/Ground System)
-
- Climb
-
- Return HAAB
-
- Descent
-
- Approach
-
- ILS Approach
-
- Land


- BREAK - Switch Seats

Have them begin the flows from the Before Engine Start Procedures.

All Normal Procedures and Checklists should then be completed at the appropriate times.


- Before Start
- 1 Engine Start
- Ramp crew reports Tailpipe Fire (no cockpit Fire indication) (restore after procedure)
- Quick Start Engine
- After Start
- Taxi
- Line Up
- Takeoff
- Climb
- Wheel Well Fire
- Return HAAB
- Descent
- Approach
- ILS Approach
- Land
- Shut Down

7) Trainee Competency Criteria

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

The trainee should be able to:

- 6) Follow instructions and directions from the instructor
- 7) Demonstrate comprehension of how to use the SOP and QRH Checklists
- 8) Demonstrate knowledge of the Aircraft Systems
- 9) Conduct a complete flight

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

2.3.3. Lesson Plan 8.3 – Virtual Procedures Trainer B737 NG

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.3	Multi Crew Instruments	B737 NG VPT	2.0	2.0			

1) Topics

- a) Pre-flight Procedures
- b) QRH Procedures

(Air Faults; Engine Malfunctions; Flight Instrument/Display Faults)

- c) Normal Flight Procedures
- d) Shutdown Procedures

2) Objectives

This scenario is primarily designed to let the student practice Engine System, Air System, Pressurization and Flight Instrument/Display Malfunctions, including QRH usage

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief


The aircraft is to be sitting on the ramp in Addis Ababa with APU Power supplying the aircraft.

5) Lesson Plan

Begin the flows from the Pre Flight Procedures.

All Normal Procedures and Checklists should then be completed at the appropriate times.

Before Start
Abnormal Engine Start Start Valve
remains Open

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

(Valve light extinguishes after affected Engine
Bleed air switched Off)

After Start

Taxi

Line Up

Takeoff

Climb

Airspeed Unreliable (normalize
after QRH)

Cruise

Display Failure (no automatic switching)
(normalize after QRH)

Rapid Decompression
Emergency Descent
(normalize when level at FL140)

Approach

RNAV Approach
Land

- BREAK - Switch Seats

Begin the flows from the Before Engine Start Procedures.
All Normal Procedures and Checklists should then be completed at the
appropriate times.

Abnormal Engine Start
No N1 rotation after start lever is Idle (fast
start engines after QRH)

After Start

Taxi


Line Up

Takeoff

Climb

Auto Pressurization Fail
(normalize after QRH)

Cruise

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

Loss of Thrust on Both Engines (allow engines to restart)

Descent

RNAV Approach


Land

Shut Down

7) Trainee Competency Criteria

The trainee should be able to:

- a) Follow instructions and directions from the instructor
- b) Demonstrate comprehension of how to use the SOP and QRH Checklists
- c) Demonstrate knowledge of the Air, Engine, Pressurization and Flight Instrument/Display Systems
- d) Complete an engine start

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A				

2.3.4. Lesson Plan 8.4 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.4	Approach & Maneuvers	B737 NG FTD	2.0	2.0			

f) Topics

Pre-flight Procedures
 Engine Start Procedures
 Before Taxi
 Climb, Cruise, Descend, Land
 ILS Approach (full procedure)
 Missed Approach (full procedure)
 RNAV Approach (full procedure)
 Shutdown

g) Objectives

This scenario is designed to practice Approaches and Maneuvers of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.


h) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

i) Instructor Pre-brief (1.0 Hours)

Ask the students if they have any questions.

Give flight plan HAAB - HDAM

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

Have students do Weight and Balance

Review MCP Procedures for Auto Throttle and Autopilot ON

Review Takeoff Flap 5 & Flap 15 Procedures

Review Minimum Maneuvering Speeds

Review ILS RW 25L

Review RNAV 07R

Review Missed Approaches

Review Normal Landing Procedures

5) Simulator Set Up

- Aircraft on Gate HAAB
- GPU available, power OFF
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6) Lesson Plan

ATIS info "A" ____ Z 16005KTS 3KMS -RW 004BKN 23/19 QNH1023

ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route,
Depart RW25L ASOLE 1B Departure, Maintain FL350, Squawk 1114

Power Up/Pre-flight Procedures and Checklists


Normal Engine Start

Taxi Runway 25L

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Have crew Level Off at 14,000ft., do various
turns, climbs/descents for practice

Have crew do speeds 200KTS, 250KTS, 300KTS

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

Return to HAAB

ATIS info "B" ____ Z 16005KTS 2KMS -RW 003BKN 22/20 QNH1023

Full Procedure ILS Approach RW25L
(Auto Throttle, Autopilot, Flight Director ON)

Missed
Approach
(full
procedure)

ATIS info "B" ____ Z 16005KTS 2KMS -RW 003BKN 22/18 QNH1023

Full Procedure ILS Approach RW25L and Land
(Auto Throttle, Autopilot, Flight Director ON)

ATIS info "C" ____ Z 16005KTS 5KMS -RW 009BKN 22/18 QNH1023

Normal Flap 15 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

ATIS info "C" ____ Z 16005KTS 5KMS -RW 009BKN 22/18 QNH1024

RNAV Approach RW07R via UTRIX & Manual
Landing (Auto Throttle, Autopilot, Flight Director
ON)

- BREAK -
(Switch seats)

ATIS info "A" ____ Z 16005KTS 3KMS -RW 004BKN 23/19 QNH1023

ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route,
Depart RW25L ASOLE 1B Departure, Maintain FL330, Squawk 1114

Aircraft Reposition Threshold Runway 25L

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)


Have crew Level Off at 14,000ft., do various
turns, climbs/descents for practice

Have crew do speeds 200KTS, 250KTS, 300KTS

Return to HAAB

ATIS info "B" ____ Z 16005KTS 2KMS -RW 003BKN 22/20 QNH1024

Full Procedure ILS Approach RW25L
(Auto Throttle, Autopilot, Flight Director ON)

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

Missed
Approach
(full
procedure)

ATIS info "B" ____ Z 16005KTS 2KMS -RW 003BKN 22/18 QNH1024

Full Procedure ILS Approach RW25L and Land
(Auto Throttle, Autopilot, Flight Director ON)

ATIS info "C" ____ Z 16005KTS 5KMS -RW 009BKN 22/18 QNH1024

Normal Flap 15 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

ATIS info "C" ____ Z 16005KTS 5KMS -RW 009BKN 22/18 QNH1021


RNAV Approach RW07R via UTRIX & Manual
Landing (Auto Throttle, Autopilot, Flight Director
ON)

After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:

- Demonstrate proper use of the QRH
- Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- Complete an Approach
- Demonstrate comprehension of how to use the SOP and Normal Checklist
- Operate effectively in a Multi Crew environment

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2.3.5. Lesson Plan 8.5 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.5	Approach & Maneuvers	B737 NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Steep Turns, Stickshaker Recoveries
- VOR, LOC Approaches
- Engine Failure after V1

2) Objectives

This scenario is designed to practice Approaches and Maneuvers of the B737NG.


This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB - HDAM
- Review Stall Recoveries (ground contact a factor)
- Review VOR DME RW25L
- Review LOC approach RW25L

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

- Review two engine Missed Approach -
- Review Engine Failure after V1

5) Simulator Set Up

- Aircraft on Ramp HAAB
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6) Lesson Plan

ATIS info "B" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH 1025

ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L, ASOLE 1B Departure, Maintain FL330, Squawk 1224

Power Up/Pre-flight Procedures and Checklists

Normal Engine Start

Taxi Runway 25L

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Have crew Level Off at 11,000ft.

45 degree bank turn in each direction through 360 degrees

Stall Recoveries (ground contact a factor)


6) A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle

7) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

Climb 14,000ft

Return to HAAB

ATIS info "B" ____ Z 30010KTS 5KMS 008BKN 20/16
QNH1025 (instructor sets zero/zero)

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

LOC Approach 25L
(Auto Throttle, Autopilot, Flight Director ON)

Missed Approach
(allow full procedure, then return for second approach)

VOR Approach RW25L & Manual Landing
(Auto Throttle, Autopilot, Flight Director ON)

Reposition RW25L (Original Aircraft Weight)

ATIS info "D" ____ Z 02010KTS 2KMS BR 004BKN 20/16 QNH 1025

Flap 5 Takeoff (Engine Failure after V1, before 50ft –
no relight) (Auto Throttle, Autopilot, Flight Director
ON)

Restore Engine after QRH completed

ATIS info "E" ____ Z 36010KTS 2SM BR 004BKN 20/16 QNH 1025

ILS Approach RW25L & Manual Landing
(Auto Throttle, Autopilot, Flight Director ON)

- BREAK -
(Switch seats)

ATIS info "B" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH1026

ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart
RW25L, ASOLE 1B Departure, maintain FL330, Squawk 1224

Power Up/Pre-flight Procedures and Checklists

Normal Engine Start

Taxi Runway 25L

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Have crew Level Off at 11,000ft.


45 degree bank turn in each direction through 360 degrees

Stall Recoveries (ground contact a factor)

3) A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle

4) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

5) Climb 14,000ft

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Return to HAAB

ATIS info "B" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH1026
(instructor sets zero/zero)

LOC Approach 25L
(Auto Throttle, Autopilot, Flight Director ON)

Missed Approach
(allow full procedure, then return for second approach)

VOR Approach RW25L & Manual Landing
(Auto Throttle, Autopilot, Flight Director ON)

Reposition RW25L (Original Aircraft Weight)

ATIS info "D" ____ Z 02010KTS 2KMS BR 004BKN 20/16 QNH1026

Flap 5 Takeoff (Engine Failure after V1, before 50ft – no
relight) (Auto Throttle, Autopilot, Flight Director ON)

Restore Engine after QRH completed


ATIS info "E" ____ Z 36010KTS 2SM BR 004BKN 20/16 QNH1026

ILS Approach RW25L & Manual Landing
(Auto Throttle, Autopilot, Flight Director ON)
After Landing Checklist

7) Trainee Competency Criteria

The trainee should be able to:

- Demonstrate proper use of the QRH
- Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- Complete an Approach and Missed Approach
- Demonstrate comprehension of how to use the SOP and Normal Checklist
- Operate effectively in a Multi Crew environment

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2.3.6. Lesson Plan 8.6- B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.6	Approaches and Maneuvers	B737 NG FTD	2.0	2.0			

1) Topics

- a) Pre-flight Procedures
- b) Engine Start Procedures
- c) Before Taxi
- d) Climb, Cruise, Descend, Land
- e) Inflight Engine Shutdown
- f) Engine Inflight Start
- e) VOR, RNAV Circling Approaches
- Rejected Takeoff/ Passenger Evacuation

- Objectives

This scenario is designed to practice Approaches and Maneuvers of the B737NG.


This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

- References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

- Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB - HKJK
- Review 2 NDB RW25L Circle RW07R
- Review RNAV RW25L Circle RW07R
- Review Two Engine Missed Approach from Circle Approach
- Review Rejected Takeoff/ Passenger Evacuation

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	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

5) Simulator Set Up

- Aircraft on gate HAAB
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 57.0
- Fuel - 11.0
- GTOW - 67.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan

ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 QNH1025

ATC Clears ET302 to the Jomo Kenyatta Airport, via Flight Plan Route,
Depart RW07R SHALA 1A Departure, Maintain FL340, Squawk 2112

Taxi RW07R

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director

ON) Climbing through FL150, Engine Flameout (no damage)

Engine Inflight Start

Maintenance requests a Return to HAAB

ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 QNH1025

2 NDB Approach RW25L Circle 07R

(Auto Throttle, Autopilot, Flight Director ON)

Rejected Landing from 50ft (truck on runway)

ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 Q1025

VOR Approach RW25L Circle 07R and Manual

Landing Reposition RW25L (Original Aircraft Weight)


ATIS info "D" ____ Z 09015KTS RVR400MTRS BR 007BKN 20/14 QNH 1025

Rejected Takeoff (engine failure/fire) Passenger

Evacuation (fire does not extinguish)

- BREAK -

(Switch seats)

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Aircraft at Threshold RW07R (Original Aircraft Weights)

ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 QNH1025

ATC Clears ET302 to the Jomo Kenyatta Airport, via Flight Plan Route,
Depart RW07R SHALA 1B Departure, Maintain FL340, Squawk 2112

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Climbing through FL150, Engine Flameout (no
damage) Engine Inflight Start

Maintenance requests a Return to HAAB

ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 QNH1025

2 NDB Approach RW25L Circle 07R
(Auto Throttle, Autopilot, Flight Director

ON) Rejected Landing from 50ft (truck
on runway)

ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16

QNH1025 VOR Approach RW25L Circle 07R and Manual

Landing Reposition RW31L (Original Aircraft Weight)

ATIS info "D" ____ Z 09015KTS RVR400MTRS BR 007BKN 20/14 QNH1025

Rejected Takeoff (engine failure/fire) Passenger


Evacuation (fire does not extinguish)


After Landing Checklist

7) Trainee Competency Criteria

The trainee should be able to:

- Demonstrate proper use of the QRH
- Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- Demonstrate comprehension of how to use the SOP and Normal Checklist
- Operate effectively in a Multi Crew environment

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2.3.7. Lesson Plan 8.7 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.7	LOFT	B737 NG FTD	2.0	2.0			

7) Topics

Pre-flight Procedures

Engine Start Procedures

Before Taxi

Climb, Cruise, Descend, Land

Shutdown

8) Objectives

This scenario is designed to practice Line Oriented Flight Training of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

9) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

10) Instructor Pre-brief (1.0 Hours)

Ask the students if they have any questions

Give flight plan HAAB – HDAM


Discuss Diversion

CRM

- Simulator Set Up

Aircraft on gate HAAB

Day Visual, Weather as per ATIS below

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

Motion OFF

- ZFW - 57.0
- Fuel - 7.0
- GTOW - 63.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan

ATIS info "C" ____ Z 30015KTS RVR400M 010BKN 20/20 QNH1025

ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L ASOLE 1B Departure, Maintain FL310, Squawk 2112

Taxi RW25L

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director

ON) Tower switches ET306 to Departure 119.7

Climbing through FL150 re clear ET306 to maintain FL190 for

traffic After level at FL190 for 2 minutes re clear ET306 to

maintain FL310

3 minutes after level off at cruise, 2ENG OVERHEAT
(ENG OVERHEAT light extinguishes when Thrust Level Closed)

HDAM ATIS info "E" ____ Z 25015KTS 6KMS 010BKN 26/20 QNH1012

ET call Djibouti Approach on 121.1

Vector for ILS RW27

Cleared ILS Approach RW27 and Manual Landing

Call Tower 118.1


Cleared to Land, wind 250

at15KTS Taxi to Ramp

After Landing Checklist

Shutdown Checklist

- BREAK -
(Switch seats)

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

Aircraft parked on HDAM Ramp

HDAM ATIS info "E" _____ Z 25015KTS 6KMS 010BKN 26/20 QNH1012

Original Aircraft Load and Weights

ATC Clears ET307 to the Bole International Airport, via Flight Plan Route,
Depart RW27 LAKBE 1W Departure, Maintain FL320, Squawk 2323

Taxi RW27

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Tower switches ET307 to Departure 121.1

Climbing through FL150 re clear ET504 to turn right HDG270 for traffic,
leaving FL210, resume on course, maintain FL320

3 minutes after level off at cruise, FUEL FILTER BYPASS
light (engine still running normally)

HAAB ATIS info "M" _____ Z 30015KTS 3KMS 006BKN 19/16 QNH1025

ET call Bole Approach on 119.7

Vector, then Direct AB001 at FL140,

Cleared RNAV (GPS) RW25L

Contact Tower 118.1

Cleared to Land RW25L, wind 300 at 15KTS

Taxi to Ramp


After Landing Checklist

Shutdown Checklist


7) Trainee Competency Criteria

The trainee should be able to:

- g) Demonstrate proper use of the QRH
- h) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- i) Demonstrate comprehension of how to use the SOP and Normal Checklist

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

j) Operate effectively in a Multi Crew environment

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

2.3.8. Lesson Plan 8.8 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.8	LOFT	B737 NG FTD	2.0	2.0			

1) Topics

- a) Pre-flight Procedures
- b) Engine Start Procedures
- c) Before Taxi
- d) Enroute Weather
- e) Climb, Cruise, Descend, Land
- f) Shutdown

2) Objectives

This scenario is designed to practice Line Oriented Flight Training of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.


3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB – HDAM
- Discuss Weather Radar Usage and Procedures
- CRM

5) Simulator Set Up

	ETHIOPIAN AVIATION ACADEMY		Rev. No. 2
	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

- Aircraft on gate HAAB
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 57.0
- Fuel - 7.5
- GTOW - 64.3
- CG - 18.3
- Stab Trim - 5.2

6) Lesson Plan

ATIS info "M" ____ Z 10015KTS 4KMS 009BKN 24/20 QNH1023

ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route,
Depart RW25L ASOLE 1B Departure, Maintain FL310, Squawk 2112

Taxi RW07R

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Tower switches ET306 to Departure 119.7

ET 306 cleared to maintain FL380, and advised Moderate Turbulence
FL 220 through FL280

Climbing through FL200 simulator operator gradually adds
turbulence to become Moderate by FL220. Decrease to 10% through
FL280

Thunderstorm on the airway at the half way point

Crew should elect to Deviate.

When clear, have them contact Djibouti Approach 121.1

Approach gives heading to resume on course


HDAM ATIS info "B" ____ Z 20010G15KTS 3KMS RW 008BKN 26/24
TCUs QNH1012 ILS RW27

TCU 20NM South of Airport

Vector North of Airport for ILS RW27

Cleared ILS Approach RW27

Call Tower 122.1

	ETHIOPIAN AVIATION ACADEMY		Rev. No. 2
	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

Cleared to Land RW27, Wind 200 degrees at 10KTS G 15KTS

Taxi to Ramp Ground Frequency 118.1

After Landing Checklist

Shutdown Checklist

- BREAK -

(Switch seats)

Aircraft parked on HDAM Ramp

HAAB ATIS info "C" ____ Z 16015KTS 1KM RW 110BKN 26/20
QNH1010 TCUs 10 NM West of Threshold RW09

Original Aircraft Load and Weights

ATC Clears ET307 to Addis Ababa Airport, via Flight Plan Route,
Depart RW09, Climb Runway Heading Maintain FL370, Squawk 4341

Taxi RW09

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Tower switches ET307 to Departure 121.1

Leaving 5000ft, Clear Left turn Heading 300 degrees

When clear of TCU, Clear Direct LAKBE, on course

When Level FL370, call Bole Approach on 119.7

Clear ET307 Descent Pilots Discretion FL140, ASOLE 1B Arrival

Just before descent, "DOOR ANNUNCIATOR" EQUIP, Pressurization Normal

HAAB ATIS info "O" ____ Z 16025KTS 10KMS 010BKN 26/20 QNH1020
LOC 25L circle to land RW07R

Contact Tower 118.1


Cleared to Land RW25L, wind 160 at 15KTS

Taxi to Ramp, Ground 121.9

After Landing Checklist


Shutdown Checklist

7) Trainee Competency Criteria

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	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

The trainee should be able to:

- 4) Demonstrate proper use of the QRH
- 5) Demonstrate proper use of Weather Radar
- 6) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- 7) Demonstrate comprehension of how to use the SOP and Normal Checklist
- 8) Operate effectively in a Multi Crew environment

	ETHIOPIAN AVIATION ACADEMY		Rev. No. 2
	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

2.3.9. Lesson Plan 8.9 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.9	LOFT	B737 NG FTD	2.0	2.0			

f) Topics

Pre-flight Procedures

Engine Start Procedures

Before Taxi

Climb, Cruise, Descend, Land

Shutdown

g) Objectives

This scenario is designed to practice Line Oriented Flight Training of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

h) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

i) Instructor Pre-brief (1.0 Hours)

Ask the students if they have any questions


Give flight plan HAAB – HKJK

Discuss Diversion

CRM

Simulator Set Up

Aircraft on gate HAAB

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	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

Day Visual, Weather as per ATIS below

Motion OFF

- ZFW - 57.0
- Fuel - 7.5
- GTOW - 64.3
- CG - 18.3
- Stab Trim - 5.2

Lesson Plan

ATIS info "M" ____ Z 10015KTS 4KMS 009BKN 24/20 QNH1023

ATC Clears ET302 to the Nairobi Airport, via Flight Plan Route,
Depart RW07R SHALA 1A Departure, Maintain FL380, Squawk 4113

Taxi RW07R

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Tower switches ET302 to Departure 119.7

ET 302 cleared to maintain FL380

Climbing through FL300 simulator operator gradually adds turbulence to
become Moderate by FL320

If crew decides to descend to FL300, they will be below minimum
fuel to continue flight to Nairobi

If the crew decides to continue enroute at FL380, increase turbulence
to maximum

Crew should elect to return to HAAB

Descending through FL250 1 ENGINE OVERHEAT (light remains illuminated)

Vector direct UTRIX

HAAB ATIS info "N" ____ Z 10015KTS 5KMS 008BKN 26/20 QNH1022

RNAV 07R

Cleared RNAV Approach RW07R via UTRIX and Landing


Call Tower 118.1

Cleared to Land RW07R, wind 100 degrees at 15KTS

Taxi to Ramp

After Landing Checklist

Shutdown Checklist

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	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

- BREAK -

(Switch seats)

Aircraft parked on HAAB Ramp

HAAB ATIS info "O" ____ Z 12015KTS 12KMS 110BKN 26/20 QNH1020

Original Aircraft Load and Weights

ATC Clears ET302 to the Nairobi Airport, via Flight Plan Route, Depart
RW07R SHALA 1A Departure, Maintain FL380, Squawk 4113

Taxi RW07R

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Tower switches ET302 to Departure 119.7

Climbing through FL150 re clear ET302 Direct SHALA, On Course

Cleared to maintain FL380

Climbing through FL150 re clear ET302 to maintain FL320, expect higher in
50 miles

After level off at FL320, re clear to FL380

Just prior to RUDOL, fail Auto and Manual Pressurization

Emergency Descent

Crew should consult the Depressurization Escape Route and return to HAAB

HAAB ATIS info "O" ____ Z 12015KTS 12KMS 110BKN 26/20 QNH1020 ILS
25L circle to land RW07R

Clear ET302 direct OKNET to Intercept ADS 193
Radial inbound, Maintain FL140

After OKNET clear descend FL125

ET call Bole Approach on 119.7


Cleared ILS RW25L circle RW07R

Contact Tower 118.1

Cleared to Land RW07R, wind 120 at 15KTS

Taxi to Ramp

After Landing Checklist

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	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

Shutdown Checklist

7) Trainee Competency Criteria

The trainee should be able to:

- Demonstrate proper use of the QRH
- Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- Demonstrate comprehension of how to use the SOP and Normal Checklist
- Operate effectively in a Multi Crew environment

2.3.10. Lesson Plan 8.10 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.10	LOFT	B737 NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Shutdown

2) Objectives


This scenario is designed to practice Line Oriented Flight Training of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

- Ask the students if they have any questions
- Give flight plan HAAB – HKJK
- Discuss Diversion
- CRM

5) Simulator Set Up

- Aircraft on gate HAAB
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 57.0
- Fuel - 7.5
- GTOW - 64.3
- CG - 18.3
- Stab Trim - 5.2

6) Lesson Plan

ATIS info "M" _____ Z 10015KTS 4KMS 009BKN 24/20 QNH1023

ATC Clears ET302 to the Nairobi Airport, via Flight Plan Route,
Depart RW07R SHALA 1A Departure, Maintain FL380, Squawk 4113

Taxi RW07R

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Tower switches ET302 to Departure 119.7

ET 302 cleared to maintain FL380

Climbing through FL300 simulator operator gradually adds turbulence to
become Moderate by FL320


If crew decides to descend to FL300, they will be below minimum
fuel to continue flight to Nairobi

If the crew decides to continue enroute at FL380, increase turbulence
to maximum

Crew should elect to return to HAAB

Descending through FL250 1 ENGINE OVERHEAT (light remains illuminated)

Vector direct UTRIX

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	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

HAAB ATIS info "N" ____ Z 10015KTS 5KMS 008BKN 26/20 QNH1022

RNAV 07R

Cleared RNAV Approach RW07R via UTRIX and Landing

Call Tower 118.1

Cleared to Land RW07R, wind 100 degrees at 15KTS

Taxi to Ramp

After Landing Checklist

Shutdown Checklist

- BREAK -

(Switch seats)

Aircraft parked on HAAB Ramp

HAAB ATIS info "O" ____ Z 12015KTS 12KMS 110BKN 26/20 QNH1020

Original Aircraft Load and Weights

ATC Clears ET302 to the Nairobi Airport, via Flight Plan Route, Depart RW07R SHALA 1A Departure, Maintain FL380, Squawk 4113

Taxi RW07R

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Tower switches ET302 to Departure 119.7

Climbing through FL150 re clear ET302 Direct SHALA, On Course

Cleared to maintain FL380

Climbing through FL150 re clear ET302 to maintain FL320, expect higher in 50 miles

After level off at FL320, re clear to FL380

Just prior to RUDOL, fail Auto and Manual Pressurization

Emergency Descent


Crew should consult the Depressurization Escape Route and return to HAAB

HAAB ATIS info "O" ____ Z 12015KTS 12KMS 110BKN 26/20 QNH1020 ILS 25L circle to land RW07R

Clear ET302 direct OKNET to Intercept ADS 193

Radial inbound, Maintain FL140

After OKNET clear descend FL125

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

ET call Bole Approach on 119.7

Cleared ILS RW25L circle RW07R

Contact Tower 118.1

Cleared to Land RW07R, wind 120 at 15KTS

Taxi to Ramp


After Landing Checklist

Shutdown Checklist

7) Trainee Competency Criteria

The trainee should be able to:

- a) Demonstrate proper use of the QRH
- b) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- c) Demonstrate comprehension of how to use the SOP and Normal Checklist
- d) Operate effectively in a Multi Crew environment

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A				

2.3.11. Lesson Plan 8.11 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.11	Approaches & Maneuvers	B737NG FTD	2.0	2.0			

1) Topics

- a) Pre-flight Procedures
- b) Engine Start Procedures
- c) Before Taxi
- d) Climb, Cruise, Descend, Land
- e) VOR, LOC Approaches
- g) Engine Failure after V1

5) Objectives

This scenario is designed to practice Approaches and Maneuvers of the B737NG.


This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

6) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

7) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB - HDAM
- Review VOR DME RW25L
- Review LOC approach RW25L
- Review Two Engine Missed Approach
- Review Single Engine Missed Approach

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

- Review Engine Failure after V1

5) Simulator Set Up

- Aircraft on Ramp HAAB
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6) Lesson Plan

ATIS info "B" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH1025

ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L, ASOLE 1B Departure, Maintain FL330, Squawk 1224

Power Up/Pre-flight Procedures and Checklists

Normal Engine Start

Taxi Runway 25L

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Engine Severe Damage

Return to HAAB

ATIS info "B" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH1025 (instructor sets zero/zero)


S/E LOC Approach 25L
(Auto Throttle, Autopilot, Flight Director ON)

S/E Missed Approach
(allow full procedure, then return for second approach)

S/E VOR Approach RW25L & Manual Landing
(Auto Throttle, Autopilot, Flight Director ON)

Reposition RW25L (Original Aircraft Weight)

ATIS info "D" ____ Z 02010KTS 2KMS BR 004BKN 20/16 QNH1026

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight) (Auto Throttle, Autopilot, Flight Director ON)

Restore Engine after QRH completed

ATIS info "E" ____ Z 36010KTS 2SM BR 004BKN 20/16 QNH1025

ILS Approach RW25L
(Auto Throttle, Autopilot, Flight Director ON)

Missed Approach (truck on runway)

ILS Approach RW25L and Landing
(Auto Throttle, Autopilot, Flight Director ON)

- BREAK -
(Switch seats)

Aircraft on Threshold RW25L (original weights)

ATIS info "B" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH1026

ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L, ASOLE 1B Departure, Maintain FL330, Squawk 1224

Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Engine Oil Leak to Zero

Return to HAAB

ATIS info "B" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH1026 (instructor sets zero/zero)

S/E LOC Approach 25L
(Auto Throttle, Autopilot, Flight Director ON)


S/E Missed Approach
(allow full procedure, then return for second approach)

S/E VOR Approach RW25L & Manual Landing
(Auto Throttle, Autopilot, Flight Director ON)

Reposition RW25L (Original Aircraft Weight)

ATIS info "D" ____ Z 02010KTS 2KMS BR 004BKN 20/16 QNH1025

Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight) (Auto Throttle, Autopilot, Flight Director ON)

	ETHIOPIAN AVIATION ACADEMY				Rev. No. 2
	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM				Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A				

Restore Engine after QRH completed

ATIS info "E" ____ Z 36010KTS 2SM BR 004BKN 20/16 QNH1025

ILS Approach RW25L
(Auto Throttle, Autopilot, Flight Director ON)

Missed Approach (truck on runway)

ILS Approach RW25L and Landing
(Auto Throttle, Autopilot, Flight Director ON)

After Landing Checklist

Shutdown

7) Trainee Competency Criteria

The trainee should be able to:


- Demonstrate proper use of the QRH
- Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- Complete an Approach and Missed Approach
- Demonstrate comprehension of how to use the SOP and Normal Checklist
- Operate effectively in a Multi Crew environment

2.3.12. Lesson Plan 8.12 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.12	Approaches & Maneuvers	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Abnormal Start Procedures

	ETHIOPIAN AVIATION ACADEMY		Rev. No. 2
	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

- c) Before Taxi
- d) Climb, Cruise, Descend, Land
- e) ILS Approach (full procedure)
- f) Missed Approach (full procedure)
- g) Single Engine RNAV Approach (full procedure)
- h) Smoke Procedures
- h) Shutdown

5) Objectives

This scenario is designed to practice Approaches and Maneuvers of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.


6) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

7) Instructor Pre-brief (1.0 Hours)

- Give flight plan HAAB - HDAM
- Have students do Weight and Balance
- Review MCP Procedures for Auto Throttle and Autopilot ON
- Review Takeoff Flap 5 & Flap 15 Procedures
- Review Lavatory Smoke
- Review Manual Reversion
- Review ILS RW 25L
- Review S/E RNAV 25L
- Review Missed Approaches
- Review Normal Landing Procedures


5) Simulator Set Up

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- Aircraft on Gate HAAB
- GPU available, power OFF
- Day Visual, Weather as per ATIS below
- Motion OFF
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6) Lesson Plan

- ATIS info "A" _____ Z 16005KTS 3KMS -RW 004BKN 23/19 QNH1023
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L ASOLE 1B Departure, Maintain FL350, Squawk 1114
- Power Up/Pre-flight Procedures and Checklists
- Engine Start (2 Hot)
- Fix after QRH
- Normal Engine Start
- Taxi Runway 25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14,000ft., do various turns, climbs/descents for practice
- Steep Turns
- MANUAL REVERSION (loss Hydraulic System A and System B)
- Return to HAAB
- ATIS info "B" _____ Z 16005KTS 2KMS -RW 003BKN 22/20 QNH1023
- Full Procedure ILS Approach RW25L and Land (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "B" _____ Z 16005KTS 5KMS -RW 009BKN 22/18 QNH1023
- Flap 5 Takeoff with Engine Fire (Auto Throttle, Autopilot, Flight Director ON)


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- ATIS info "B" ____ Z 16005KTS 5KMS -RW 009BKN 22/18 QNH1021
- S/E RNAV Approach RW07R via UTRIX & Manual
- Landing (Auto Throttle, Autopilot, Flight Director ON)
- After Landing
- Shutdown

- BREAK -

(Switch seats)

- ATIS info "A" ____ Z 16005KTS 3KMS -RW 004BKN 23/19 QNH1023
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L ASOLE 1B Departure, Maintain FL350, Squawk 1114
- Aircraft Reposition Threshold Runway 25L
- Engine Start (No Light OFF)
- Fix after QRH
- Normal Engine Start
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14,000ft., do various turns, climbs/descents for practice
- Steep Turns
- LAVATO
RY
SMOKE
(Fire is not contained)
- Return to HAAB
- ATIS info "B" ____ Z 16005KTS 2KMS -RW 003BKN 22/20 QNH1021
- Vectored ILS Approach RW25L and Land
(Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "C" ____ Z 16005KTS 5KMS -RW 009BKN 22/18 QNH1021

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Flap 15 Takeoff Engine Separation (Auto Throttle, Autopilot, Flight Director ON)

- ATIS info "C" _____ Z 16005KTS 5KMS -RW 009BKN 22/18 QNH1021
- S/E RNAV Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)
- After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:

- a) Demonstrate proper use of the QRH
- b) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- c) Complete an Approach
- d) Demonstrate comprehension of how to use the SOP and Normal Checklist
- e) Operate effectively in a Multi Crew environment

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A				

2.3.13. Lesson Plan 8.13 – B737 NG FTD

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.13	LOFT Validation	B737NG FTD	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Shutdown

2) Objectives

This scenario is designed to practice Line Oriented Flight Training of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References


- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB – HDAM
- CRM

5) Simulator Set Up


- Aircraft on gate HAAB

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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

- Day Visual, Weather as per ATIS below
- Cloud Top FL400 (icing temp) over HAAB and HDAM
- Motion OFF
- ZFW - 57.0
- Fuel - 7.0
- GTOW - 63.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan

- ATIS info "F" ____ Z 30015KTS RVR400M 010BKN 20/20 QNH1025
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L ASOLE 1B Departure, Maintain FL310, Squawk2112
- Taxi RW25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON) Tower switches ET306 to Departure 119.7
- Climbing through FL150 re clear ET306 to maintain FL190 for traffic TCAS RA
- After recovery, re clear ET306 to maintain FL310 5 minutes after level off at cruise, COWL ANTI ICE
- HDAM ATIS info "X" ____ Z 25015KTS 6KMS 010BKN 20/18 QNH1012
- Approach is LCTR RW27 Land and Depart RW27 ET call Djibouti Approach on 121.1
- Vector for LCTR RW27
- Cleared LCTR Approach RW27 and Manual Landing
- Call Tower 118.1
- Cleared to Land, wind 250 at 15KTS Taxi to Ramp


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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

- After Landing Checklist
- Shutdown Checklist

- BREAK -

(Switch seats)

- Aircraft parked on HDAM Ramp
- HDAM ATIS info "Z" ____ Z 25015KTS 6KMS 010BKN 20/18
QNH1012 Original Aircraft Load and Weights (Maintenance has fixed Cowl Anti ice)
- ATC Clears ET307 to the Bole International Airport, via Flight Plan Route, Depart RW27 LAKBE 1W Departure, Maintain FL320, Squawk 2323
- Taxi RW27
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON) Tower switches ET307 to Departure 121.1
- Climbing through FL150 re clear ET307 to turn right HDG270 for traffic, leaving FL210, resume on course, maintain FL320
- Leaving FL180 ICE
DETECT Leaving
FL210 ICE DETECT
off
- minutes after level off at cruise, RUNAWAY STABILIZER TRIM
- HAAB ATIS info "M" ____ Z 30015KTS 3KMS 006BKN 19/16
QNH1026 ET call Bole Approach on 119.7
- Vector, then Direct
AB001 at FL140, Cleared
RNAV (GPS) RW25L
Contact Tower 118.1
- Cleared to Land RW25L, wind
300 at 15KTS Taxi to Ramp


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	Part II: Flight Training (B737NG Type Rating) - Stage 8A		

- After Landing Checklist
- Shutdown Checklist

7) Trainee Competency Criteria

The trainee should be able to:

- a) Demonstrate proper use of the QRH
- b) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- c) Demonstrate comprehension of how to use the SOP and Normal Checklist
- d) Operate effectively in a Multi Crew environment

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	Flight Training (B-737NG Type Rating) - Stage 8B		

2.4. Flight Training (B737NG Type Rating) - Stage 8B

Overview

This stage of training is designed to develop the students to the airline First Officer standard for commercial operations knowledge and skill. All training will be conducted in a transport category multi-engine aircraft SIM. Line Oriented Flight Training (LOFT) is extensively used to develop commercial pilot CRM skills in a simulated Air Carrier flight environment. Scenario Based Training is used to place emphasis on developing CRM skills such as Crew Performance, Monitor and Feedback and Workload Management in a commercial environment involving passengers, flight attendants, and company operations such as co-authority dispatch. Students will complete training in both crew positions (Captain and First Officer) and operate as Pilot Flying (PF) and Pilot Not Flying (PNF). All flying will be done from the right seat as First Officer and all PNF duties will be completed while in the left seat as Captain. Upon completion of this stage all students will have completed the MPL curriculum.

Objectives

To develop IFR multi-engine skills and knowledge on a transport category aircraft to the airline standard;

To gain experience in a multi-crew IFR commercial flight operations environment through scenario based training sessions;

To apply CRM skills at the commercial pilot level to real world situations; and

To demonstrate sound risk management and leadership skills and a positive attitude towards safety.

Instructional Methods to be Used

This stage of training uses Line Oriented Flight Training for all lessons. Crew lead debriefing and self-assessment techniques are used to develop the student's command (Leadership) and CRM skills.


Competency Standards

Prior to graduating from Stage IX, students must successfully:

Pass the MPL Final Exam

Pass the Flight Check by demonstrating:

Advanced IFR multi-engine skills and knowledge on a transport category aircraft to the airline standard;

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Ability to serve as a member of a multi-crew during IFR commercial flight operations;

To apply CRM skills at the commercial pilot level; and

To demonstrate sound risk management and leadership skills and a positive attitude towards safety.



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Table 31: Summary of Training Stage 8B- Summary – B737 Type Rating

Lesson No	Description	Equip	Flight Time		Total
			PF	PNF	
			FTD	FTD	
8.14	Multi-Crew Maneuvers & Approaches	B737 SIM	2.0	2.0	
8.15	Multi-Crew Maneuvers & Approaches	B737 SIM	2.0	2.0	
8.16	Multi-Crew Maneuvers & Approaches	B737 SIM	2.0	2.0	
8.17	Multi-Crew Maneuvers & Approaches	B737 SIM	2.0	2.0	
8.18	Multi-Crew Maneuvers & Approaches	B737 SIM	2.0	2.0	
8.19	LOFT	B737 SIM	2.0	2.0	
8.20	LOFT	B737 SIM	2.0	2.0	
8.21	LOFT	B737 SIM	2.0	2.0	
8.22	Preparation for Validation	B737 SIM	2.0	2.0	
8.23	Validation	B737 SIM	2.0	2.0	
Stage 9 Total Hours			20	20	40
Total Hours (Stages 1-9)					356.5

Table 2-5: Summary of Stage 8B- Flight Training (B737 NG)

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	Flight Training (B-737NG Type Rating) - Stage 8B				

2.4.1. Lesson Plan 8.14 – B737 NG SIM

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.14	Multi Crew Maneuvers and Approaches	B737NG SIM	2.0	2.0			

1)Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Steep Turns, Stickshaker Recoveries
- Unusual Attitudes
- ILS, LOC Approaches
- Engine Failure after V1

2)Objectives

This scenario is designed to practice Multi Crew Maneuvers and Approaches of the B737NG with full motion.


This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3)References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4)Instructor Pre-brief (1.0 Hours)

- 6.1.0 Ask the students if they have any questions
- 6.1.1 Give flight plan HAAB - HDAM
- 6.1.2 Review Steep Turns
- 6.1.3 Review Stall Recoveries (ground contact not a factor)
- 6.1.4 Review Unusual Attitudes
- 6.1.5 Review ILS RW25L

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	Flight Training (B-737NG Type Rating) - Stage 8B		

- 6.1.6 Review Loc approach RW 25L
- 6.1.7 Review two engine Missed Approach
- 6.1.8 Review Engine Failure after V1

5) Simulator Set Up

- a) Aircraft on Ramp HAAB
- b) Day Visual, Weather as per ATIS below
- c) Motion ON
 - ZFW - 51.8
 - Fuel - 20.8
 - GTOW - 72.6
 - CG - 13.1
 - Stab Trim - 5.26

6) Lesson Plan


- ATIS info "B" ____ Z 30015KTS 4KMS 009BKN 24/20 QNH1023
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L ASOLE 1B Departure, Maintain FL310, Squawk 2112
- Aircraft on Ramp
- Normal Engine Start
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14,000ft.
- 45 degree bank turn in each direction through 360 degrees

Stall Recoveries

- A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
- A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle
- A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

Unusual Attitude Recoveries

- 1) Nose High
- 2) Nose Low

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	Flight Training (B-737NG Type Rating) - Stage 8B		

Return to HAAB

- ATIS info "C" _____ Z 30010KTS 4KMS BR 004BKN 20/19 QNH 1023
(instructor sets zero/zero)
- LOC Approach 25L
(Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach
(allow full procedure, then return for second approach)
- ILS Approach RW25L & Manual Landing
(Auto Throttle, Autopilot, Flight Director ON)
- Reposition RW04L (Original Aircraft Weight)
- ATIS info "D" _____ Z 02010KTS 4KMS BR 004BKN 20/16 QNH1023
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight) (Auto Throttle, Autopilot, Flight Director ON)
- Restore Engine after QRH completed
- ATIS info "E" _____ Z 30010KTS 1KMS BR 004BKN 20/16 QNH1020
- ILS Approach RW25L & Manual Landing
(Auto Throttle, Autopilot, Flight Director ON)

- BREAK -

(Switch seats)

- ATIS info "B" _____ Z 30015KTS 4KMS BR 004BKN 20/16 QNH1023
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L
- ASOLE 1B Departure, Maintain FL310, Squawk 2112
- Aircraft at Threshold RW25L(Original Aircraft Weights)
- Engine Quick Start
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14,000ft.
- 45 degree bank turn in each direction through 360 degrees

Stall Recoveries

- 4) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
- 5) A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle
- 6) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle


Unusual Attitude Recoveries

6.3 Nose High

6.4 Nose Low

Return to HAAB

- ATIS info "C" _____ Z 30010KTS 3KMS BR 004BKN 20/19
QNH1020 (instructor sets zero/zero)
- LOC Approach RW25L
(Auto Throttle, Autopilot, Flight Director ON)

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	Flight Training (B-737NG Type Rating) - Stage 8B		

- Missed Approach
- (allow full procedure, then return for second approach)

- ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)

- Reposition RW25L (Original Aircraft Weight)

- ATIS info "D" ____ Z 30010KTS 3KMS BR 004BKN 20/16 QNH1020

- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight) (Auto Throttle, Autopilot, Flight Director ON)

- Restore Engine after QRH completed

- ATIS info "E" ____ Z 30010KTS 1KMS BR 004BKN 20/16 QNH1020

- ILS Approach 25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)

- After Landing Checklist

7) Trainee Competency Criteria

The trainee should be able to:


- 1) Demonstrate proper use of the QRH

- 2) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing

- 3) Complete an Approach and Missed Approach

- 4) Demonstrate comprehension of how to use the SOP and Normal Checklist

- 5) Operate effectively in a Multi Crew environment

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	Flight Training (B-737NG Type Rating) - Stage 8B					

2.4.2. Lesson Plan 8.15 – B737 NG SIM

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.15	Multi Crew Maneuvers and Approaches	B737NG SIM	2.0	2.0			

1)Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Manual Pressurization
- Rapid Decompression/Emergency Descent
- Single Engine ILS, VOR Approaches
- Engine Failure after V1

2)Objectives

This scenario is designed to practice Multi Crew Maneuvers and Approaches of the B737NG with full motion.


This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3)References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4)Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB - HDAM
- Review Steep Turns
- Review Manual Pressurization
- Review Rapid Decompression/Emergency Descent
- Review Single Engine ILS RW25L

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	Flight Training (B-737NG Type Rating) - Stage 8B		


- Review Single Engine VOR approach RW 25L
- Review two engine Missed Approach
- Review Engine Failure after V1

5) Simulator Set Up

- Aircraft on Ramp HAAB
- Night Visual, Weather as per ATIS below
- Motion ON
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6.8 Lesson Plan

- ATIS info "B" ____ Z 20015KTS 1KM 003BKN 24/20 QNH1023
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L ASOLE 1B Departure, Maintain FL370, Squawk 3412
- Normal Engine Start
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight) (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "C" ____ Z 20010KTS 3KMS BR 008BKN 20/16 QNH1020
- Single Engine VOR Approach RW25L & Manual Landing (Auto Throttle, Autopilot, Flight Director ON)
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "D" ____ Z 20010KTS 4KMS BR 004BKN 20/16 QNH1023
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Clear crew to Level Off at FL240. (manual pressurization during climb)
- Normalize Pressurization and slew to FL370

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	Flight Training (B-737NG Type Rating) - Stage 8B		

- Rapid Decompression
- Emergency Descent
- (normalize when level at FL140)


Return to HAAB

- Hold GWZ as published FL140
- ATIS info "E" ____ Z 30010KTS 1KM BR 003BKN 20/19 QNH 1023 (instructor sets zero/zero)
- Full procedure ILS Approach 25L
- (Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach
- (full procedure, then return for second approach)
- Engine Fire
- Single Engine ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)
- Reposition RW25L (Original Aircraft Weight)

- BREAK -

(Switch seats)

- ATIS info "B" ____ Z 20015KTS 1KM 003BKN 24/20 QNH1023
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L
- ASOLE 1B Departure, Maintain FL370, Squawk 3412
- Normal Engine Start
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight)
- (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "C" ____ Z 20010KTS 3KMS BR 008BKN 20/16 QNH1020
- Single Engine VOR Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "D" ____ Z 20010KTS 4KMS BR 004BKN 20/16 QNH1023
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Clear crew to Level Off at FL240.
- (manual pressurization during climb)


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	Flight Training (B-737NG Type Rating) - Stage 8B		

- Normalize Pressurization and slew to FL370
- Rapid Decompression
- Emergency Descent
(normalize when level at FL140)
- Return to HAAB
- Hold ADS as published FL140
- ATIS info “E” _____ Z 30010KTS 1KM BR 003BKN 20/19 QNH 1023 (instructor sets zero/zero)
- Full procedure ILS Approach 25L
(Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach
(full procedure, then return for second approach)
- Low Engine Oil Pressure
- Single Engine ILS Approach RW25L & Manual Landing
(Auto Throttle, Autopilot, Flight Director ON)
- After Landing Checklist

7) Trainee Competency Criteria

The trainee should be able to:

- a) Demonstrate proper use of the QRH
- b) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- c) Complete an Approach and Missed Approach
- d) Demonstrate comprehension of how to use the SOP and Normal Checklist
- e) Operate effectively in a Multi Crew environment

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	Flight Training (B-737NG Type Rating) - Stage 8B					

2.4.3. Lesson Plan 8.16 – B737 NG SIM

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.16	Multi Crew Maneuvers and Approaches	B737NG SIM	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Fuselage Smoke/Fire
- VOR, RNAV Circling Approaches
- Passenger Evacuation

2) Objectives

This scenario is designed to practice Approaches and Maneuvers of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References


- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB – HKJK
- Fuselage Smoke/Fire
- Review 2 NDB RW25L Circle RW07R
- Review RNAV RW25L Circle RW07R
- Review Two Engine Missed Approach from Circle Approach
- Review Passenger Evacuation

5) Simulator Set Up

- Aircraft on gate HAAB
- Night Visual, Weather as per ATIS below
- Motion ON
- ZFW - 57.0

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- Fuel - 11.0
- GTOW - 67.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan

- ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 QNH1027
- ATC Clears ET302 to Jomo Kenyatta Airport, via Flight Plan Route, Depart RW07R SHALA 1A Departure, Maintain FL340, Squawk 2112
- Taxi RW07R
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)

Climbing through FL150, Engine Flameout (no damage)

Engine Inflight Start

Maintenance requests a Return to HAAB

ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 QNH1028

2 NDB Approach RW25L Circle 07R

(Auto Throttle, Autopilot, Flight Director ON)

Rejected Landing from 50ft (truck on runway)

ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 Q1027

VOR Approach RW25L Circle 07R and Manual Landing


Reposition RW07R (Original Aircraft Weight)

ATIS info "D" ____ Z 09005KTS 6KMS 110BKN 20/14 QNH 1027

- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Climbing through FL150, SMOKE
- ILS RW25L and Manual Landing
- Passenger Evacuation
- Reposition RW07R (original aircraft weight)

- BREAK -

(Switch seats)


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	Flight Training (B-737NG Type Rating) - Stage 8B		

- ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 QNH1027
- ATC Clears ET503 to the Jomo Kenyatta Airport, via Flight Plan Route, Depart RW07R
- SHALA 1A Departure, Maintain FL340, Squawk 2112
- Taxi RW07R
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Climbing through FL150, Engine Flameout (no damage)
- Engine Inflight Start
- Maintenance requests a Return to HAAB
- ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 QNH1027
- 2 NDB Approach RW25L Circle 07R
- (Auto Throttle, Autopilot, Flight Director ON)
- Rejected Landing from 50ft (truck on runway)
- ATIS info "C" ____ Z 09015KTS 6KMS 110BKN 20/16 Q1027
- VOR Approach RW25L Circle 07R and Manual Landing
- Reposition RW07R (Original Aircraft Weight)
- ATIS info "D" ____ Z 09005KTS 6KMS 110BKN 20/14 QNH 1028
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Climbing through FL150, SMOKE
- ILS RW25L and Manual Landing
- Passenger Evacuation


7) Trainee Competency Criteria

The trainee should be able to:

- 6) Demonstrate proper use of the QRH
- 7) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- 8) Demonstrate comprehension of how to use the SOP and Normal Checklist

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9) Operate effectively in a Multi Crew environment

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	Flight Training (B-737NG Type Rating) - Stage 8B				

2.4.4. Lesson Plan 8.17 – B737 NG SIM

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.17	Multi Crew Maneuvers and Approaches	B737NG SIM	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Abnormal Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- RNAV Approach (full procedure)
- Hydraulic System Loss
- All Flaps Up Landing Procedures
- Shutdown

2) Objectives

This scenario is designed to practice Approaches and Maneuvers of the B737NG.


This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Give flight plan HAAB - HDAM
- Have students do Weight and Balance
- Review MCP Procedures for Auto Throttle and Autopilot ON - Review Takeoff Flap 5 Procedures
- Review Hydraulic System Failures - Review ILS RW 25L
- Review RNAV 25L
- Review All Flaps Up Landing Procedures

	ETHIOPIAN AVIATION ACADEMY		Rev. No. 2
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	Flight Training (B-737NG Type Rating) - Stage 8B		

- Simulator Set Up

Aircraft on Gate HAAB

GPU available, power OFF


Day Visual, Weather as per ATIS below

Motion ON

- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6) Lesson Plan

- ATIS info "A" ____ Z 16005KTS 3KMS -RW 004BKN 23/19 QNH1025
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L
- ASOLE 1B Departure, Maintain FL350, Squawk 1114
- Power Up/Pre-flight Procedures and Checklists
- Engine Start (2 Hot)
- Fix after QRH
- Normal Engine Start
- Taxi Runway 25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14,000ft., do various turns, climbs/descents for practice
- Steep Turns
- Loss Hydraulic System A
- Return to HAAB
- ATIS info "B" ____ Z 16005KTS 5KMS -RW 009BKN 22/20 QNH1025
- Full Procedure RNAV Approach RW25L and Land (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "B" ____ Z 16005KTS 5KMS -RW 009BKN 22/18 QNH1026

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	Flight Training (B-737NG Type Rating) - Stage 8B		

- Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "B" ____ Z 16005KTS 5KMS -RW 009BKN 22/18 QNH1025
- Leading Edge Devices and Trailing Edge Flaps cannot be extended
- ILS All Flaps Up ILS Approach RW25L & Manual Landing
- (Auto Throttle, Autopilot, Flight Director ON)
- After Landing
- Shutdown


- BREAK -
(Switch seats)

- ATIS info "A" ____ Z 16005KTS 3KMS -RW 004BKN 23/19 QNH1026
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L ASOLE 1B Departure, Maintain FL350, Squawk 1114
- Aircraft Reposition Threshold Runway 25L
- Engine Start (No Light OFF)
- Fix after QRH
- Normal Engine Start
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14,000ft., do various turns, climbs/descents for practice
- Steep Turns
- Loss Hydraulic System B

Return to HAAB

- ATIS info "B" ____ Z 16005KTS 5KMS -RW 009BKN 22/20 QNH1023
- Full Procedure RNAV Approach RW25L and Land
(Auto Throttle, Autopilot, Flight Director ON)

ATIS info "B" ____ Z 16005KTS 5KMS -RW 009BKN 22/18QNH1025

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	Flight Training (B-737NG Type Rating) - Stage 8B		

Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)


ATIS info "B" ____ Z 16005KTS 5KMS -RW 009BKN 22/18QNH1026

- Leading Edge Devices and Trailing Edge Flaps cannot be extended
- ILS All Flaps Up ILS Approach RW25L & Manual Landing (Auto Throttle, Autopilot, Flight Director ON)
- After Landing
- After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:

- 6) Demonstrate proper use of the QRH
- 7) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- 8) Complete an Approach
- 9) Demonstrate comprehension of how to use the SOP and Normal Checklist
- 10) Operate effectively in a Multi Crew environment

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	Flight Training (B-737NG Type Rating) - Stage 8B				

2.4.5. Lesson Plan 8.18 – B737 NG SIM

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.18	Multi Crew Maneuvers and Approaches	B737NG SIM	2.0	2.0			

1) Topics

- a) Pre-flight Procedures
- b) Engine Start Procedures
- c) Before Taxi
- d) Climb, Cruise, Descend, Land
- e) Circle Approach
- f) Missed Approach (full procedure)
- g) Single Engine ILS/RNAV Approaches
- h) Hydraulic Faults
 - Shutdown

f) Objectives

This scenario is designed to practice Approaches and Maneuvers of the B737NG.


This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

g) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

h) Instructor Pre-brief (1.0 Hours)

- 3) Give flight plan HAAB - HDAM
- 4) Have students do Weight and Balance
- 5) Review MCP Procedures for Auto Throttle and Autopilot ON
- 6) Review Takeoff Flap 5 Procedures
- 7) Review Engine Fire

	ETHIOPIAN AVIATION ACADEMY		Rev. No. 2
	MULTI-CREW PILOT LICENCE (MPL) TRAINING CURRICULUM		Sept. 2016
	Flight Training (B-737NG Type Rating) - Stage 8B		

- 8) Review Hydraulic Pump Low Pressure/Overheat
- 9) Review VOR 25L, Circle 07R
- 10) Review S/E ILS 25L & RNAV 07R
- 11) Review Missed Approaches
- 12) Review Normal Landing Procedures

7) Simulator Set Up

Aircraft on Gate HAAB

GPU available, power OFF


Day Visual, Weather as per ATIS below

Motion ON

- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6) Lesson Plan

- ATIS info "A" ____ Z 16005KTS 3KMS -RW 004BKN 23/19 QNH1025
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L
- ASOLE 1B Departure, Maintain FL350, Squawk 1114
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Climbing through FL150
- Hydraulic Pump Overheat
- Return to HAAB
- ATIS info "B" ____ Z 06010KTS 8KMS 012BKN 25/20 QNH1025
- VOR Approach RW25L, Circle RW07R
- (Auto Throttle, Autopilot, Flight Director ON)


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	Flight Training (B-737NG Type Rating) - Stage 8B		

- Missed Approach (Aircraft on Runway)
- Engine Fire
- ATIS info "C" _____ Z 16005KTS 2KMS 003BKN 25/21 QNH1025
- Vectored ILS Approach RW25L and Land
(Auto Throttle, Autopilot, Flight Director ON)
- Flap 5 Takeoff with Engine Fire (Auto Throttle, Autopilot, Flight Director ON)
- ATIS info "B" _____ Z 16005KTS 5KMS 009BKN 22/18 QNH1025
- S/E RNAV Approach RW07R via UTRIX & Manual
Landing (Auto Throttle, Autopilot, Flight Director
ON)
- After Landing (reposition button RW25L)

- BREAK -

(Switch seats)

- ATIS info "A" _____ Z 16005KTS 3KMS -RW 004BKN 23/19 QNH1025
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L
- ASOLE 1B Departure, Maintain FL350, Squawk 1114
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Climbing through FL150
- Hydraulic Pump Low Pressure
- Return to HAAB
- ATIS info "B" _____ Z 06010KTS 8KMS 012BKN 25/20 QNH1025
- VOR Approach RW25L, Circle RW07R
(Auto Throttle, Autopilot, Flight Director ON)
- Missed Approach (Aircraft on Runway)
- Engine Severe Damage
- ATIS info "C" _____ Z 16005KTS 2KMS 003BKN 25/21 QNH1025
- Vectored ILS Approach RW25L and Land
(Auto Throttle, Autopilot, Flight Director ON)
- Flap 5 Takeoff with Engine Fire (Auto Throttle, Autopilot, Flight Director ON)


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	Flight Training (B-737NG Type Rating) - Stage 8B		

- ATIS info "B" _____ Z 16005KTS 5KMS 009BKN 22/18 QNH1025
- S/E RNAV Approach RW07R via UTRIX & Manual Landing (Auto Throttle, Autopilot, Flight Director ON)
- After Landing/Shutdown/Electrical Power Down Procedures and Checklists

7) Trainee Competency Criteria

The trainee should be able to:

- 7) Demonstrate proper use of the QRH
- 8) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- 9) Complete an Approach
- 10) Demonstrate comprehension of how to use the SOP and Normal Checklist
- 11) Operate effectively in a Multi Crew environment

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	Flight Training (B-737NG Type Rating) - Stage 8B				

2.4.6. Lesson Plan 8.19 – B737 NG SIM

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.19	LOFT	B737NG SIM	2.0	2.0			

1) Topics

- a) Pre-flight Procedures
- b) Engine Start Procedures
- c) Before Taxi
- d) Climb, Cruise, Descend, Land
- e) Control Malfunctions
- f) Icing Procedures
- g) Shutdown

2) Objectives

This scenario is designed to practice Line Oriented Flight Training of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References


- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB – HDAM
- Discuss Icing Procedures
- CRM
- Takeoff Alternate Djibouti

5) Simulator Set Up

- Aircraft on gate HAAB
- Night Visual, Weather as per ATIS below, Tops FL190
- Motion ON
- ZFW - 57.0
- Fuel - 7.0

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	Flight Training (B-737NG Type Rating) - Stage 8B		

- GTOW - 63.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan

- ATIS info "C" _____ Z 30015KTS RVR400M 010BKN 08/07 QNH1026
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route,
Depart RW25L ASOLE 1B Departure, Maintain FL310, Squawk 2112
- Taxi RW25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight
Director ON) Tower switches ET306 to Departure 119.7
- Climbing through FL150 re clear ET306 to maintain FL190 for traffic
- After level at FL190 for 2 minutes re clear ET306 to maintain FL310
- Climbing Through FL 250, Elevator Pitch Jam
(Jam remains for whole flight, weather at HAAB still RVR400 meters)
- HDAM ATIS info "E" _____ Z 25015KTS 6KMS 010BKN 06/02 QNH1012
- ET call Djibouti

Approach on 121.1


Vector for ILS RW27
- Cleared ILS Approach RW27 and Manual Landing
- Call Tower 118.1
- Cleared to Land, wind

250 at 15KTS Taxi to

Ramp
- After Landing Checklist
- Shutdown Checklist

- BREAK - (Switch seats)

- Aircraft parked on HDAM Ramp
- (maintenance fixed Elevator Jam)


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	Flight Training (B-737NG Type Rating) - Stage 8B		

- HDAM ATIS info "E" ____ Z 25015KTS 6KMS 010BKN 06/02
QNH1012 Original Aircraft Load and Weights
- ATC Clears ET307 to the Bole International Airport, via Flight Plan Route, Depart RW27 LAKBE 1W Departure, Maintain FL320, Squawk 2323
- Taxi RW27
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON) Tower switches ET519 to Departure 121.1
- Climbing Through FL090, Ice Detect Light
- Climbing through FL150 re clear ET307 to turn right HDG270 for traffic, leaving FL210, resume on course, maintain FL320
- Ice Detect Light Extinguishes through FL170
- Climbing Through FL250, Electric Stabilizer Trim Fails
- HAAB ATIS info "M" ____ Z 30015KTS 3KMS 006BKN 08/06
QNH1026
- ET call Bole Approach on 119.7
- Vector, then Direct AB001 at FL140,
- Cleared RNAV (GPS) RW25L
- Contact Tower 118.1
- Cleared to Land RW25L, wind
300 at 15KTS Taxi to Ramp
- After Landing Checklist
- Shutdown Checklist


7) Trainee Competency Criteria

The trainee should be able to:

- a) Demonstrate proper use of the QRH
- b) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing

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- c) Demonstrate comprehension of how to use the SOP and Normal Checklist
- d) Operate effectively in a Multi Crew environment

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	Flight Training (B-737NG Type Rating) - Stage 8B		

2.4.7. Lesson Plan 8.20 – B737 NG SIM

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.20	LOFT	B737 NG SIM	2.0	2.0			

1) Topics

- a) Pre-flight Procedures
- b) Engine Start Procedures
- c) Before Taxi
- d) Climb, Cruise, Descend, Land
- e) Shutdown

2) Objectives

This scenario is designed to practice Line Oriented Flight Training of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References

- B737NG FCOM
- B737NG FCTM
- ET B737NG QRH
- ET B737 SOP


Instructor Pre-brief (1.0

4) Hours)

- Ask the students if they have any questions
- Give flight plan HAAB – HKJK
- Discuss Diversion
- CRM

5) Simulator Set Up

- f) Aircraft on gate HAAB
- g) Dusk Visual, Weather as per ATIS below, Cloud Tops FL300
- h) Motion OFF
 - ZFW - 57.0
 - Fuel - 7.5

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	Flight Training (B-737NG Type Rating) - Stage 8B		


- GTOW - 64.3
- CG - 18.3
- Stab Trim - 5.2

- Lesson Plan

- ATIS info "S" ____ Z 16015KTS 4KMS 009BKN 24/20 QNH1023
- ATC Clears ET302 to Jomo Kenyatta Airport, via Flight Plan Route, Depart RW07R
- SHALA 1A Departure, Maintain FL380, Squawk 4113
- Right Engine HOT START
- Maintenance is called. After 5 minutes engine is fixed
- Taxi RW07R
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Tower switches ET302 to Departure 119.7
- ET 302 cleared to maintain FL380
- Climbing through FL200 simulator operator gradually adds turbulence and Heavy Rain (no returns on Weather Radar)
- Climbing through FL250, LOSS of POWER
BOTH ENGINES (Left Engine is recovered during QRH)
- The crew should decide to return to HAAB
- HAAB ATIS info "T" ____ Z 20015KTS 5KMS 008BKN 26/20 QNH1026
- Full Procedure VOR 25L
- Vector for ADS VOR
- Cleared Full Procedure VOR Approach RW25L via ADS and Landing
- Call Tower 118.1
- Cleared to Land RW25L, wind 200 degrees at 15KTS
- Taxi to Ramp
- After Landing Checklist
- Shutdown Checklist


- BREAK -

(Switch seats)

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	Flight Training (B-737NG Type Rating) - Stage 8B		

Aircraft parked on HAAB Ramp

- HAAB ATIS info "O" ____ Z 16015KTS 12KMS 110BKN 26/20 QNH1025
- Original Aircraft Load and Weights
- ATC Clears ET302 to the Nairobi Airport, via Flight Plan Route, Depart RW07R
- SHALA 1A Departure, Maintain FL380, Squawk 4113
- Taxi RW07R
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Tower switches ET302 to
Departure 119.7 Cleared to
maintain FL380
- Climbing through FL150 re clear ET302 to maintain FL200, expect
higher in 50 miles
- Climbing through FL 180 YAW
DAMPER fail (will not reset)
- After level off at FL200, IRS
FAULT (maintenance requests
flight return HAAB)
- Crew should request return to HAAB
- HAAB ATIS info "O" ____ Z 12015KTS 12KMS 110BKN 26/20
QNH1025 LOC 25L circle to land RW07R
- Clear ET302 direct OKNET to Intercept ADS 193
Radial inbound, Maintain FL140
- After OKNET clear
descend FL125 ET302
call Bole Approach on
119.7 Cleared LOC
RW25L circle RW07R
Contact Tower 118.1
- Cleared to Land RW07R, wind
120 at 15KTS Taxi to Ramp


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- After Landing Checklist
- Shutdown Checklist

7) Trainee Competency Criteria

The trainee should be able to:

- 2 Demonstrate proper use of the QRH
- 3 Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- 4 Demonstrate comprehension of how to use the SOP and Normal Checklist
- 5 Operate effectively in a Multi Crew environment

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	Flight Training (B-737NG Type Rating) - Stage 8B		

2.4.8. Lesson Plan 8.21 – B737 NG SIM

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.21	LOFT	B737NG SIM	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Control Malfunctions
- Air Conditioning Malfunctions
- Shutdown

2) Objectives

This scenario is designed to practice Line Oriented Flight Training of the B737NG.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.

3) References


- Boeing B737NG FCOM
- Boeing 737NG Flight Crew Training Manual
- Ethiopian Airlines Standard Operating Procedures
- Ethiopian Airlines Normal Checklist
- Ethiopian Airlines Non-Normal QRH Checklist

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB – HDAM
- Alternate HAAB
- CRM

5) Simulator Set Up

- Aircraft on gate HAAB
- Night Visual, Weather as per Atis below, Tops FL190
- Motion ON
- ZFW - 57.0

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	Flight Training (B-737NG Type Rating) - Stage 8B		

- Fuel - 15.0
- GTOW - 71.8
- CG - 18.3
- Stab Trim - 5.15

6) Lesson Plan


- ATIS info "Z" ____ Z 30015KTS RVR2000M 003OVC 18/17 QNH1025
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L ASOLE 1B Departure, Maintain FL310, Squawk 4312
- Taxi RW25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Flaps will not retract
- Tower switches ET306 to Departure 119.7
- Clear to FL140
- ATIS info "Z" ____ Z 30015KTS RVR2000M 003OVC 18/17 QNH1025
- Approach is ILS RW25L
- Vector for ILS RW25L
- Cleared ILS Approach RW25L and Manual Landing
- Call Tower 118.1
- Cleared to Land, wind 300 at 15KTS
- Taxi to Ramp
- After Landing/Shutdown Checklist

- BREAK -

(Switch seats)

HAAB ATIS info "A" ____ Z 25015KTS 6KMS 010BKN 19/16 QNH1025

- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L ASOLE 1B Departure, Maintain FL310, Squawk 4432
- Taxi RW25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Tower switches ET306 to Departure 119.7
- Climbing through FL150 re clear ET306 to maintain FL190 for traffic


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- After level at FL190 for 2 minutes re clear ET306 to maintain FL310
- Climbing through FL 250, TR UNIT light illuminates
- HDAM ATIS info "M" _____ Z 25005KTS 2KMS 003BKN 21/20 QNH1012 (instructor selects zero visibility)
- ET call Djibouti Approach on 121.1
- Vector for ILS RW27
- Cleared ILS Approach RW27
- Call Tower 118.1
- Cleared to Land, wind 250 at 5KTS
- Missed Approach
- Tower switches ET307 to
Departure 121.1 (weather at
HDAM not expected to
improve)
- Cleared Direct ASOLE, Maintain FL320
- Climbing through FL250, PACK TRIP OFF light
(Light extinguishes when warmer temperature is selected)
- HAAB ATIS info "C" _____ Z 34010KTS 3KMS 012BKN 18/14 QNH999
- ET call Bole Approach on 119.7
- Cleared FL140
- Cleared ASOLE 8A Star
- Cleared RNAV (GPS) RW07R via EPRUM
- Contact Tower 118.1
- Cleared to Land RW07R, wind 340 at 10KTS
- Taxi to Ramp
- After Landing /Shutdown Checklist


7) Trainee Competency Criteria

The trainee should be able to:

- 7) Demonstrate proper use of the QRH

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- 8) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- 9) Demonstrate comprehension of how to use the SOP and Normal Checklist
- 10) Operate effectively in a Multi Crew environment

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2.4.9. Lesson Plan 8.22 – B737 NG SIM

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.22	Preparation for Validation	B737NG SIM	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Steep Turns, Stickshaker Recoveries
- VOR, NDB, ILS, Circle Approaches
- Engine Failure after V1
- RTO with Passenger Evacuation

2) Objectives

This scenario is designed to practice Approaches and Maneuvers of the B737NG for a Validation Flight.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.


3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB - HDAM
- Review Stall Recoveries (ground contact a factor)
- Review VOR DME RW25L
- Review 2 NDB approach RW25R, Circle
- Review two engine Missed Approach - Review Engine Failure after V1
- Review RTO with Passenger Evacuation

5) Simulator Set Up

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- Aircraft on Ramp HAAB
- Day Visual, Weather as per ATIS below
- Motion ON
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

- Lesson Plan

- ATIS info "B" ____ Z 30005KTS RVR 400M 002BKN 20/16 QNH1026
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L, ASOLE 1B Departure, Maintain FL330, Squawk 1224
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 25L
- Normal Flap 5 Takeoff
- Have crew Level Off at 14,000ft.
- DRIVE
caution
(Normalize after QRH)
- 45 degree bank turn in each direction through 360 degrees


Stall Recoveries

- 1) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
- 2) A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle
- 3) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

ATIS info "B" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH1026

VOR DME Approach RW25L, Circle RW07R

Rejected Landing (truck on runway)

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ENGINE FIRE on Go Around

Single Engine ILS Approach 25L and Landing

Reposition Threshold RW25L (Original Aircraft Weight)

ATIS info "D" ____ Z 02010KTS 2KMS BR 004BKN 20/16 QNH1025

Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight)

Restore Engine after QRH completed

ATIS info "E" ____ Z 36010KTS 25KMS BR 030BKN 20/10QNH1025

Visual Approach RW25L & Manual Landing

Reposition Threshold RW25L (Original Aircraft Weight)

ATIS info "F" ____ Z 02010KTS 1KM BR 004BKN 20/19 QNH1025

Flap 5 REJECTED Takeoff/Fire/Passenger Evacuation


- BREAK -

(Switch seats)

ATIS info "B" ____ Z 30005KTS RVR 400M 002BKN 20/16 QNH1025

ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L, ASOLE1B Departure, Maintain FL330, Squawk 1224

- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14,000ft.
- EQUIPMENT COOLING OFF caution
- (Normalize after QRH)
- 45 degree bank turn in each direction through 360 degrees
- Stall Recoveries
- A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
- A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle
- A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle


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- ATIS info "B" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH1025
- NDB Approach RW25R, Circle RW07R
- Rejected Landing (truck on runway)
- ENGINE FLAMEOUT on Go Around
- Single Engine ILS Approach 25L and Landing
- Reposition Threshold RW25L (Original Aircraft Weight)
- ATIS info "D" ____ Z 02010KTS 2KMS BR 004BKN 20/16 QNH1025
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight)
- Restore Engine after QRH completed
- ATIS info "E" ____ Z 36010KTS 25KMS BR 030BKN 20/10 QNH1025
- Visual Approach RW25L & Manual Landing
- Reposition Threshold RW25L (Original Aircraft Weight)
- ATIS info "F" ____ Z 02010KTS 1KM BR 004BKN 20/19 QNH1025
- Flap 5 REJECTED Takeoff/Fire/Passenger Evacuation

7) Trainee Competency Criteria

The trainee should be able to:

- e) Demonstrate proper use of the QRH
- f) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- g) Complete an Approach and Missed Approach
- h) Demonstrate comprehension of how to use the SOP and Normal Checklist
- i) Operate effectively in a Multi Crew environment

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	Flight Training (B-737NG Type Rating) - Stage 8B				

2.4.10. Lesson Plan 8.23 – B737 NG SIM

Lesson	Description	Equip	Flight Time				
			PF	PM	Instr (A/C)	Instr (Sim)	Instr (PIC)
8.23	Validation	B737NG SIM	2.0	2.0			

1) Topics

- Pre-flight Procedures
- Engine Start Procedures
- Before Taxi
- Climb, Cruise, Descend, Land
- Steep Turns, Stickshaker Recoveries
- VOR, LOC, ILS, Circle Approaches
- Engine Failure after V1
- RTO with Passenger Evacuation

2) Objectives

This scenario is designed to practice Approaches and Maneuvers of the B737NG for a Validation Flight.

This lesson will be operated with the full automation being used to allow the student to get a feel for the aircraft and its handling.


3) References

- B737NG FCOM
- B737NG FCTM
- ET B737 SOP
- ET B737NG QRH

4) Instructor Pre-brief (1.0 Hours)

- Ask the students if they have any questions
- Give flight plan HAAB - HDAM
- Review Stall Recoveries (ground contact a factor)
- Review VOR DME RW25L
- Review LOC approach RW25L, Circle
- Review two engine Missed Approach - Review Engine Failure after V1
- Review RTO with Passenger Evacuation

5) Simulator Set Up

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	Flight Training (B-737NG Type Rating) - Stage 8B		

- Aircraft on Ramp HAAB
- Day Visual, Weather as per ATIS below
- Motion ON
- ZFW - 51.8
- Fuel - 20.8
- GTOW - 72.6
- CG - 13.1
- Stab Trim - 5.26

6) Lesson Plan

ATIS info "Q" ____ Z 30005KTS RVR 400M 002BKN 20/16 QNH1026


ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L, ASOLE 1B Departure, Maintain FL330, Squawk 1224

- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 25L
- Normal Flap 5 Takeoff
- Have crew Level Off at 14,000ft.
- ENGINE FIRE/OVERHEAT DETECTOR
FAULT (Normalize after QRH)
- 45 degree bank turn in each direction through 360 degrees
- Stall Recoveries
 - 1) A/P Engaged, Gear & Flaps Up, Speedbrake Extended, Flight Idle
 - 2) A/P Engaged, Gear Up, Flaps 5, Speedbrake Retracted, Flight Idle
 - 3) A/P Engaged, Gear Down, Flaps 30, Speedbrake Armed, Flight Idle

ATIS info "Q" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH1025

VOR DME Approach RW25L, Circle RW07R

- Rejected Landing (truck on runway)
- ENGINE FIRE on Go Around

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- Single Engine ILS Approach 25L and Landing
- Reposition Threshold RW25L (Original Aircraft Weight)

ATIS info "S" ____ Z 02010KTS 2KMS BR 004BKN 20/16 QNH1026

- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight)
- Restore Engine after QRH completed

ATIS info "T" ____ Z 36010KTS 25KMS BR 030BKN 20/10QNH1026

- Visual Approach RW25L & Manual Landing
- Reposition Threshold RW25L (Original Aircraft Weight)


ATIS info "U" ____ Z 02010KTS 1KM BR 004BKN 20/19 QNH1026

- Flap 5 REJECTED Takeoff/Fire/Passenger Evacuation

- BREAK -

(Switch seats)

- ATIS info "Q" ____ Z 30005KTS RVR 400M 002BKN 20/16 QNH1026
- ATC Clears ET306 to the Djibouti Airport, via Flight Plan Route, Depart RW25L, ASOLE 1B Departure, Maintain FL330, Squawk 1224
- Power Up/Pre-flight Procedures and Checklists
- Normal Engine Start
- Taxi Runway 25L
- Normal Flap 5 Takeoff (Auto Throttle, Autopilot, Flight Director ON)
- Have crew Level Off at 14,000ft.
- RERVERSER light illuminates (Normalize after QRH)
- 45 degree bank turn in each direction through 360 degrees
- Stall Recoveries
- A/P Engaged, Gear & Flaps Up, Speed brake Extended, Flight Idle
- A/P Engaged, Gear Up, Flaps 5, Speed brake Retracted, Flight Idle
- A/P Engaged, Gear Down, Flaps 30, Speed brake Armed, Flight Idle


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- ATIS info "Q" ____ Z 30010KTS 5KMS 008BKN 20/16 QNH1025
- LOC Approach RW25L, Circle RW07R
- Rejected Landing (truck on runway)
- ENGINE HIGH OIL TEMPERATURE on Go Around
- Single Engine ILS Approach 25L and Landing
- Reposition Threshold RW25L (Original Aircraft Weight)
- ATIS info "S" ____ Z 02010KTS 2KMS BR 004BKN 20/16 QNH1025
- Flap 5 Takeoff (Engine Failure after V1, before 50ft – no relight)
- Restore Engine after QRH completed
- ATIS info "T" ____ Z 36010KTS 25KMS BR 030BKN 20/10 QNH1025
- Visual Approach RW25L & Manual Landing
- Reposition Threshold RW25L (Original Aircraft Weight)
- ATIS info "U" ____ Z 02010KTS 1KM BR 004BKN 20/19 QNH1025
- Flap 5 REJECTED Takeoff/Fire/Passenger Evacuation

7) Trainee Competency Criteria

The trainee should be able to:

- a) Demonstrate proper use of the QRH
- b) Smoothly control the aircraft for Taxi, Takeoff, Cruise and Landing
- c) Complete an Approach and Missed Approach
- d) Demonstrate comprehension of how to use the SOP and Normal Checklist
- e) Operate effectively in a Multi Crew environment

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Stage 9:

The training in phase nine including the actual aircraft flying Shall be conducted as per the B 737NG Type Rating Training Licence issued to Ethiopian Airlines Flight Operations.