

TECHNICAL REPORT: YEAR 1

USE OF ADVANCED TECHNOLOGY TO SUPPORT INSPECTION TRAINING IN THE GENERAL AVIATION INDUSTRY

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The report is divided into three major sections. The introduction section provides a brief background for the study, the next section outlines the methodology adopted, and the final section details training requirements. The appendices include results of task analyses for four representative aircraft maintenance tasks and the follow up identification of training requirements.

1. INTRODUCTION

For the Federal Aviation Administration (FAA) to provide the public with a safe, reliable air transportation system, it is important to have a sound aircraft inspection and maintenance system (FAA, 1991). This inspection/maintenance system is a complex one with many interrelated human and machine components, with the human as the linchpin. Recognizing this, the FAA under the auspices of National Plan for Aviation Human Factors has pursued human factors research (FAA, 1991; FAA, 1993). In the maintenance arena this research has focused on the aircraft inspector and the aircraft maintenance technician (AMT) (Drury, Prabhu and Gramopadhye, 1990; Shepherd, 1992; Shepherd, Layton and Gramopadhye, 1995). Since it is difficult to eliminate errors completely, continuing emphasis must be placed on developing interventions to make the inspection/maintenance procedures more reliable and/or more error-tolerant.

Aircraft in the GA environment have their maintenance scheduled initially by a team that includes the FAA, aircraft manufacturers, and start-up operators, although these schedules may be taken and modified to suit individual requirements and meet legal approval. (In many cases the customer may follow a manufacturer's inspection program, which calls for 100 hrs. of (put in when these 100 would come i.e. monthly, daily, to balance with the yearly and omit one inspection) and a yearly inspection.) Within these schedules, there are checks at various intervals, often designated as flight line checks;

overnight checks; and A, B, C and, the heaviest, D checks. The objective of these checks is to conduct both routine and non-routine maintenance of the aircraft. This maintenance includes scheduling the repair of known problems; replacing items after a certain air time, number of cycles, or calendar time; repairing defects discovered previously, for example from reports logged by pilot and crew or from line inspection, or items deferred from previous maintenance; and performing scheduled repairs.

One of the areas reported in need of improvement is the human inspection of aircrafts, as this process has been widely reported as a cause of several errors/accidents in the aircraft maintenance industry (see FAA, 1991; FAA, 1993; Hobbs and Williamson, 1995 and the recent Continental Express crash). This problem has been attributed to a lack of well-defined inspection procedures for use by the aircraft maintenance industry. In response, the industry has developed ad-hoc measures and general guidelines to assist various personnel involved in the inspection process. This has resulted in various organizations developing their own internal procedures, which vary in their level of instruction/detail. Because of this situation, inspection procedures are not standardized across the industry. Moreover, they are often not based on sound principles of human factors design.

The two goals that need to be achieved by a maintenance/inspection program are safety and profitability. While safety is of paramount concern, profitability can be realized only when safety is achieved economically. For human inspectors, this means that in addition to performing the inspection task, they have to be sensitive to both efficiency, the speed measure, and effectiveness, the accuracy measure, if they are to optimize their performance. The interrelationship between these performance measures and task factors, among others, is seen in Figure 1.

These two conflicting goals of safety and profitability are embodied in the inspection function in the form of *accuracy* and *speed*, respectively. Accuracy denotes detecting the defects that must be remedied for the safe operation of the aircraft while keeping false alarms to a minimum. Speed means the task must be performed in a timely manner without the excessive utilization of resources. As can be seen, it is crucial that inspectors work not only effectively, that is, detect all potential defects, but also efficiently. The problem is further compounded in the GA inspection environment with its large differences in the size and type of maintenance facilities, organizational and physical environment, and inspector experience and technical skills.

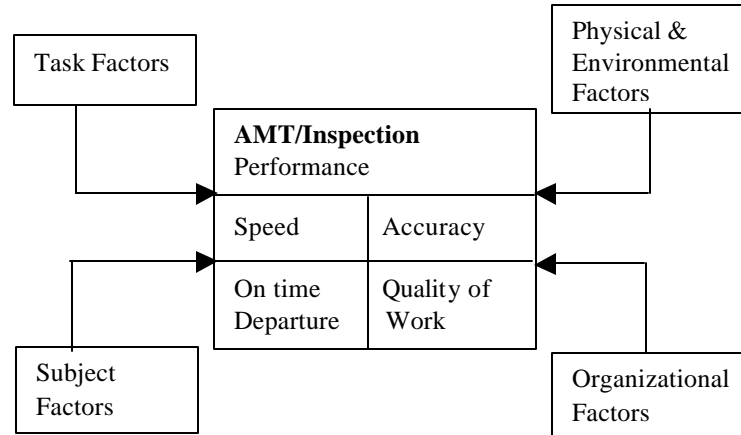


Figure 1. Factors Impacting Aircraft Inspection Performance

In response to this need, a task analysis of inspection activities was conducted at representative GA facilities, with the research looking at the entire inspection process to identify training requirements, which will help minimize inspection errors. The specific objectives of Year 1, were to analyze the inspection process at representative aircraft maintenance sites, develop a taxonomy of errors and identify training requirements to prevent the ill effects of the errors.

2. Methodology

2.1 Literature Review

As a first step a detailed literature review was conducted. The literature is available online and can be accessed through the following website (http://www.ces.clemson.edu/~agramop/cur_act.htm). Figure 2 shows a screenshot of the database.

Following this step, the study analyzed the inspection process at representative GA aircraft maintenance sites, including the norms, information transfer procedures, guidelines and FAA-mandated procedures. Next, a detailed error taxonomy was developed to help classify the typical inspection errors. These errors were then analyzed and interventions identified to develop a standardized inspection process to minimize them. During this phase of the study, the researchers focused on the mechanic/inspectors, their respective supervisors, and the various entities they interact with. Following this step, recommendations were developed to support improved inspection performance.

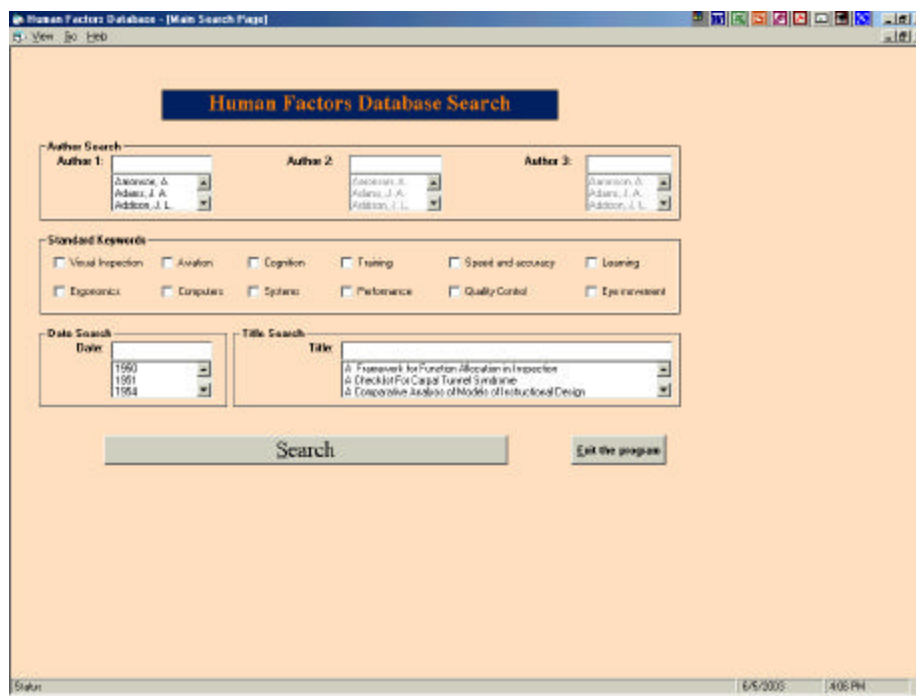


Figure 2. Screenshot of the database.

2.2 Task Analysis of Inspection Operations at GA Facilities

A detailed task analysis of the operations was conducted using data collected through shadowing, observation, and interviewing techniques. The team partners at representative maintenance sites located within the continental US provided the research team with access to their facilities, personnel, and documentation and allowed the research team to analyze their existing inspection protocol at different times of the shift. The research team worked with the managers, line supervisor/shift foremen, and more than 100 inspectors and aircraft maintenance technicians. The research team visited sites with both light and heavy inspection and maintenance work governed by FAR Part 91, 135, and 145. The researchers conducted follow-up interviews with the various personnel involved to ensure that all aspects of the inspection process were covered. These interviews discussed issues concerning the tasks they were undertaking or had just performed and general issues concerning their work environment, both physical and organizational.

The study was initiated with a meeting between the members of the research team and the airline personnel to outline its objectives and scope. The objective was to identify human-machine system mismatches that could lead to errors through shadowing, observing, and interviewing techniques. The goal of the task analysis, which was to understand how the existing system works, was achieved using a formal task analytic approach (Gramopadhye and Thaker, 1998). The first step in this approach is to

develop a description of the task, outlining in detail the steps necessary to accomplish the final goal. While various formats can be used to describe a task, this study used a hierarchical one in conjunction with a column format. Figure 3 show a sample hierarchical task analysis (HTA) used for the inspection process. Each step was later described in detail in a column format similar to that used by FAA (1991). This column format identified the specific human subsystem--attention, sensing, perception, decision, memory, control, feedback, communication, and output--required for the completion of each step (Table 1). Using this format enabled the analysts to identify clearly the specific cognitive and manual processes critical in the performance of the tasks, identifying the opportunities for error. As an example, for Sub-Task 1.3, Memory was identified as a critical sub-process; observable errors occurring over various shifts at different sites were tabulated for all technicians for this specific sub-component (see data in Table 2.). Follow-up interviews, questionnaires and observational techniques were used to identify and isolate error-causing mechanisms. This data was later mapped using Rouse and Rouse's (1983) error taxonomy to identify the error genotypes. Having this information, expert human factors knowledge was applied to the sub-task to identify specific interventions (e.g., provide job-aids) to minimize the negative effects due to specific error shaping factors (see Table 3) and to improve performance on the sub-task.

Following the analysis of inspection, a comprehensive error classification scheme was developed to classify the potential errors by expanding each step of the task analysis into sub-steps and then listing all the failure modes for each, using the Failure Modes and Effects Analysis (FMEA) approach (Hobbs and Williamson, 1995). These represent the error phenotypes, the specific, observable errors providing the basis for error control. Error prevention and the development of design principles /interventions for error avoidance rely on genotype identification, associated behavioral mechanism and system interaction. The phenotypes were characterized by the relevant aspects of the system components (e.g., human, task, environment, etc.) with which they interact. The resulting list of phenotypes, error correctability and type, and the relevant error shaping factors, enable designers to recognize these errors and design control mechanism to mitigate their effects. For this purpose, Rouse and Rouse's (1983) behavioral framework was used to classify errors during an inspection process and to identify the genotypes associated with each phenotype. This methodology yielded the mechanism of error formation within the task content. This error framework, which classifies human errors based on causes as well as contributing factors and events, has been employed to record and analyze human errors in several contexts such as detection and diagnostics, trouble-shooting and aircraft mission flights.

3. TRAINING REQUIREMENTS

Following observations and discussions with various inspectors and a detailed task analysis of the inspection processes, training recommendations were identified. As an example, the appendices (see Appendices A1, A2, A3 and A4) show task analyses, error list, mapping of errors using Rouse's taxonomy (Rouse and Rouse, 1983), identification of training needs, and mapping of the training needs using The American Society for Nondestructive Testing (2001) requirements for the following four representative tasks: (1) Cabin and under floor inspection; (2) Landing gear inspection; (3) Inspection of Aileron; and (4) Inspection of elevator. Having performed the task analyses, it now forms as the basis for developing an inspection training program to support inspectors in the GA environment and will be used to establish the content, methods, and the appropriate delivery system for training.

References

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Table 1: Sample Task Analysis of the Inspection Process

TASK DESCRIPTION	Task Analysis									OBSERVATIONS
	A	S	P	D	M	C	F	O		
1.0 Inspector A completes assigned work on shift A.										
1.1 Inspector A completes inspection (portions or complete area)										
1.2 Inspector A enters information status on work completed using work card (WC) and non routine cards (NRC)	*	*	*	*	*				*	
1.3 Inspector A enters information using appropriate system for work in progress (WIP)	*	*	*	*	*					Inspector completes information on items not completed, items started but not signed off.
1.4 Inspector A returns to work center on completion of work	*								*	
1.5 Inspector A returns cards to work center.	*								*	

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

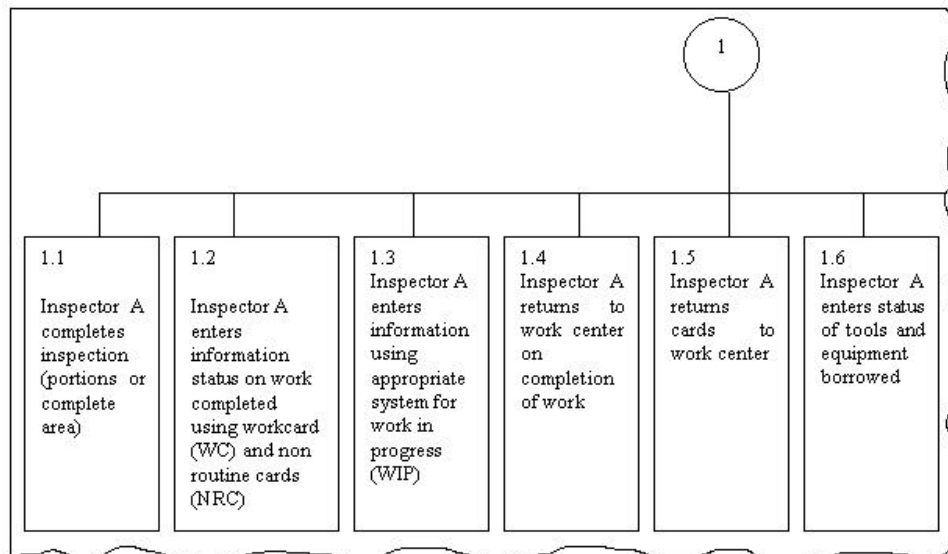
Table 2: Sample Error Taxonomy (1)

TASK	ERRORS	OUTCOME
1. Inspector A completes assigned work on shift A		
1.1 Inspector A completes inspection (portions or complete area) **		
1.2 Inspector A enters information on status of work completed	E1.2.1 Inspector A enters incorrect information E1.2.2 Inspector A enters incomplete information E1.2.3 Inspector A does not enter any information	Inspector A enters correct and complete information of work completed.
1.3 Inspector A enters information using system for work in progress (WIP)	E1.3.1 Inspector A enters incorrect information E1.3.2 Inspector A enters incomplete information E1.3.3 Inspector A does not enter any information	Inspector A enters correct and complete information for work in progress (WIP)
1.4 Inspector A returns to work center on completion of work	E1.4.1 Inspector A does not return to work center on completion of work	Inspector A returns to work center
1.5 Inspector A returns cards to location in the work center	E1.5.1 Inspector A does not return work card E1.5.2 Inspector A places card in incorrect location	Inspector A returns cards to correct location in the work center

Table 3: Error Shaping Factors and Interventions (Example)

Errors from task analysis	Error Shaping Factors						Suggested Improvements
	Human	Task	Work Space	Equipment/ Tools	Documentation	Environment (Organizational And Physical)	
E1.2.1 Inspector A enters incorrect information	Memory slip, overconfidence, incomplete knowledge, recall error, lack of knowledge, familiar shortcut					Lack of training, Loose adherence to system procedures	<ul style="list-style-type: none"> • Training, Job Aid • Procedure development • Enforcement
E1.2.2 Inspector A enters incomplete information	Memory slip, overconfidence, incomplete knowledge, recall error, lack of knowledge, familiar shortcut					Lack of training, Loose adherence to system procedures	<ul style="list-style-type: none"> • Training, Job-Aid • Procedure development • Enforcement
E1.2.3 Inspector does not enter any information	Memory slip, overconfidence, incomplete knowledge, recall error, lack of knowledge, familiar shortcut				Lack of procedures	Lack of training, Loose adherence to system procedures	<ul style="list-style-type: none"> • Training, • Procedure development • Enforcement

Figure 3 Hierarchical Description of The Inspection Process



APPENDICES:

- A Cabin under floor inspection and fuselage structural inspection
- A1 Task Analysis
- A2 Error list
- A3 EC Tables
- A4 American Society of Non-Destructive Testing (ASNT) guidelines

- B Landing gear inspection
- B1 Task Analysis
- B2 Error list
- B3 EC Tables
- B4 American Society of Non-Destructive Testing (ASNT) guidelines

- C Inspection of Aileron
- C1 Task Analysis
- C2 Error list
- C3 EC Tables
- C4 American Society of Non-Destructive Testing (ASNT) guidelines

- D Inspection of Elevator
- D1 Task Analysis
- D2 Error list
- D3 EC Tables
- D4 American Society of Non-Destructive Testing (ASNT) guidelines

Appendix A1

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT	
	A	S	P	D	M	C	F	O				
1.0 INITIATE INSPECTION												
<i>1.1 Use Documentation to Plan Task</i>												
1.1.1 Read Documentation	X	X									Read the work card correctly.	Consists information on: <ul style="list-style-type: none"> Identifying the correct document. Reading the correct information.
1.1.2 Plan task, strategy and mental model	X	X	X		X						Did not plan the task appropriately. (E 1.1.2.2) Planned the search strategy. Created an appropriate mental model.	Consists information on: <ul style="list-style-type: none"> tasks strategies mental models planning the appropriate task planning the appropriate strategy creating appropriate mental models
1.1.3 Learn type, criticality, probability, location of defects	X				X						Knew about: <ul style="list-style-type: none"> different types of defects. criticality of the defects. probability of the defects. location of the defects. 	Consists information on: <ul style="list-style-type: none"> different types of defects criticality of the defects probability of the defects location of the defects Correctly mapping the defects with criticality. Correctly mapping the defects with location.
1.1.4 Choose starting points for search			X								Selected the correct starting point.	Consists information on starting point for search. Consists of steps on correctly choosing the starting point for search.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
1.1.5 Choose search strategy			X							Selected the correct search strategy.	Consists information about various search strategies. Consists information on how to choose the appropriate strategy.
<i>1.2 Assemble Equipment</i>											
1.2.1 Collect supplies, lighting					X					Walked into the inspection area with the work card. (E1.1.1.2)	Consists information on tools required for a particular task.
1.2.2 Collect support equipment					X					Walked into the inspection area without the support equipment. (E1.2.2.2) Went back to collect the torch and mirror. Went back again after an hour to get rags.	Consists information on using the tools and support equipment. Consists information about the different types of mirrors, magnifying loupes and cleaning cloth. Consists information about the support equipment required for a particular task. Consists information on the substitute equipment if correct equipment not available.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
<i>1.3 Test, Calibrate Equipment</i>											
1.3.1 Check mirror, loupe, cleaning cloth	X	X			X					Did not check the mirror. (E1.3.1.2) Did not check the loupe (E1.3.1.5) Did not check the cleaning cloth. (E1.3.1.8)	Consists information on how to check the mirror. Consists information on how to check the loupe. Consists information on how to check the cleaning cloth.
1.3.2 Check support equipment (Boroscope)	X	X			X					Checks boroscope correctly.	Consists information about the support equipment (Boroscope). Consists information on how to check the support equipment (Boroscope). Consists information on how to handle the support equipment.
2.0 ACCESS INSPECTION TASK											
<i>2.1 Locate Task Area</i>											
2.1.1 Locate task area under floor and fuselage		X			X					Located the area correctly under floor and fuselage.	Consists information on task area. Consists information on locating the correct task area. Consists information on aircraft numerical locations. Consists information on clear landmarks to help define boundaries of an inspection task.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
2.2 Access Inspection Area											
2.2.1 Move support equipment into place		X			X					Moved the support equipment into appropriate place	Consists information on adequate access equipment required for performing the task.
2.2.2 Removes the floor panels to gain access to the inspection area								X		Floor panels were already removed.	Consists information on how to remove the floor panels and gain access.
2.2.3 Use support equipment to reach inspection area	X	X			X					Used torch and mirror along with the boroscope to reach the inspection area.	Consists information on how to use the appropriate support equipment to reach the inspection area.
2.2.4 Move body, eyes, light, mirror and loupe as needed to cover area	X	X								Systematically moved body, eyes, light, mirror and loupe to cover the area appropriately.	Consists information on adequate amount of lighting required for the task. Consists information on initial possible position where body, eyes, light, mirror and loupe can be setup to view area. Consists information on comfortable body position while viewing the inspection area. Consists information on easily handling mirror, lighting and loupe together. Consists information on easily moving mirror, lighting and loupe together. Consists information on moving the support equipment when the inspector changes his position.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.0 SEARCH FOR INDICATIONS											
<i>3.1 Search by Fixation in Field of View</i>											
3.1.1 Inspect the frames and structures for cracks, corrosion, loose and missing rivets			X		X					Systematically inspected one frame and structure at a time for cracks, corrosion, loose and missing rivets.	Consists information on how to inspect the frames and structures for cracks, corrosion, loose and missing rivets. Consists information on all the different types of defects. Consists information on the tools required to inspect the frames and structures.
3.1.2 Check the floor for foreign matter such as dirt, oil, lint, trash, general condition of wiring and insulation on the wiring	X	X								Checked the floor for foreign matter such as dirt, oil, lint, trash, general condition of wiring and insulation on the wiring.	Consists information on how to check the floor for foreign matter. Consists information on how to check the condition of the wiring. Consists information on how to check the insulation on the wiring. Consists information on the tools required to check the condition of wiring and insulation on the wiring.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.3 Inspect the aircraft cable pulley for grooves and broken parts			X	X	X					Balances the body weight on his knees: strenuous. Takes help of the co-worker to move the cable. Rubs the rag against the cable.	Consists information on how to inspect an aircraft cable pulley. Consists information on the tools required to inspect an aircraft cable pulley.
3.1.4 Inspect the cables. Checks for broken parts			X	X	X					Balances the body weight on his knees: strenuous. Takes help of the co-worker to move the cable. Rubs the rag against the cable.	Consists information on how to inspect the cables. Consists information on the tools required to inspect the cables.
3.1.5 Inspect the radar cable and checks for grooves and broken parts			X	X	X					Takes help of the co-worker to identify the radar cable. Uses a tag to check for grooves and broken parts. Moves the radar cable with the help of co-worker. Inspects the radar cable with the rag of broken parts and grooves. Again moves the radar cable with the help of co-worker. Inspects the radar cable with the rag of broken parts and grooves.	Consists information on how to identify the radar cable. Consists information on how to inspect the radar cable. Consists information on the tools required to inspect the radar cable.
3.1.6 Inspect the elevator cable and checks for grooves and broken parts			X	X	X					Takes help of the co-worker to identify the elevator cable. Uses a tag to check for grooves and broken parts. Moves the elevator cable with the help of co-worker. Inspects the elevator cable with the rag of broken parts and grooves. Again moves the elevator cable with the help of co-worker. Inspects the elevator cable with the rag of broken parts and grooves.	Consists information on how to identify an elevator cable. Consists information on how to inspect an elevator cable. Consists information on the tools required to inspect an elevator cable.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.7 Inspect the elevator trim cable. Checks for grooves and broken parts			X	X	X					Takes help of the co-worker to identify the elevator trim cable. Uses a tag to check for grooves and broken parts. Moves the elevator trim cable with the help of co-worker. Inspects the elevator trim cable with the rag of broken parts and grooves. Again moves the elevator trim cable with the help of co-worker. Inspects the elevator trim cable with the rag of broken parts and grooves.	Consists information on how to identify an elevator trim cable. Consists information on how to inspect an elevator trim cable. Consists information on the tools required to inspect an elevator trim cable.
3.1.8 Inspect the radar trim cable. Checks for grooves and broken parts			X	X	X					Takes help of the co-worker to identify the radar trim cable. Uses a tag to check for grooves and broken parts. Moves the radar trim cable with the help of co-worker. Inspects the radar trim cable with the rag of broken parts and grooves. Again moves the radar trim cable with the help of co-worker. Inspects the radar trim cable with the rag of broken parts and grooves.	Consists information on how to identify the radar trim cable. Consists information on how to inspect the radar trim cable. Consists information on the tools required to inspect the radar trim cable.
3.1.9 Inspect pulleys and seals			X	X	X					Balances the body weight on his knees: strenuous.	Consists information on how to inspect the pulleys and seals. Consists information on the tools required to inspect the pulleys and seals.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.10 Inspects the rivets			X		X					Uses the boroscope to inspect the rivets.	Consists information on how to inspect the rivets. Consists information on the tools required to inspect the rivets.
3.1.11 If indication found go to 4.0, else go to the next fixation										No indication	
3.1.12 Repeat steps 3.1.1 to 3.1.10											
3.1.13 If indication found go to 4.0, else go to the next fixation										No indication	
3.1.14 Repeat steps 3.1.1 to 3.1.11 till you reach the center floor board area											
3.1.15 Inspect the center floorboard for secure, no trash, safety.			X	X	X						Consists information on how to secure the center floorboard safely. Consists information on how to inspect the center floorboard for secure, no trash and safety.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.16 Inspect the left rack and the floor under it.			X	X	X					Panels were already removed before the inspection.	Consists information on how to inspect the left rack and the floor under it. Consists information on the tools required to inspect the left rack and the floor under it.
3.1.17 Inspect the unit that flashes the landing light.			X	X	X					Balances the body weight on his knees: strenuous.	Consists information on how to inspect the unit that flashes the landing light. Consists information on the tools required to inspect the unit that flashes the landing light.
3.1.18 Inspect electrical wiring, cables, and pulleys for condition and security.			X	X	X					Balances the body weight on his knees: strenuous.	Consists information on how to inspect the electrical wiring. Consists information on how to inspect the cables and pulleys for condition and safety. Consists information on the tools required to inspect the electrical wiring. Consists information on the tools required to inspect the cables and pulleys for condition and safety.
3.1.19 Inspect the draining system. Looks for water clogging and water puddles.			X	X	X					Balances the body weight on his knees: strenuous.	Consists information on how to inspect the draining system. Consists information on the tools required to inspect the draining system.
3.1.20 Inspect the different antennas on the center floorboard for condition and security.			X	X	X					Balances the body weight on his knees: strenuous.	Consists information on how to identify the different antennas. Consists information on how to inspect the different antennas. Consists information on the tools required to inspect the different antennas.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.21 Inspect the A.C unit for condition and attachment.			X	X	X					Balances the body weight on his knees: strenuous.	Consists information on how to identify the AC unit. Consists information on how to inspect the AC unit. Consists information on the tools required to inspect the AC unit.
3.1.22 Unscrew another cover and inspects the A.C unit that cools the different plug boxes for security.			X	X	X					Did not follow the order prescribed in the work card. Relied on memory.	Consists information on how to identify the AC unit that cools the different plug boxes. Consists information on how to inspect the AC unit that cools the different plug boxes. Consists information on the tools required to inspect the AC unit that cools the different plug boxes.
3.1.23 Checks for water puddles. Ensures drains are draining (uses a boroscope).				X						Balances the body weight on his knees and completely lying on the floor occasionally: strenuous.	Consists information on how to inspect the draining system. Consists information on the tools required to inspect the draining system.
3.1.24 Inspect the flap motor, and gearbox for condition and attachment.			X	X	X					Balances the body weight on his knees: strenuous. Did not follow the order prescribed in the work card. Relied on memory.	Consists information on how to identify the flap motor and gearbox. Consists information on how to inspect the flap motor and gearbox. Consists information on the tools required to inspect the flap motor and gearbox.
3.1.25 Inspect the aileron servo for cracks, condition and attachment.			X	X	X					Did not follow the order prescribed in the work card. Relied on memory. Body posture was strenuous.	Consists information on how to identify an aileron servo. Consists information on how to inspect an aileron servo. Consists information on the tools required to inspect an aileron servo.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.26 Inspect the structure, insulation on A.C lines, screws, wiring, tubes, lines and relays.			X	X	X					Did not follow the order prescribed in the work card. Relied on memory. Body posture was strenuous.	Consists information on how to inspect the structure. Consists information on how to inspect the insulation on AC lines. Consists information on how to inspect the screws. Consists information on how to inspect the wiring, tubes, lines and relays. Consists information on the tools required to inspect the structure. Consists information on the tools required to inspect the insulation on AC lines. Consists information on the tools required to inspect the screws. Consists information on the tools required to inspect the wiring, tubes, lines and relays.
3.1.27 Inspect pneumatic and pressure switches for condition and security.			X	X	X					Did not follow the order prescribed in the work card. Relied on memory. Body posture was strenuous.	Consists information on how to identify the pneumatic switch. Consists information on how to inspect the pneumatic switch. Consists information on the tools required to inspect the pneumatic switch. Consists information on how to identify the pressure switch. Consists information on how to inspect the pressure switch. Consists information on the tools required to inspect the pressure switch.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.28 Inspect the safety valve for condition and attachment.			X	X	X					Did not follow the order prescribed in the work card. Relied on memory. Body posture was strenuous.	Consists information on how to identify the safety valve. Consists information on how to inspect the safety valve. Consists information on the tools required to inspect the safety valve.
3.1.29 Inspect the servo capstan adjustment for security.			X	X	X					Did not follow the order prescribed in the work card. Relied on memory. Body posture was strenuous.	Consists information on how to identify the servo capstan adjustment. Consists information on how to inspect the servo capstan adjustment. Consists information on the tools required to inspect the servo capstan adjustment.
3.1.30 Inspect the outflow and overflow valve.			X	X	X						Consists information on how to identify the outflow and overflow valve. Consists information on how to inspect the outflow and overflow valve. Consists information on the tools required to inspect the outflow and overflow valve.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.31 Repeat steps 3.1.1 to 3.1.10											Consists information on contrast between an indication and background. Consists information on peripheral visual acuity. Consists information on sufficient fixation time required to detect a target. Consists information on expected indications in a particular part of a structure.
3.1.32 If all fixations complete, go to 3.2											
3.2 Move to Next Field of View											
3.2.1 Search FOV using 3.1											Consists information on maintaining situational awareness as FOV moves. Consists information on adequate magnification needed to cover whole inspection area. Consists information on moving FOV to all positions. Consists information on scan path required to cover complete FOV.
3.2.2 If more FOV's to search, go to 3.2											
3.2.3 If all FOV's completed, go to 3.2.1											

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.3 <i>Move to Next Inspection Area</i>											
3.3.1 Search inspection area using 3.1 and 3.2											Consists information on path to be followed by inspector to move FOV's over inspection area. Consists information on complete coverage. Consists information on sufficient time required for reliable search.
3.3.2 If more area to search, go to 3.3											
3.3.3 If all area completed, stop search											

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
4.0 DECISION ON INDICATION											
<i>4.1 Identify Indication Type</i>											Consists information on identifying the various types of indications. Consists information on correctly mapping the defect with area. Consists information on indications under special scrutiny. Consists information on experience required to be familiar with all indication types. Consists information on prototypical information with work cards. Consists information on correct quality and quantity of lighting required to ensure adequate recognition of indication. Consists information on correct terminologies used for each indication types listed in work card. Consists information on size or severity or severity level rejectable for a particular class of indication.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
<i>4.2 Measure Indication Size</i>											Consists information on equipments required to measure indication area. Consists information on how to measure the indication area. Consists information on landmarks and work card. Consists information on locating and recognizing correct landmarks. Consists information on measuring graticule. Consists information on units on graticule and those specified in work card.
<i>4.3 Compare Indication to Standard</i>											Consists information about correct standards. Consists information on how to compare the indication with the standards. Consists information on physical comparison to standards.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
5.0 RESPOND TO INSPECTION											
<i>5.1 Check Defect Location</i>											Consists information on correctly mapping the location with the defect. Consists information on how to check the defect location appropriately. Consists information on numerical location of data on work card.
<i>5.2 Record Defect Location</i>											Consists information on equipments required to record defect location. Consists information on how to record the defect location appropriately.
<i>5.3 Record Defect Type, Comments</i>											Consists information about various defect types. Consists information about how to record the defect type. Consists information on how to comment about defect type.
<i>5.4 Final Decision</i>											Consists information on how to make a final decision. Consists information about various types of final decisions made for various types of indications. Consists information on the difference between an indication and a standard clearly beyond acceptance limit.
5.4.1 Sign off the work card.	X				X					Ensures all the steps in the work card have been covered. Does not sign off all the steps. Signs of step 2 only in fuselage structural inspection work card.	Consists information on how to sign off a work card.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
6.0 RETURN EQUIPMENT TO STORAGE											
<i>6.1 Remove Equipment, Supplies from Inspection Area</i>											Consists information about how to remove equipments and supplies from inspection area. Consists information on checklist of equipment and supplies to ensure nothing is left in the inspection area.
<i>6.2 Clean Equipment</i>											Consists information on cleaning the equipment correctly. Consists information on correct cleaning material required. Consists information on training inspectors on correct cleaning procedures.
<i>6.3 Return Support Equipment to Storage</i>											Consists information on the correct procedure to return the equipment. Consists information on the correct place to return the equipment. Consists information on how to safely move the support equipment. Consists information on the procedure for safety check of equipment prior to storage. Consists information on signing in and out the equipment correctly.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

Appendix A2

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.0 INITIATE INSPECTION			
<i>1.1 Use Documentation to Plan Task</i>			
1.1.1 Read Documentation	E1.1.1.1 Does not have the correct documentation (EC1). E1.1.1.2 Does not have the documentation (EC 1). E1.1.1.3 Does read the document incorrectly (EC 6). E1.1.1.4 Does not know how to read the document (EC 5). E1.1.1.5 Does not interpret the document correctly (EC 3).	Does know to locate, read and interpret the correct documentation.	Are the inspectors trained to locate the correct documentation? Are the inspectors trained to read and interpret the correct documentation?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.2 Plan task, strategy and mental model	E1.1.2.1 Does not plan the task (EC 4). E1.1.2.2 Does plan the task incorrectly (EC 4). E1.1.2.3 Does not plan the correct task (EC 4). E1.1.2.4 Does not plan the strategy (EC 4). E1.1.2.5 Does plan the strategy incorrectly (EC 4). E1.1.2.6 Does not plan the correct strategy (EC 4). E1.1.2.7 Does not create a mental model (EC 2). E1.1.2.8 Created a wrong mental model (EC 2). E1.1.2.9 Created a mental model irrelevant to task and strategy (EC 2). E1.1.2.10 Does not know to create a mental model (EC 2).	Does plan the correct task. Does plan the correct strategy. Does form the correct mental model.	Are the inspectors trained to plan the correct task? Are the inspectors trained to plan the correct strategy? Are the inspectors trained to form the correct mental model?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.3 Learn type, criticality, probability, location of defects	E1.1.3.1 Does not know about the different types of defects (EC 1). E1.1.3.2 Does not know all the defects (EC 1). E1.1.3.3 Does not know about the criticality of defects (EC 1). E1.1.3.4 Incorrectly maps the defects with criticality (EC 1). E1.1.3.5 Does not know how often the defects occur (EC 1). E1.1.3.6 Does not know about the location of the defects (EC 1). E1.1.3.7 Incorrectly maps the defects with location (EC 1).	Does know about the different type of defects. Does know the correct mapping of the defects with criticality. Does know the probability of occurrence of defects. Does know the correct location of the defects.	Are the inspectors trained to detect the different types of defects? Are the inspectors trained to map the defects with criticality? Are the inspectors trained to gauge the defect occurrence probability? Are the inspectors trained to locate the defects correctly?
1.1.4 Choose starting points for search	E1.1.4.1 Does not know to select the starting point for search (EC 1). E1.1.4.2 Does not know the starting point for the search (EC 1). E1.1.4.3 Select the wrong starting point for search (EC 6).	Does know the correct starting point for search.	Are the inspectors well versed with how to start a search?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.5 Choose search strategy	E1.1.5.1 Does not know what a search strategy is (EC 1). E1.1.5.2 Does not know to select a search strategy (EC 1). E1.1.5.3 Select the wrong search strategy (EC 6).	Does know the correct search strategy.	Are the inspectors trained to form the correct search strategy?
<i>1.2 Assemble Equipment</i>			
1.2.1 Collect supplies, lighting			
1.2.1.1 Collect mirror	E1.2.1.1.1 Does not collect the mirror (EC 1). E1.2.1.1.2 Does collect the faulty mirror (EC 6).	Does know to collect the appropriate mirror.	Are the inspectors trained to collect the mirror?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.2.1.2 Collect magnifying loupe	E1.2.1.2.1 Does not collect the magnifying loupe (EC 1). E1.2.1.2.2 Does collect the faulty magnifying loupe (EC 6).	Does know to collect the appropriate magnifying loupe.	Are the inspectors trained to collect the magnifying loupe?
1.2.1.3 Collect cleaning cloth	E1.2.1.3.1 Does not collect the cleaning cloth (EC 1).	Does know to collect the appropriate magnifying loupe.	Are the inspectors trained to collect the cleaning cloth?
1.2.1.4 Collect measuring equipment	E1.2.1.4.1 Does not collect the measuring equipment (EC 1). E1.2.1.4.2 Does collect the faulty measuring equipment (EC 6).	Does know to collect the appropriate magnifying loupe.	Are the inspectors trained to collect the measuring equipment?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.2.1.5 Collect support equipment	E1.2.1.5.1 Does not collect the support equipment (EC 1). E1.2.1.5.2 Does collect the faulty support equipment (EC 6).	Does know to collect the appropriate magnifying loupe.	Are the inspectors trained to collect the support equipment?
1.2.1.6 Move the workbench closer to the aircraft.	E1.2.1.6.1 Does not know how to move the workbench closer to the aircraft (EC 1). E1.2.1.6.2 Does not move the workbench closer to the aircraft (EC 6).	Does move the workbench closer to the aircraft.	Are the inspectors trained on moving the support equipment closer to the aircraft?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>1.3 Test, Calibrate Equipment</i>			
1.3.1 Check mirror, loupe, cleaning cloth	E1.3.1.1 Does not know how to check mirror (EC 1). E1.3.1.2 Does not check the mirror (EC 1). E1.3.1.3 Does check the mirror incorrectly (EC 6). E1.3.1.4 Does not know how to check loupe (EC 1). E1.3.1.5 Does not check the loupe (EC 1). E1.3.1.6 Does check the loupe incorrectly (EC 6). E1.3.1.7 Does not know how to check cleaning cloth (EC 1). E1.3.1.8 Does not check the cleaning cloth (EC 1). E1.3.1.9 Does check the cleaning cloth incorrectly (EC 6).	Does know how to check the mirror. Does know how to check the loupe. Does know how to check the cleaning cloth.	Are the inspectors trained to check the mirror correctly? Are the inspectors trained to check the loupe correctly? Are the inspectors trained to check the cleaning cloth correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.3.2 Check support equipment (Boroscope)	E1.3.2.1 Does not know how to check support equipment (Boroscope) (EC 1). E1.3.2.2 Does not check the support equipment (Boroscope) (EC 1). E1.3.2.3 Does check the support equipment (Boroscope) incorrectly (EC 6).	Does know how to check the support equipment (Boroscope).	Are the inspectors trained to check the support equipment correctly?
2.0 ACCESS INSPECTION TASK			
<i>2.1 Locate Task Area</i>			

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.1.1 Locate task area under floor and fuselage	E2.1.1.1 Does not know how to locate task area under floor (EC5). E2.1.1.2 Does not locate the task area under the floor (EC 6). E2.1.1.3 Does locate the wrong task area under the floor (EC 6). E2.1.1.4 Does not know how to locate task area under the fuselage (EC5). E2.1.1.5 Does not locate the task area under the fuselage (EC 6). E2.1.1.6 Does locate the wrong task area under the fuselage (EC 6).	Does locate the correct task area under the floor. Does locate the correct task area under the fuselage.	Are the inspectors trained in locating the task area under the floor? Are the inspectors trained in locating the task area under the fuselage?
2.2 <i>Access Inspection Area</i>			

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.2.1 Move support equipment into place	E2.2.1.1 Does not know how to move support equipment into place (EC 5). E2.2.1.2 Does not move support equipment into place (EC 6). E2.2.1.3 Does move the support equipment into inappropriate place (EC 6).	Does move the support equipment into correct place.	Are the inspectors trained on handling the support equipment correctly?
2.2.2 Removes the floor panels to gain access to the inspection area	E2.2.2.1 Does not know how to remove the floor panels (EC 5). E2.2.2.2 Does not remove the floor panels (EC 6).	Does remove the floor panels to gain access to the inspection area.	Are the inspectors trained on how to gain access to the different areas for inspection by removing the floor panels?
2.2.3 Use support equipment to reach inspection area	E2.2.3.1 Does not know how to use support equipment to reach inspection area (EC 5). E2.2.3.2 Does not use the support equipment to reach inspection area (EC 6). E2.2.3.3 Does use the wrong support equipment to reach inspection area (EC 6).	Does use the correct support equipment to reach inspection area.	Are the inspectors trained on using the support equipment to reach inspection area?
2.2.4 Move body, eyes, light, mirror and loupe as needed to cover area		Does move body, eyes, light, mirror and loupe as needed to cover area.	Are the inspectors trained on how to position themselves while inspecting a particular area?
3.0 SEARCH FOR INDICATIONS			

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>3.1 Search by Fixation in Field of View</i>			
3.1.1 Inspect the frames and structures for cracks, corrosion, loose and for missing rivets.	<p>E3.1.1.1 Does not know how to inspect the frames and structures for cracks, corrosion, loose and missing rivets (EC 5).</p> <p>E3.1.1.2 Does not know how to identify the cracks, corrosion, loose and missing rivets (EC 5).</p> <p>E3.1.1.3 Does not bring the correct tools to inspect the frames and structures (EC 6).</p> <p>E3.1.1.4 Does not inspect the frames and structures for cracks, corrosion, loose and missing rivets (EC 6).</p>	Does inspect the frames and structures for cracks, corrosion, loose and for missing rivets.	Are the inspectors trained on detecting the different type of defects like cracks, corrosion, loose and missing rivets?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.2 Check the floor for foreign matter such as dirt, oil, lint, trash, general condition of wiring and insulation on the wiring.</p>	<p>E3.1.2.1 Does not know what to look for in the floor (EC 5).</p> <p>E3.1.2.2 Does not bring the correct equipments to check the floor for foreign matter such as dirt, oil, lint, trash, general condition of wiring and insulation on the wiring (EC 6).</p> <p>E3.1.2.3 Does not check the floor for foreign matter (EC 6).</p> <p>E3.1.2.4 Does not interpret the general condition of wiring and insulation on the wiring correctly (EC 3).</p>	<p>Does check the floor for foreign matter such as dirt, oil, lint, trash, general condition of wiring and insulation on the wiring.</p>	<p>Are the inspectors trained on identifying foreign matter such as dirt, oil, lint, and trash?</p> <p>Are the inspectors trained on checking the wiring and insulation on the wiring?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.1.3 Inspect the aircraft cable pulley for grooves and broken parts.	E3.1.3.1 Does not know how to inspect the aircraft cable pulley for grooves and broken parts (EC 5). E3.1.3.2 Does not bring the correct tools to inspect the aircraft cable pulley for grooves and broken parts (EC 6). E3.1.3.3 Does not inspect the aircraft cable pulley for grooves and broken parts (EC 6). E3.1.3.4 Does not interpret the grooves and broken parts correctly (EC 3).	Does inspect the aircraft cable pulley for grooves and broken parts.	Are the inspectors trained on how to inspect an aircraft pulley for grooves and broken parts?
3.1.4 Inspect the cables for broken parts.	E3.1.4.1 Does not know how to inspect the cables for broken parts (EC 5). E3.1.4.2 Does not bring the correct tools to inspect the cables for broken parts (EC 6). E3.1.4.3 Does not inspect the cables for broken parts (EC 6). E3.1.4.4 Does not interpret the broken parts correctly (EC 3).	Does inspect the cables for broken parts.	Are the inspectors trained on inspecting cables for broken parts?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.5 Inspect the radar cable and check for grooves and broken parts.</p>	<p>E3.1.5.1 Does not know how to inspect the radar cable for grooves and broken parts (EC 5).</p> <p>E3.1.5.2 Does not bring the correct tools to inspect the radar cable for grooves and broken parts (EC 6).</p> <p>E3.1.5.3 Does not inspect the radar cable for grooves and broken parts (EC 6).</p> <p>E3.1.5.4 Does not interpret the grooves and broken parts correctly (EC 3).</p>	<p>Does inspect the radar cable for grooves and broken parts.</p>	<p>Are the inspectors trained on how to inspect a radar cable for grooves and broken parts?</p>
<p>3.1.6 Inspect the elevator cable and check for grooves and broken parts.</p>	<p>E3.1.6.1 Does not know how to inspect the elevator cable for grooves and broken parts (EC 5).</p> <p>E3.1.6.2 Does not bring the correct tools to inspect the elevator cable for grooves and broken parts (EC 6).</p> <p>E3.1.6.3 Does not inspect the elevator cable for grooves and broken parts (EC 6).</p> <p>E3.1.6.4 Does not interpret the grooves and broken parts correctly (EC 3).</p>	<p>Does inspect the elevator cable for grooves and broken parts.</p>	<p>Are the inspectors trained on how to inspect the elevator cable for grooves and broken parts?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.7 Inspect the elevator trim cable and check for grooves and broken parts.</p>	<p>E3.1.7.1 Does not know how to inspect the elevator trim cable for grooves and broken parts (EC 5).</p> <p>E3.1.7.2 Does not bring the correct tools to inspect the elevator trim cable for grooves and broken parts (EC 6).</p> <p>E3.1.7.3 Does not inspect the elevator trim cable for grooves and broken parts (EC 6).</p> <p>E3.1.7.4 Does not interpret the grooves and broken parts correctly (EC 3).</p>	<p>Does inspect the elevator trim cable for grooves and broken parts.</p>	<p>Are the inspectors trained on how to inspect the elevator trim cable for grooves and broken parts?</p>
<p>3.1.8 Inspect the radar trim cable and check for grooves and broken parts.</p>	<p>E3.1.8.1 Does not know how to inspect the radar trim cable for grooves and broken parts (EC 5).</p> <p>E3.1.8.2 Does not bring the correct tools to inspect the radar trim cable for grooves and broken parts (EC 6).</p> <p>E3.1.8.3 Does not inspect the radar trim cable for grooves and broken parts (EC 6).</p> <p>E3.1.8.4 Does not interpret the grooves and broken parts correctly (EC 3).</p>	<p>Does inspect the radar trim cable for grooves and broken parts.</p>	<p>Are the inspectors trained on how to inspect a radar trim cable for grooves and broken parts?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.1.9 Inspect pulleys and seals.	E3.1.9.1 Does not know how to inspect pulleys and seals (EC 5). E3.1.9.2 Does not bring the correct tools to inspect pulleys and seals (EC 6). E3.1.9.3 Does not inspect pulleys and seals (EC 6).	Does inspect the pulleys and seals.	Are the inspectors trained on how to inspect pulleys and seals?
3.1.10 Inspects the rivets.	E3.1.10.1 Does not know to inspect rivets (EC 5). E3.1.10.2 Does not bring the correct tools to inspect rivets (EC 6). E3.1.10.3 Does not inspect rivets (EC 6).	Does inspect rivets.	Are the inspectors trained on how to inspect rivets?
3.1.11 If indication found go to 4.0, else go to the next fixation.			
3.1.12 Repeat steps 3.1.1 to 3.1.10.			
3.1.13 If indication found go to 4.0, else go to the next fixation.			
3.1.14 Repeat steps 3.1.1 to 3.1.11 till you reach the center floor board area.			
3.1.15 Inspect the center floorboard for security, safety and no trash.	E3.1.15.1 Does not know how to inspect the center floorboard (EC 5). E3.1.15.2 Does not know to secure the center floorboard safely (EC 5). E 3.1.15.3 Does not remove the trash (EC 6).	Does inspect the center floorboard to check whether it is safely secured and ensure that there is no trash.	Are the inspectors trained on inspecting the center floorboard of an airplane for security, safety and no trash?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.1.16 Inspect the left rack and the floor under it.	E3.1.16.1 Does not know how to inspect the left rack (EC 5). E3.1.16.2 Does not know to inspect the floor under it (EC 5). E3.1.16.3 Does not bring the correct tools to inspect the left rack (EC 6). E3.1.16.4 Does not bring the correct tools to inspect the floor under the left rack (EC 6). E3.1.16.5 Does not inspect the left rack (EC 6). E3.1.16.6 Does not inspect the floor under it (EC 6).	Does inspect the left rack and the floor under it.	Are the inspectors trained on inspecting the left rack and floor under it?
3.1.17 Inspect the unit that flashes the landing light.	E3.1.17.1 Does not know how to inspect the unit that flashes the landing light (EC 5). E3.1.17.2 Does not bring the correct tools to inspect the unit that flashes the landing light (EC 6). E3.1.17.3 Does not inspect the unit that flashes the landing light (EC 6).	Does inspect the unit that flashes the landing light.	Are the inspectors trained on inspecting the unit that flashes the landing light?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.18 Inspect electrical wiring, cables, and pullies for condition and security.</p>	<p>E3.1.18.1 Does not know how to inspect the electrical wiring, cables, and pullies for condition and security (EC 5).</p> <p>E3.1.18.2 Does not bring the correct tools to inspect the electrical wiring, cables, and pullies for condition and security (EC 6).</p> <p>E3.1.18.3 Does not inspect the electrical wiring, cables, and pullies for condition and security (EC 6).</p>	<p>Does inspect the electrical wiring, cables, and pullies for condition and security.</p>	<p>Are the inspectors trained on inspecting electrical wiring?</p> <p>Are the inspectors trained on inspecting cables?</p> <p>Are the inspectors trained on inspecting pullies?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.19 Inspect the draining system and look for water clogging and water puddles.</p>	<p>E3.1.19.1 Does not know how to inspect the draining system for water clogging and water puddles (EC 5).</p> <p>E3.1.19.2 Does not bring the correct equipment to inspect the draining system for water dogging and water puddles (EC 6).</p> <p>E3.1.19.3 Does not inspect the draining system for water dogging and water puddles (EC 6).</p> <p>E3.1.19.4 Does not interpret the water clogging and water puddles correctly (EC 3).</p>	<p>Does inspect the draining system for water dogging and water puddles.</p>	<p>Are the inspectors trained on inspecting the draining systems for water clogging?</p> <p>Are the inspectors trained on inspecting the draining systems for the water puddles?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.20 Inspect the different antennas on the center floorboard for condition and security.</p>	<p>E3.1.20.1 Does not know how to inspect the different antennas on the center floorboard for condition and security (EC 5).</p> <p>E3.1.20.2 Does not bring the equipments to inspect the different antennas on the center floorboard for condition and security (EC 6).</p> <p>E3.1.20.3 Does not inspect the different antennas on the center floorboard for condition and security (EC 6).</p> <p>E3.1.20.4 Does not interpret the condition and security correctly (EC 3).</p>	<p>Does inspect the different antennas on the center floorboard for condition and security.</p>	<p>Are the inspectors trained on inspecting the different antennas on the center floorboard for condition and security?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.1.21 Inspect the A.C unit for condition and attachment.	E3.1.21.1 Does not know how to inspect the A.C unit for condition and attachment. (EC 5) E3.1.21.2 Does not inspect the A.C unit for condition and attachment (EC 6). E3.1.21.3 Does inspect the A.C unit for condition and attachment incorrectly (EC 6). E3.1.21.4 Does not bring the correct tools for inspection (EC 6). E3.1.21.5 Does not interpret the condition and attachment correctly (EC 3).	Does inspect the A.C unit for condition and attachment correctly.	Are the inspectors trained on inspecting the A.C Unit for condition and attachment?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.22 Inspect the A.C unit that cools the different plug boxes for security.</p>	<p>E3.1.22.1 Does not know how to inspect the A.C unit that cools the different plug boxes for security (EC 5).</p> <p>E3.1.22.2 Does not inspect the A.C unit that cools the different plug boxes for security (EC 6).</p> <p>E3.1.22.3 Does inspect the A.C unit that cools the different plug boxes for security incorrectly (EC 6).</p> <p>E3.1.22.4 Does not bring the correct tools for inspection (EC 6).</p> <p>E3.1.22.5 Does not interpret the security condition correctly (EC 3).</p>	<p>Does inspect the A.C unit that cools the different plug boxes for security.</p>	<p>Are the inspectors trained on inspecting the A.C unit that cools different plug boxes for security?</p>
<p>3.1.23 Checks for water puddles. Ensures drains are draining (uses a boroscope).</p>	<p>E3.1.23.1 Does not know how to check for water puddles (EC 5).</p> <p>E3.1.23.2 Does not check for water puddles (EC 6).</p> <p>E3.1.23.3 Does check for water puddles incorrectly (EC 6).</p> <p>E3.1.23.4 Does not interpret the draining condition correctly (EC 3).</p>	<p>Does check for water puddles correctly.</p>	<p>Are the inspectors trained to check the water puddles correctly?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.24 Inspect the flap motor, and gearbox for condition and attachment.</p>	<p>E3.1.24.1 Does not know how to inspect the flap motor for condition and attachment (EC 5).</p> <p>E3.1.24.2 Does not inspect the flap motor for condition and attachment (EC 6).</p> <p>E3.1.24.3 Does inspect the flap motor for condition and attachment incorrectly (EC 6).</p> <p>E3.1.24.4 Does not know how to inspect the gearbox for condition and attachment (EC 5).</p> <p>E3.1.24.5 Does not inspect the gearbox for condition and attachment (EC 6).</p> <p>E3.1.24.6 Does inspect the gearbox for condition and attachment incorrectly (EC 6).</p> <p>E3.1.24.7 Does not interpret the condition and attachment correctly (EC 3).</p>	<p>Does know to inspect the flap motor for condition and attachment.</p> <p>Does know to inspect the gearbox for condition and attachment.</p>	<p>Are the inspectors trained on inspecting the flap motor for condition and attachment?</p> <p>Are the inspectors trained on inspecting the gearbox for condition and attachment?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.25 Inspect the aileron servo for cracks, condition and attachment.</p>	<p>E3.1.25.1 Does not know how to inspect the aileron servo for cracks, condition and attachment (EC 5).</p> <p>E3.1.25.2 Does not inspect the aileron servo for cracks, condition and attachment (EC 6).</p> <p>E3.1.25.3 Does inspect the aileron servo for cracks, condition and attachment incorrectly (EC 6).</p> <p>E3.1.25.4 Does not interpret the crack correctly (EC 3).</p> <p>E3.1.25.5 Does not interpret the condition and attachment correctly (EC 3).</p>	<p>Does know to inspect the aileron servo for cracks, condition and attachment.</p>	<p>Are the inspectors trained on inspecting the aileron servo for cracks, condition and attachment?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.26 Inspect the structure and insulation on A.C lines, screws, wiring, tubes, lines and relays.</p>	<p>E3.1.26.1 Does not know how to inspect the structure (EC 5).</p> <p>E3.1.26.2 Does not inspect the structure (EC 6).</p> <p>E3.1.26.3 Does inspect the structure incorrectly (EC 6).</p> <p>E3.1.26.4 Does not know how to inspect the insulation on A.C lines (EC 5).</p> <p>E3.1.26.5 Does not inspect the insulation on A.C lines (EC 6).</p> <p>E3.1.26.6 Does inspect the insulation on A.C lines incorrectly (EC 6).</p> <p>E3.1.26.7 Does not know how to inspect the screws, wiring, tubes, lines and relays (EC 5).</p> <p>E3.1.26.8 Does not inspect the screws, wiring, tubes, lines and relays (EC 6).</p> <p>E3.1.26.9 Does inspect the screws, wiring, tubes, lines and relays incorrectly (EC 6).</p>	<p>Does know to inspect the structure correctly.</p> <p>Does know to inspect the insulation on A.C lines correctly.</p> <p>Does know to inspect the screws, wiring, tubes, lines and relays correctly.</p>	<p>Are the inspectors trained on inspecting the structure?</p> <p>Are the inspectors trained on inspecting the insulation on A.C lines correctly?</p> <p>Are the inspectors trained on inspecting the screws, wiring, tubes, lines and relays correctly?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.27 Inspect pneumatic and pressure switches for condition and security.</p>	<p>E3.1.27.1 Does not know how to inspect the pneumatic switch (EC 5).</p> <p>E3.1.27.2 Does not inspect the pneumatic switch (EC 6).</p> <p>E3.1.27.3 Does inspect the pneumatic switch incorrectly (EC 6).</p> <p>E3.1.27.4 Does not know how to inspect the pressure switch (EC 5).</p> <p>E3.1.27.5 Does not inspect the pressure switch (EC 1).</p> <p>E3.1.27.6 Does inspect the pressure switch incorrectly (EC 6).</p> <p>E3.1.27.7 Does not interpret the condition and security correctly (EC 3).</p>	<p>Does know to inspect the pneumatic switch correctly.</p> <p>Does know to inspect the pressure switch correctly.</p>	<p>Are the inspectors trained on inspecting the pneumatic switch for condition and security?</p> <p>Are the inspectors trained on inspecting the pressure switch for condition and security?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.1.28 Inspect the safety valve for condition and attachment.	E3.1.28.1 Does not know how to inspect the safety valve (EC 5). E3.1.28.2 Does not inspect the safety valve (EC 6). E3.1.28.3 Does inspect the safety valve incorrectly (EC 6). E3.1.28.4 Does not interpret the condition and attachment correctly (EC 3).	Does know to inspect the safety valve correctly.	Are the inspectors trained on inspecting the safety valve for condition and attachment?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.1.29 Inspect the servo capstan adjustment for security.	E3.1.29.1 Does not know how to inspect the servo capstan adjustment (EC 5). E3.1.29.2 Does not inspect the servo capstan adjustment (EC 6). E3.1.29.3 Does inspect the servo capstan adjustment incorrectly (EC 6). E3.1.29.4 Does not interpret the security condition correctly (EC 3).	Does know to inspect the servo capstan adjustment correctly.	Are the inspectors trained to inspect servo capstan adjustment for security?
3.1.30 Inspect the outflow and overflow valve.	E3.1.30.1 Does not know how to inspect outflow and overflow valve (EC 5). E3.1.30.2 Does not inspect the outflow and overflow valve (EC 6). E3.1.30.3 Does inspect the outflow and overflow valve incorrectly (EC 6).	Does know to inspect the outflow and overflow valve correctly.	Are the inspectors trained to inspect outflow and overflow valve?
3.1.31 Repeat steps 3.1.1 to 3.1.10.			
3.1.32 If all fixations complete, go to 3.2.			
<i>3.2 Move to Next Field of View.</i>			
3.2.1 Search FOV using 3.1			
3.2.2 If more FOV's to search, go to 3.2.			

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.2.3 If all FOV's completed, go to 3.2.1.			
<i>3.3 Move to Next Inspection Area.</i>			
3.3.1 Search inspection area using 3.1 and 3.2.			
3.3.2 If more area to search, go to 3.3.			
3.3.3 If all area completed, stop search.			
4.0 DECISION ON INDICATION			
<i>4.1 Identify Indication Type</i>	E4.1.1 Does not know the correct indication type (EC 5). E4.1.2 Identifies the type of defect incorrectly (EC 6). E4.1.3 Forgets the area where the inspector has originally identified the indication (EC 6). E4.1.4 Interprets the indication type incorrectly (EC 3).	Does identify the correct indication.	Are the inspectors trained in identifying the correct indication type?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p><i>4.2 Measure Indication Size</i></p>	<p>E4.2.1 Does not know how to measure the indication size (EC 5).</p> <p>E 4.2.2 Does not bring the correct equipment to measure the indication size. (EC 6).</p> <p>E4.2.3 Measures the indication incorrectly (EC 6).</p> <p>E4.2.4 Interprets the measurement of indication size incorrectly (EC 3).</p>	<p>Does measure the indication size correctly.</p>	<p>Are the inspectors trained in measuring the indication size correctly?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p><i>4.3 Compare Indication to Standard</i></p>	<p>E 4.3.1 Does not know the correct standards (EC 5).</p> <p>E4.3.2 Does not bring the correct standards documentation (EC 6).</p> <p>E4.3.3 Does not know how to compare the indication to standard (EC 5).</p> <p>E4.3.4 Compares the indication to standard incorrectly (EC 6).</p> <p>E4.3.5 Interprets the comparison incorrectly (EC 3).</p>	<p>Does compare the indication to standard correctly.</p>	<p>Are the inspectors trained in comparing the indication to standard correctly?</p>
<p>5.0 RESPOND TO INSPECTION</p>			
<p><i>5.1 Check Defect Location</i></p>	<p>E5.1.1 Does not know the correct defect location (EC 5).</p> <p>E5.1.2 Checks the defect location incorrectly (EC 6).</p> <p>E5.1.3 Misses the location where the inspector has originally identified the defect (EC 6).</p>	<p>Does check the defect location correctly.</p>	<p>Are the inspectors trained to check the correct location of defect?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p><i>5.2 Record Defect Location</i></p>	<p>E5.2.1 Does not know how to record the defect location. (EC 5).</p> <p>E5.2.2 Does not bring the correct equipments to record the defect location. (EC 6).</p> <p>E5.2.3 Records the indication incorrectly (EC 6).</p>	<p>Does record the defect location correctly.</p>	<p>Are the inspectors trained to record the location of defect?</p>
<p><i>5.3 Record Defect Type, Comments</i></p>	<p>E5.3.1 Does not know the correct defect type (EC 5).</p> <p>E5.3.2 Records the type of defect incorrectly (EC 6).</p> <p>E5.3.3 Does not know how to record the comments on a particular defect type (EC 5).</p> <p>E5.3.4 Records the comments incorrectly (EC 6).</p>	<p>Does record the defect type and comments correctly.</p>	<p>Are the inspectors trained to record the defect type and comments correctly?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>5.4 Final Decision</i>	E5.4.1 Does not make the correct final decision (EC 6). E5.4.2 Does not know how to make a final decision (EC 5).	Does make the correct final decision.	Are the inspectors trained to make the correct final decision?
5.4.1 Sign off the work card.	E5.4.1.1 Does not know how to sign off the work card (EC 5). E5.4.1.2 Does not bring the correct work card (EC 6). E5.4.1.3 Signs off the work card incorrectly (EC 6).	Does sign off the work card correctly.	Are the inspectors trained on to sign off work card?
6.0 RETURN EQUIPMENT TO STORAGE			
<i>6.1 Remove Equipment, Supplies from Inspection Area</i>	E6.1.1 Does not know to remove the equipments from the inspection area (EC 5). E6.1.2 Does not know to remove supplies from the inspection area (EC 5). E6.1.3 Removes the equipments and supplies from the inspection area incorrectly (EC 6).	Does remove the equipment and supplies from the inspection area correctly.	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>6.2 Clean Equipment</i>	E6.2.1 Does not know how to clean the equipment correctly (EC 5). E6.2.2 Does not bring the correct cleaning equipment (EC 6).	Does clean the equipment correctly.	Are the inspectors trained on cleaning the equipment correctly?
<i>6.3 Return Support Equipment to Storage</i>	E6.3.1 Does not know where to return the support equipment (EC 5). E6.3.2 Does not know the correct procedure to return support equipment (EC 5). E6.3.3 Does not return the support equipment to storage (EC 6).	Does return the support equipment to storage.	Are the inspectors trained on returning the support equipment to the storage?

Appendix A3

EC 1 TYPE ERROR	TRAINING NEEDS
E1.1.1.1 Does not have the correct documentation (EC1). E1.1.1.2 Does not have the documentation (EC 1).	Are the inspectors trained to locate the correct documentation?
E1.1.3.1 Does not know about the different types of defects (EC 1). E1.1.3.2 Does not know all the defects (EC 1). E1.1.3.3 Does not know about the criticality of defects (EC 1). E1.1.3.4 Does map the defects with criticality incorrectly (EC 1). E1.1.3.5 Does not know how often the defects occur (EC 1). E1.1.3.6 Does not know about the location of the defects (EC 1). E1.1.3.7 Does map the defects with location incorrectly (EC 1).	Are the inspectors trained to detect the different types of defects? Are the inspectors trained to map the defects with criticality? Are the inspectors trained to determine the probability of the occurring defects? Are the inspectors trained to locate the defects correctly?

EC 1 TYPE ERROR	TRAINING NEEDS
E1.1.4.1 Does not know how to select the starting point for search (EC 1). E1.1.4.2 Does not know the starting point for the search (EC 1).	Are the inspectors well versed with how to start a search?
E1.1.5.1 Does not know what a search strategy is (EC 1). E1.1.5.2 Does not how to select a search strategy (EC 1).	Are the inspectors trained to form the correct search strategy?
E1.2.1.1.1 Does not collect the mirror (EC 1). E1.2.1.2.1 Does not collect the magnifying loupe (EC 1). E1.2.1.3.1 Does not collect the cleaning cloth at the required time (EC 1). E1.2.1.4.1 Does not collect the measuring equipment (EC 1).	Are the inspectors trained on collecting the appropriate equipment?

EC 1 TYPE ERROR	TRAINING NEEDS
E1.2.1.5.1 Does not collect the support equipment (EC 1).	Are the inspectors trained on collecting the appropriate equipment?
E1.2.1.6.1 Does not know how to move the workbench closer to the aircraft (EC 1).	Are the inspectors trained on moving the support equipment closer to the aircraft?
E1.3.1.1 Does not check the mirror (EC 1). E1.3.1.3 Does not check the loupe (EC 1). E1.3.1.5 Does not check the cleaning cloth (EC 1).	Are the inspectors trained to check the mirror correctly? Are the inspectors trained to check the loupe correctly? Are the inspectors trained to check the cleaning cloth correctly?
E1.3.2.1 Does not know how to check support equipment (EC 1). E1.3.2.2 Does not check the support equipment (EC 1).	Are the inspectors trained to check the support equipment correctly?
E3.1.27.5 Does not inspect the pressure switch (EC 1).	Are the inspectors trained on inspecting the pneumatic switch for condition and security? Are the inspectors trained on inspecting the pressure switch for condition and security?

EC 2 TYPE ERROR	TRAINING NEEDS
E1.1.2.7 Does not create a mental model (EC 2). E1.1.2.8 Created an incorrect mental model (EC 2). E1.1.2.9 Created a mental model irrelevant to task and strategy (EC 2). E1.1.2.10 Does not know how to create a mental model (EC 2).	Are the inspectors trained to form the correct mental model? Are the inspectors trained to plan the correct strategy?

EC 3 TYPE ERROR	TRAINING NEEDS
E3.1.2.4 Does not interpret the general condition of wiring and insulation on the wiring correctly (EC 3).	Are the inspectors trained on identifying foreign matter such as dirt, oil, lint, and trash? Are the inspectors trained on checking the wiring and insulation on the wiring?
E3.1.3.4 Does not interpret the grooves and broken parts correctly (EC 3).	Are the inspectors trained on how to inspect an aircraft pulley for grooves and broken parts?
E3.1.4.4 Does not interpret the broken parts correctly (EC 3).	Are the inspectors trained on inspecting cables for broken parts?
E3.1.5.4 Does not interpret the grooves and broken parts correctly (EC 3).	Are the inspectors trained on how to inspect a radar cable for grooves and broken parts?
E3.1.6.4 Does not interpret the grooves and broken parts correctly (EC 3).	Are the inspectors trained on how to inspect the elevator cable for grooves and broken parts?
E3.1.7.4 Does not interpret the grooves and broken parts correctly (EC 3).	Are the inspectors trained on how to inspect the elevator trim cable for grooves and broken parts?
E3.1.8.4 Does not interpret the grooves and broken parts correctly (EC 3).	Are the inspectors trained on how to inspect a radar trim cable for grooves and broken parts?
E3.1.19.4 Does not interpret the water clogging and water puddles correctly (EC 3).	Are the inspectors trained on inspecting the draining systems for water clogging? Are the inspectors trained on inspecting the draining systems for the water puddles?
E3.1.20.4 Does not interpret the condition and security correctly (EC 3).	Are the inspectors trained on inspecting the different antennas on the center floorboard for condition and security?
E3.1.21.5 Does not interpret the condition and attachment correctly (EC 3).	Are the inspectors trained on inspecting the A.C Unit?

EC 3 TYPE ERROR	TRAINING NEEDS
E3.1.22.5 Does not interpret the security condition correctly (EC 3).	Are the inspectors trained on inspecting the A.C unit that cools different plug boxes for security?
E3.1.23.4 Does not interpret the draining condition correctly (EC 3).	Are the inspectors trained to check the water puddles correctly?
E3.1.24.7 Does not interpret the condition and attachment correctly (EC 3).	Are the inspectors trained on inspecting the flap motor for condition and attachment? Are the inspectors trained on inspecting the gearbox for condition and attachment?
E3.1.25.4 Does not interpret the crack correctly (EC 3). E3.1.25.5 Does not interpret the condition and attachment correctly (EC 3).	Are the inspectors trained on inspecting the aileron servo for cracks, condition and attachment?
E3.1.27.7 Does not interpret the condition and security correctly (EC 3).	Are the inspectors trained on inspecting the pneumatic switch for condition and security? Are the inspectors trained on inspecting the pressure switch for condition and security?
E3.1.28.4 Does not interpret the condition and attachment correctly (EC 3).	Are the inspectors trained on inspecting the safety valve for condition and attachment?
E3.1.29.4 Does not interpret the security condition correctly (EC 3).	Are the inspectors trained to inspect servo capstan adjustment for security?
E4.1.4 Interprets the indication type incorrectly (EC 3).	Are the inspectors trained in identifying the correct indication type?
E4.2.4 Interprets the measurement of indication size incorrectly (EC 3).	Are the inspectors trained in measuring the indication size correctly?

EC 3 TYPE ERROR	TRAINING NEEDS
E4.3.5 Interprets the comparison incorrectly (EC 3).	Are the inspectors trained in comparing the indication to standard correctly?

EC 4 TYPE ERROR	TRAINING NEEDS
E1.1.2.1 Does not plan the task (EC 4).	Are the inspectors trained to form the correct task?
E1.1.2.2 Does plan the task incorrectly (EC 4).	Are the inspectors trained to form the correct mental model?
E1.1.2.3 Does not plan the correct task (EC 4).	Are the inspectors trained to plan the correct strategy?
E1.1.2.4 Does not plan the strategy (EC 4).	
E1.1.2.5 Does plan the strategy incorrectly (EC 4).	
E1.1.2.6 Does not plan the correct strategy (EC 4).	

EC 5 TYPE ERROR	TRAINING NEEDS
E1.1.1.4 Does not know how to read the document (EC 5).	Are the inspectors trained to read and interpret the correct documentation?
E2.1.1.1 Does not know how to locate task area under floor (EC5). E2.1.1.4 Does not know how to locate task area under the fuselage (EC5).	Are the inspectors trained in locating the task area under the floor? Are the inspectors trained in locating the task area under the fuselage?
E2.2.1.1 Does not know how to move support equipment into place (EC 5).	Are the inspectors trained on handling the support equipment correctly?
E2.2.2.1 Does not know how to remove the floor panels (EC 5).	Are the inspectors trained on how to gain access to the different areas for inspection by removing the floor panels?
E2.2.3.1 Does not know how to use support equipment to reach inspection area (EC 5).	Are the inspectors trained on using the support equipment to reach inspection area?
E3.1.1.1 Does not know how to inspect the frames and structures for cracks, corrosion, loose and missing rivets (EC 5). E3.1.1.2 Does not know how to identify the cracks, corrosion, loose and missing rivets (EC 5).	Are the inspectors trained on detecting the different type of defects like cracks, corrosion, loose and missing rivets?
E3.1.2.1 Does not know what to look for in the floor (EC 5).	Are the inspectors trained on identifying foreign matter such as dirt, oil, lint, and trash? Are the inspectors trained on checking the wiring and insulation on the wiring?

EC 5 TYPE ERROR	TRAINING NEEDS
E3.1.3.1 Does not know how to inspect the aircraft cable pulley for grooves and broken parts (EC 5).	Are the inspectors trained on how to inspect an aircraft pulley for grooves and broken parts?
E3.1.4.1 Does not know how to inspect the cables for broken parts (EC 5).	Are the inspectors trained on inspecting cables for broken parts?
E3.1.5.1 Does not know how to inspect the radar cable for grooves and broken parts (EC 5).	Are the inspectors trained on how to inspect a radar cable for grooves and broken parts?
E3.1.6.1 Does not know how to inspect the elevator cable for grooves and broken parts (EC 5).	Are the inspectors trained on how to inspect the elevator cable for grooves and broken parts?
E3.1.7.1 Does not know how to inspect the elevator trim cable for grooves and broken parts (EC 5).	Are the inspectors trained on how to inspect the elevator trim cable for grooves and broken parts?
E3.1.8.1 Does not know how to inspect the radar trim cable for grooves and broken parts (EC 5).	Are the inspectors trained on how to inspect a radar trim cable for grooves and broken parts?
E3.1.9.1 Does not know how to inspect pulleys and seals (EC 5).	Are the inspectors trained on how to inspect pulleys and seals?
E3.1.10.1 Does not know to inspect rivets (EC 5).	Are the inspectors trained on how to inspect rivets?
E3.1.15.1 Does not know how to inspect the center floorboard (EC 5). E3.1.15.2 Does not know to secure the center floorboard safely (EC 5).	Are the inspectors trained on inspecting the center floorboard of an airplane for security, safety and no trash?
E3.1.16.1 Does not know how to inspect the left rack (EC 5). E3.1.16.2 Does not know to inspect the floor under it (EC 5).	Are the inspectors trained on inspecting the left rack and floor under it?

EC 5 TYPE ERROR	TRAINING NEEDS
E3.1.17.1 Does not know how to inspect the unit that flashes the landing light (EC 5).	Are the inspectors trained on inspecting the unit that flashes the landing light?
E3.1.18.1 Does not know how to inspect the electrical wiring, cables, and pullies for condition and security (EC 5).	Are the inspectors trained on inspecting electrical wiring? Are the inspectors trained on inspecting cables? Are the inspectors trained on inspecting pullies?
E3.1.19.1 Does not know how to inspect the draining system for water clogging and water puddles (EC 5).	Are the inspectors trained on inspecting the draining systems for water clogging? Are the inspectors trained on inspecting the draining systems for the water puddles?
E3.1.20.1 Does not know how to inspect the different antennas on the center floorboard for condition and security (EC 5).	Are the inspectors trained on inspecting the different antennas on the center floorboard for condition and security?
E3.1.21.1 Does not know how to inspect the A.C unit for condition and attachment (EC 5).	Are the inspectors trained on inspecting the A.C Unit for condition and attachment?
E3.1.22.1 Does not know how to inspect the A.C unit that cools the different plug boxes for security (EC 5).	Are the inspectors trained on inspecting the A.C unit that cools different plug boxes for security?
E3.1.23.1 Does not know how to check for water puddles (EC 5).	Are the inspectors trained to check the water puddles correctly?
E3.1.24.1 Does not know how to inspect the flap motor for condition and attachment (EC 5).	Are the inspectors trained on inspecting the flap motor for condition and attachment?
E3.1.24.4 Does not know how to inspect the gearbox for condition and attachment (EC 5).	Are the inspectors trained on inspecting the gearbox for condition and attachment?

EC 5 TYPE ERROR	TRAINING NEEDS
E3.1.25.1 Does not know how to inspect the aileron servo for cracks, condition and attachment (EC 5).	Are the inspectors trained on inspecting the aileron servo for cracks, condition and attachment?
E3.1.26.1 Does not know how to inspect the structure (EC 5). E3.1.26.4 Does not know how to inspect the insulation on A.C lines (EC 5). E3.1.26.7 Does not know how to inspect the screws, wiring, tubes, lines and relays (EC 5).	Are the inspectors trained on inspecting the structure? Are the inspectors trained on inspecting the insulation on A.C lines correctly? Are the inspectors trained on inspecting the screws, wiring, tubes, lines and relays correctly?
E3.1.27.1 Does not know how to inspect the pneumatic switch (EC 5). E3.1.27.4 Does not know how to inspect the pressure switch (EC 5).	Are the inspectors trained on inspecting the pneumatic switch for condition and security? Are the inspectors trained on inspecting the pressure switch for condition and security?
E3.1.28.1 Does not know how to inspect the safety valve (EC 5).	Are the inspectors trained on inspecting the safety valve for condition and attachment?
E3.1.29.1 Does not know how to inspect the servo capstan adjustment (EC 5).	Are the inspectors trained to inspect servo capstan adjustment for security?
E3.1.30.1 Does not know how to inspect outflow and overflow valve (EC 5).	Are the inspectors trained to inspect outflow and overflow valve?

EC 5 TYPE ERROR	TRAINING NEEDS
E4.1.1 Does not know the correct indication type (EC 5).	Are the inspectors trained in identifying the correct indication type?
E4.2.1 Does not know how to measure the indication size (EC 5).	Are the inspectors trained in measuring the indication size correctly?
E 4.3.1 Does not know the correct standards (EC 5). E4.3.2 Does not bring the correct standards documentation (EC 6). E4.3.3 Does not know how to compare the indication to standard (EC 5).	Are the inspectors trained in comparing the indication to standard correctly?
E5.1.1 Does not know the correct defect location (EC 5).	Are the inspectors trained to check the correct location of defect?
E5.2.1 Does not know how to record the defect location. (EC 5).	Are the inspectors trained to record the location of defect?
E5.3.1 Does not know the correct defect type (EC 5). E5.3.3 Does not know how to record the comments on a particular defect type (EC 5).	Are the inspectors trained to record the defect type and comments correctly?
E5.4.2 Does not know how to make a final decision (EC 5).	Are the inspectors trained to make the correct final decision?
E5.4.1.1 Does not know how to sign off the work card (EC 5).	Are the inspectors trained on to sign off work card?

EC 5 TYPE ERROR	TRAINING NEEDS
E6.1.1 Does not know to remove the equipments from the inspection area (EC 5). E6.1.2 Does not know to remove supplies from the inspection area (EC 5).	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?
E6.2.1 Does not know how to clean the equipment correctly (EC 5).	Are the inspectors trained on cleaning the equipment correctly?
E6.3.1 Does not know where to return the support equipment (EC 5). E6.3.2 Does not know the correct procedure to return support equipment (EC 5).	Are the inspectors trained on returning the support equipment to the storage?

EC 6 TYPE ERROR	TRAINING NEEDS
E1.1.1.3 Does read the document incorrectly (EC 6).	Are the inspectors trained to read and interpret the correct documentation?
	Are the inspectors well versed with how to start a search?
E1.1.4.3 Select the wrong starting point for search (EC 6).	
E1.1.5.3 Select the wrong search strategy (EC 6).	Are the inspectors trained to form the correct search strategy?
E1.2.1.1.2 Does collect the faulty mirror (EC 6).	Are the inspectors trained to collect the mirror?
E1.2.1.2.2 Does collect the faulty magnifying loupe (EC 6).	Are the inspectors trained to collect the magnifying loupe?
E1.2.1.4.2 Does collect the faulty measuring equipment (EC 6).	Are the inspectors trained to collect the measuring equipment?
E1.2.1.5.2 Does collect the faulty support equipment (EC 6).	Are the inspectors trained to collect the support equipment?
E1.2.1.6.2 Does not move the workbench closer to the aircraft. (EC 6)	Are the inspectors trained on moving the support equipment closer to the aircraft?
E1.3.1.3 Does check the mirror incorrectly (EC 6).	Are the inspectors trained to check the mirror correctly?
E1.3.1.6 Does check the loupe incorrectly (EC 6).	Are the inspectors trained to check the loupe correctly?
E1.3.1.9 Does check the cleaning cloth incorrectly (EC 6).	Are the inspectors trained to check the cleaning cloth correctly?
E1.3.2.3 Does check the support equipment incorrectly (EC 6).	Are the inspectors trained to check the support equipment correctly?

EC 6 TYPE ERROR	TRAINING NEEDS
E2.1.1.2 Does not locate the task area under the floor (EC 6). E2.1.1.3 Does locate the wrong task area under the floor (EC 6). E2.1.1.5 Does not locate the task area under the fuselage (EC 6). E2.1.1.6 Does locate the wrong task area under the fuselage (EC 6).	Are the inspectors trained in locating the task area under the floor? Are the inspectors trained in locating the task area under the fuselage?
E2.2.1.2 Does not move support equipment into place (EC 6). E2.2.1.3 Does move the support equipment into inappropriate place (EC 6).	Are the inspectors trained on handling the support equipment correctly?
E2.2.2.2 Does not remove the floor panels (EC 6).	Are the inspectors trained on how to gain access to the different areas for inspection by removing the floor panels?
E2.2.3.2 Does not use the support equipment to reach inspection area (EC 6). E2.2.3.3 Does use the wrong support equipment to reach inspection area (EC 6).	Are the inspectors trained on using the support equipment to reach inspection area?

EC 6 TYPE ERROR	TRAINING NEEDS
E2.2.3.2 Does use the wrong support equipment to reach inspection area (EC 6).	Are the inspectors trained on using the support equipment to reach inspection area?
E3.1.1.4 Does not inspect the frames and structures for cracks, corrosion, loose and missing rivets (EC 6).	Are the inspectors trained on detecting the different type of defects like cracks, corrosion, loose and missing rivets?
E3.1.2.2 Does not bring the correct equipments to check the floor for foreign matter such as dirt, oil, lint, trash, general condition of wiring and insulation on the wiring (EC 6). E3.1.2.3 Does not check the floor for foreign matter (EC 6).	Are the inspectors trained on identifying foreign matter such as dirt, oil, lint, and trash? Are the inspectors trained on checking the wiring and insulation on the wiring?
E3.1.3.2 Does not bring the correct tools to inspect the aircraft cable pulley for grooves and broken parts (EC 6). E3.1.3.3 Does not inspect the aircraft cable pulley for grooves and broken parts (EC 6).	Are the inspectors trained on how to inspect an aircraft pulley for grooves and broken parts?
E3.1.4.2 Does not bring the correct tools to inspect the cables for broken parts (EC 6). E3.1.4.3 Does not inspect the cables for broken parts (EC 6).	Are the inspectors trained on inspecting cables for broken parts?

EC 6 TYPE ERROR	TRAINING NEEDS
E3.1.5.2 Does not bring the correct tools to inspect the radar cable for grooves and broken parts (EC 6). E3.1.5.3 Does not inspect the radar cable for grooves and broken parts (EC 6).	Are the inspectors trained on how to inspect a radar cable for grooves and broken parts?
E3.1.6.2 Does not bring the correct tools to inspect the elevator cable for grooves and broken parts (EC 6).	Are the inspectors trained on how to inspect the elevator cable for grooves and broken parts?
E3.1.7.2 Does not bring the correct tools to inspect the elevator trim cable for grooves and broken parts (EC 6).	Are the inspectors trained on how to inspect the elevator trim cable for grooves and broken parts?
E3.1.8.2 Does not bring the correct tools to inspect the radar trim cable for grooves and broken parts (EC 6). E3.1.8.3 Does not inspect the radar trim cable for grooves and broken parts (EC 6).	Are the inspectors trained on how to inspect a radar trim cable for grooves and broken parts?
E3.1.9.2 Does not bring the correct tools to inspect pulleys and seals (EC 6). E3.1.9.3 Does not inspect pulleys and seals (EC 6).	Are the inspectors trained on how to inspect pulleys and seals?
E3.1.10.2 Does not bring the correct tools to inspect rivets (EC 6). E3.1.10.3 Does not inspect rivets (EC 6).	Are the inspectors trained on how to inspect rivets?

EC 6 TYPE ERROR	TRAINING NEEDS
E 3.1.15.3 Does not remove the trash (EC 6).	Are the inspectors trained on inspecting the center floorboard of an airplane for security, safety and no trash?
E3.1.16.3 Does not bring the correct tools to inspect the left rack (EC 6). E3.1.16.4 Does not bring the correct tools to inspect the floor under the left rack (EC 6). E3.1.16.5 Does not inspect the left rack (EC 6). E3.1.16.6 Does not inspect the floor under it (EC 6).	Are the inspectors trained on inspecting the left rack and floor under it?
E3.1.17.2 Does not bring the correct tools to inspect the unit that flashes the landing light (EC 6).	Are the inspectors trained on inspecting the unit that flashes the landing light?
E3.1.17.3 Does not inspect the unit that flashes the landing light (EC 6).	
E3.1.18.2 Does not bring the correct tools to inspect the electrical wiring, cables, and pullies for condition and security (EC 6).	Are the inspectors trained on inspecting electrical wiring? Are the inspectors trained on inspecting cables?
E3.1.18.3 Does not inspect the electrical wiring, cables, and pullies for condition and security (EC 6).	Are the inspectors trained on inspecting pullies?

EC 6 TYPE ERROR	TRAINING NEEDS
<p>E3.1.19.2 Does not bring the correct equipment to inspect the draining system for water dogging and water puddles (EC 6).</p> <p>E3.1.19.3 Does not inspect the draining system for water dogging and water puddles (EC 6).</p>	<p>Are the inspectors trained on inspecting the draining systems for water clogging?</p> <p>Are the inspectors trained on inspecting the draining systems for the water puddles?</p>
<p>E3.1.20.2 Does not bring the equipments to inspect the different antennas on the center floorboard for condition and security (EC 6).</p> <p>E3.1.20.3 Does not inspect the different antennas on the center floorboard for condition and security (EC 6).</p>	<p>Are the inspectors trained on inspecting the different antennas on the center floorboard for condition and security?</p>
<p>E3.1.21.2 Does not inspect the A.C unit for condition and attachment (EC 6).</p> <p>E3.1.21.3 Does inspect the A.C unit for condition and attachment incorrectly (EC 6).</p> <p>E3.1.21.4 Does not bring the correct tools for inspection (EC 6).</p>	<p>Are the inspectors trained on inspecting the A.C Unit?</p>

EC 6 TYPE ERROR	TRAINING NEEDS
<p>E3.1.22.2 Does not inspect the A.C unit that cools the different plug boxes for security (EC 6).</p> <p>E3.1.22.3 Does inspect the A.C unit that cools the different plug boxes for security incorrectly (EC 6).</p> <p>E3.1.22.4 Does not bring the correct tools for inspection (EC 6).</p>	<p>Are the inspectors trained on inspecting the A.C unit that cools different plug boxes for security?</p>
<p>E3.1.23.2 Does not check for water puddles (EC 6).</p> <p>E3.1.23.3 Does check for water puddles incorrectly (EC 6).</p>	<p>Are the inspectors trained to check the water puddles correctly?</p>
<p>E3.1.24.2 Does not inspect the flap motor for condition and attachment (EC 6).</p> <p>E3.1.24.3 Does inspect the flap motor for condition and attachment incorrectly (EC 6).</p> <p>E3.1.24.5 Does not inspect the gearbox for condition and attachment (EC 6).</p> <p>E3.1.24.6 Does inspect the gearbox for condition and attachment incorrectly (EC 6).</p>	<p>Are the inspectors trained on inspecting the flap motor for condition and attachment?</p> <p>Are the inspectors trained on inspecting the gearbox for condition and attachment?</p>

EC 6 TYPE ERROR	TRAINING NEEDS
<p>E3.1.25.2 Does not inspect the aileron servo for cracks, condition and attachment (EC 6).</p> <p>E3.1.25.3 Does inspect the aileron servo for cracks, condition and attachment incorrectly (EC 6).</p>	<p>Are the inspectors trained on inspecting the aileron servo for cracks, condition and attachment?</p>
<p>E3.1.26.2 Does not inspect the structure (EC 6).</p> <p>E3.1.26.3 Does inspect the structure incorrectly (EC 6).</p> <p>E3.1.26.5 Does not inspect the insulation on A.C lines (EC 6).</p> <p>E3.1.26.6 Does inspect the insulation on A.C lines incorrectly (EC 6).</p> <p>E3.1.26.8 Does not inspect the screws, wiring, tubes, lines and relays (EC 6).</p> <p>E3.1.26.9 Does inspect the screws, wiring, tubes, lines and relays incorrectly (EC 6).</p>	<p>Are the inspectors trained on inspecting the structure?</p> <p>Are the inspectors trained on inspecting the insulation on A.C lines correctly?</p> <p>Are the inspectors trained on inspecting the screws, wiring, tubes, lines and relays correctly?</p>

EC 6 TYPE ERROR	TRAINING NEEDS
E3.1.27.2 Does not inspect the pneumatic switch (EC 6). E3.1.27.3 Does inspect the pneumatic switch incorrectly (EC 6). E3.1.27.6 Does inspect the pressure switch incorrectly (EC 6).	Are the inspectors trained on inspecting the pneumatic switch for condition and security? Are the inspectors trained on inspecting the pressure switch for condition and security?
E3.1.28.2 Does not inspect the safety valve (EC 6). E3.1.28.3 Does inspect the safety valve incorrectly (EC 6).	Are the inspectors trained on inspecting the safety valve for condition and attachment?
E3.1.29.2 Does not inspect the servo capstan adjustment (EC 6). E3.1.29.3 Does inspect the servo capstan adjustment incorrectly (EC 6).	Are the inspectors trained to inspect servo capstan adjustment for security?
E3.1.30.2 Does not inspect the outflow and overflow valve (EC 6). E3.1.30.3 Does inspect the outflow and overflow valve incorrectly (EC 6).	Are the inspectors trained to inspect outflow and overflow valve?

EC 6 TYPE ERROR	TRAINING NEEDS
E4.1.2 Identifies the type of defect incorrectly (EC 6). E4.1.3 Forgets the area where the inspector has originally identified the indication (EC 6).	Are the inspectors trained in identifying the correct indication type?
E 4.2.2 Does not bring the correct equipment to measure the indication size. (EC 6). E4.2.3 Measures the indication incorrectly (EC 6).	Are the inspectors trained in measuring the indication size correctly?
E4.3.4 Compares the indication to standard incorrectly (EC 6).	Are the inspectors trained in comparing the indication to standard correctly?
E5.1.2 Check the defect location incorrectly. (EC 6) E5.1.3 Miss the location where the inspector has originally identified the defect. (EC 6)	Are the inspectors trained to check the location of defect?
E5.2.3 Record the indication incorrectly. (EC 6)	Are the inspectors trained to record the location of defect?
E5.3.2 Record the type of defect incorrectly. (EC 6) E5.3.3 Does not know how to record the comments on a particular defect type. (EC 6) E5.3.4 Record the comments incorrectly. (EC 6)	Are the inspectors trained to record the defect type and comments correctly?
E5.4.1 Does not make the correct final decision. (EC 6)	Are the inspectors trained to correct final decision?
E5.4.2 Does not know how to make a final decision. (EC 6)	
E5.4.1.3 Sign off the work card incorrectly. (EC 6)	Are the inspectors trained on how to sign off work card?

EC 6 TYPE ERROR	TRAINING NEEDS
E6.1.3 Remove the equipments and supplies from the inspection area incorrectly. (EC 6)	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?
E6.2.2 Does not bring the correct cleaning equipment. (EC 6)	Are the inspectors trained clean the equipment correctly?
E6.3.3 Does not return the support equipment to storage. (EC 6)	Are the inspectors trained returns the support equipment to the storage?

Appendix A4

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.1.1 Consists information on: <ul style="list-style-type: none"> Identifying the correct document. Reading the correct information. 	6.1.5 Documented procedures 6.4 Reports and documentation				
1.1.2 Consists information on: <ul style="list-style-type: none"> tasks strategies mental models planning the appropriate task planning the appropriate strategy creating appropriate mental models 	6.1 Selection of Parameters				
1.1.3 Consists information on: <ul style="list-style-type: none"> different types of defects criticality of the defects probability of the defects location of the defects Correctly mapping the defects with criticality. Correctly mapping the defects with location. 	5.0 Employer defined applications 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria			

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.1.4 <ul style="list-style-type: none"> • Consists information on starting point for search. • Consists of steps on correctly choosing the starting point for search. 	6.1 Selection of Parameters				
1.1.5 <ul style="list-style-type: none"> • Consists information about various search strategies. • Consists information on how to choose the appropriate strategy. 	6.1 Selection of Parameters				
1.2.1, 1.2.2 <ul style="list-style-type: none"> • Consists information on tools required for a particular task. • Consists information on using the tools and support equipment. • Consists information about the different types of mirrors, magnifying loupes and cleaning cloth. • Consists information about the support equipment required for a particular task. • Consists information on the substitute equipment if correct equipment not available. 	4.0 Equipment		2.0 Equipment Accessories		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.3.1 <ul style="list-style-type: none"> Consists information on how to check the mirror. Consists information on how to check the loupe. Consists information on how to check the cleaning cloth. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
1.3.2 <ul style="list-style-type: none"> Consists information about the support equipment (Boroscope). Consists information on how to check the support equipment (Boroscope). Consists information on how to handle the support equipment. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.1.1 <ul style="list-style-type: none"> Consists information on task area. Consists information on locating the correct task area. Consists information on aircraft numerical locations. Consists information on clear landmarks to help define boundaries of an inspection task. 	6.1 Selection of parameters	6.0 Visual perception			
2.2.1 <ul style="list-style-type: none"> Consists information on adequate access equipment required for performing the task. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.2.2 <ul style="list-style-type: none"> Consists information on how to remove the floor panels and gain access. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
2.2.3 <ul style="list-style-type: none"> Consists information on how to use the appropriate support equipment to reach the inspection area. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.2.4 <ul style="list-style-type: none"> Consists information on adequate amount of lighting required for the task. Consists information on initial possible position where body, eyes, light, mirror and loupe can be setup to view area. Consists information on comfortable body position while viewing the inspection area. Consists information on easily handling mirror, lighting and loupe together. Consists information on easily moving mirror, lighting and loupe together. Consists information on moving the support equipment when the inspector changes his position. 	3.0 Fundamentals 4.0 Equipment	3.0 Lighting 4.0 Material Attributes	1.0 Principles /theory 2.0 Equipment accessories		
3.1.1 <ul style="list-style-type: none"> Consists information on how to inspect the frames and structures for cracks, corrosion, loose and missing rivets. Consists information on all the different types of defects. Consists information on the tools required to inspect the frames and structures. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/ Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.2 <ul style="list-style-type: none"> • Consists information on how to check the floor for foreign matter. • Consists information on how to check the condition of the wiring. • Consists information on how to check the insulation on the wiring. • Consists information on the tools required to check the condition of wiring and insulation on the wiring. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.3 <ul style="list-style-type: none"> Consists information on how to inspect an aircraft cable pulley. Consists information on the tools required to inspect an aircraft cable pulley. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.4 <ul style="list-style-type: none"> Consists information on how to inspect the cables. Consists information on the tools required to inspect the cables. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.5 <ul style="list-style-type: none"> Consists information on how to identify the radar cable. Consists information on how to inspect the radar cable. Consists information on the tools required to inspect the radar cable. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.6 <ul style="list-style-type: none"> Consists information on how to identify an elevator cable. Consists information on how to inspect an elevator cable. Consists information on the tools required to inspect an elevator cable. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.7 <ul style="list-style-type: none"> Consists information on how to identify an elevator trim cable. Consists information on how to inspect an elevator trim cable. Consists information on the tools required to inspect an elevator trim cable. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.8 <ul style="list-style-type: none"> Consists information on how to identify the radar trim cable. Consists information on how to inspect the radar trim cable. Consists information on the tools required to inspect the radar trim cable. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.9 <ul style="list-style-type: none"> Consists information on how to inspect the pulleys and seals. Consists information on the tools required to inspect the pulleys and seals . 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.10 <ul style="list-style-type: none"> Consists information on how to inspect the rivets. Consists information on the tools required to inspect the rivets. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.15 <ul style="list-style-type: none"> Consists information on how to secure the center floorboard safely. Consists information on how to inspect the center floorboard for secure, no trash and safety. 	4.0 Equipment 6.0 Visual testing to specific procedures	4.1 Cleanliness 5.10 Position	1.2.2 Cleanliness 1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.16 <ul style="list-style-type: none"> Consists information on how to inspect the left rack and the floor under it. Consists information on the tools required to inspect the left rack and the floor under it. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.17 <ul style="list-style-type: none"> Consists information on how to inspect the unit that flashes the landing light. Consists information on the tools required to inspect the unit that flashes the landing light. 	4.0 Equipment 6.0 Visual testing to specific procedures	7.1 Automated Systems 7.8 Light sources and special lighting	1.3 Test object characteristics 2.6 Automated systems 4.0 Interpretation/Evaluation		
3.1.18 <ul style="list-style-type: none"> Consists information on how to inspect the electrical wiring. Consists information on how to inspect the cables and pulleys for condition and safety. Consists information on the tools required to inspect the electrical wiring. Consists information on the tools required to inspect the cables and pulleys for condition and safety. 	3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	6.0 Visual perception	4.0 Interpretation/Evaluation 6.1 Electrical shock		
3.1.19 <ul style="list-style-type: none"> Consists information on how to inspect the draining system. Consists information on the tools required to inspect the draining system. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.0 Environmental and Physiological factors	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.20 <ul style="list-style-type: none"> Consists information on how to identify the different antennas. Consists information on how to inspect the different antennas. Consists information on the tools required to inspect the different antennas. 	3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	6.0 Visual perception	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.21 <ul style="list-style-type: none"> Consists information on how to identify the AC unit. Consists information on how to inspect the AC unit. Consists information on the tools required to inspect the AC unit. 	3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	6.0 Visual perception 7.1 Automated systems	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.22 <ul style="list-style-type: none"> Consists information on how to identify the AC unit that cools the different plug boxes. Consists information on how to inspect the AC unit that cools the different plug boxes. Consists information on the tools required to inspect the AC unit that cools the different plug boxes. 	3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	6.0 Visual perception 7.1 Automated systems	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.23 <ul style="list-style-type: none"> Consists information on how to inspect the draining system. Consists information on the tools required to inspect the draining system. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.0 Environmental and Physiological factors	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.24 <ul style="list-style-type: none"> Consists information on how to identify the flap motor and gearbox. Consists information on how to inspect the flap motor and gearbox. Consists information on the tools required to inspect the flap motor and gearbox. 	3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	6.0 Visual perception 7.1 Automated systems	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.25 <ul style="list-style-type: none"> Consists information on how to identify an aileron servo. Consists information on how to inspect an aileron servo. Consists information on the tools required to inspect an aileron servo. 	3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	6.0 Visual perception 7.1 Automated systems	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.26 <ul style="list-style-type: none"> • Consists information on how to inspect the structure. • Consists information on how to inspect the insulation on AC lines. • Consists information on how to inspect the screws. • Consists information on how to inspect the wiring, tubes, lines and relays. • Consists information on the tools required to inspect the structure. • Consists information on the tools required to inspect the insulation on AC lines. • Consists information on the tools required to inspect the screws. • Consists information on the tools required to inspect the wiring, tubes, lines and relays. 	3.3 Material attributes 3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	4.0 Material attributes 6.0 Visual perception 7.1 Automated systems	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.27 <ul style="list-style-type: none"> • Consists information on how to identify the pneumatic switch. • Consists information on how to inspect the pneumatic switch. • Consists information on the tools required to inspect the pneumatic switch. • Consists information on how to identify the pressure switch. • Consists information on how to inspect the pressure switch. • Consists information on the tools required to inspect the pressure switch. 	3.3 Material attributes 3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	4.0 Material attributes 6.0 Visual perception 7.1 Automated systems	4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.28 <ul style="list-style-type: none"> Consists information on how to identify the safety valve. Consists information on how to inspect the safety valve. Consists information on the tools required to inspect the safety valve. 	3.3 Material attributes 3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	4.0 Material attributes 6.0 Visual perception 7.1 Automated systems	4.0 Interpretation/Evaluation		
3.1.29 <ul style="list-style-type: none"> Consists information on how to identify the servo capstan adjustment. Consists information on how to inspect the servo capstan adjustment. Consists information on the tools required to inspect the servo capstan adjustment. 	3.3 Material attributes 3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	4.0 Material attributes 6.0 Visual perception 7.1 Automated systems	4.0 Interpretation/Evaluation		
3.1.30 <ul style="list-style-type: none"> Consists information on how to identify the outflow and overflow valve. Consists information on how to inspect the outflow and overflow valve. Consists information on the tools required to inspect the outflow and overflow valve. 	3.3 Material attributes 3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	4.0 Material attributes 6.0 Visual perception 7.1 Automated systems	4.0 Interpretation/Evaluation		
3.1.31 <ul style="list-style-type: none"> Consists information on contrast between an indication and background. Consists information on peripheral visual acuity. Consists information on sufficient fixation time required to detect a target. Consists information on expected indications in a particular part of a structure. 	3.2 Lighting 3.5 Visual perception 6.3 Classification of indications per acceptance criteria	3.0 Lighting 6.0 Visual perception 9.0 Acceptance/Rejection criteria	1.1 Vision and light 1.3 Test object characteristics		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.2.1 <ul style="list-style-type: none"> Consists information on maintaining situational awareness as FOV moves. Consists information on adequate magnification needed to cover whole inspection area. Consists information on moving FOV to all positions. Consists information on scan path required to cover complete FOV. 	3.5 Visual perception 6.0 Visual testing to specific procedures	6.0 Visual perception	1.1 Vision and light		
3.3.1 <ul style="list-style-type: none"> Consists information on path to be followed by inspector to move FOV's over inspection area. Consists information on complete coverage. Consists information on sufficient time required for reliable search. 	3.5 Visual perception 6.0 Visual testing to specific procedures	6.0 Visual perception	1.1 Vision and light		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
4.1 <ul style="list-style-type: none"> • Consists information on identifying the various types of indications. • Consists information on correctly mapping the defect with area. • Consists information on indications under special scrutiny. • Consists information on experience required to be familiar with all indication types. • Consists information on prototypical information with work cards. • Consists information on correct quality and quantity of lighting required to ensure adequate recognition of indication. • Consists information on correct terminologies used for each indication types listed in work card. • Consists information on size or severity or severity level rejectable for a particular class of indication. 	2.0 Definitions 3.2 Lighting 3.5 Visual perception 6.1 Selection of parameters 6.3 Classification of indications per acceptance criteria 6.4 Reports and documentation	3.0 Lighting 6.0 Visual perception 9.0 Acceptance/Rejection criteria 10.0 Recording and reports	1.1 Vision and light 1.3 Test object characteristics 4.3 Discontinuity variables affecting test results 4.6 Process for reporting visual discontinuities		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
4.2 <ul style="list-style-type: none"> • Consists information on equipments required to measure indication area. • Consists information on how to measure the indication area. • Consists information on landmarks and work card. • Consists information on locating and recognizing correct landmarks. • Consists information on measuring graticule. • Consists information on units on graticule and those specified in work card. 	4.0 Equipment 6.1.5 Documented procedures 6.3 Classification of indications per acceptance criteria 6.4 Reports and documentation	7.0 Equipment 9.0 Acceptance/ Rejection criteria 10.0 Recording and reports	2.0 Equipment accessories 2.3 Linear measurement 4.4 Determination of dimensions 4.6 Process for reporting visual discontinuities 5.0 Procedures and documentation		
4.3 <ul style="list-style-type: none"> • Consists information about correct standards. • Consists information on how to compare the indication with the standards. • Consists information on physical comparison to standards. 	6.2 Test standards/ calibration	9.0 Acceptance/ Rejection criteria	3.9 Requirements		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
5.1 <ul style="list-style-type: none"> Consists information on correctly mapping the location with the defect. Consists information on how to check the defect location appropriately. Consists information on numerical location of data on work card. 	5.0 Employer defined applications 6.0 Visual testing to specific procedures 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria	5.0 Procedures and documentation		
5.2 <ul style="list-style-type: none"> Consists information on equipments required to record defect location. Consists information on how to record the defect location appropriately. 	4.0 Equipment	7.0 Equipment	2.0 Equipment accessories		
5.3 <ul style="list-style-type: none"> Consists information about various defect types. Consists information about how to record the defect type. Consists information on how to comment about defect type. 	4.0 Equipment 6.0 Visual testing to specific procedures 6.4 Reports and documentation	10.0 Recording and reports	1.3 Test object characteristics 4.0 Interpretation/ Evaluation 5.0 Procedures and documentation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
5.4 <ul style="list-style-type: none"> Consists information on how to make a final decision. Consists information about various types of final decisions made for various types of indications. Consists information on the difference between an indication and a standard clearly beyond acceptance limit. 	6.2 Test standards and calibration 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria	5.0 Procedures and documentation		
5.4.1 <ul style="list-style-type: none"> Consists information on how to sign off a work card. 	6.4 Reports and documentation	10.0 Recording and reports	5.0 Procedures and documentation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
6.1 <ul style="list-style-type: none"> Consists information about how to remove equipments and supplies from inspection area. Consists information on checklist of equipment and supplies to ensure nothing is left in the inspection area. 	4.0 Equipment	7.0 Equipment	2.0 Equipment accessories		
6.2 <ul style="list-style-type: none"> Consists information on cleaning the equipment correctly. Consists information on correct cleaning material required. Consists information on training inspectors on correct cleaning procedures. 	3.4 Environmental factors	5.2 Cleanliness	1.2.2 Cleanliness 5.0 Procedures and documentation		
6.3 <ul style="list-style-type: none"> Consists information on the correct procedure to return the equipment. Consists information on the correct place to return the equipment. Consists information on how to safely move the support equipment. Consists information on the procedure for safety check of equipment prior to storage. Consists information on signing in and out the equipment correctly. 	3.3 Material attributes	4.0 Material attributes	5.0 Procedures and documentation		

Appendix B1

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
1.0 INITIATE INSPECTION											
<i>1.1 Use Documentation to Plan Task</i>											
1.1.1 Read Documentation	X	X			X					Skipped this step.	Consists information on: <ul style="list-style-type: none"> Identifying the correct document. Reading the correct information.
1.1.2 Plan task, strategy and mental model	X	X			X					Planned the task appropriately. Planned the search strategy. Created an appropriate mental model.	Consists information on: <ul style="list-style-type: none"> tasks strategies mental models planning the appropriate task planning the appropriate strategy creating appropriate mental models
1.1.3 Learn type, criticality, probability, location of defects	X	X			X					Skipped this step	Consists information on: <ul style="list-style-type: none"> different types of defects criticality of the defects probability of the defects location of the defects correctly mapping the defects with criticality. correctly mapping the defects with location.
1.1.4 Choose starting points for search	X	X			X					Started search without following any steps prescribed in the work card.	Consists information on starting point for search. Consists of steps on correctly choosing the starting point for search.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
1.1.5 Choose search strategy	X	X			X					Did not use any specific instrument to search for defects. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information about various search strategies. Consists information on how to choose the appropriate strategy.
<i>1.2 Assemble Equipment</i>											
1.2.1 Collect supplies, lighting	X	X			X					Collected the supplies and lighting. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on tools required for a particular task. Consists information on using the tools and support equipment.
1.2.2 Collect support equipment	X	X			X					Collected the support equipment. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information about the mirror, magnifying loupe and cleaning cloth. Consists information on how to collect an appropriate mirror. Consists information on how to collect an appropriate magnifying loupe. Consists information on how to collect a cleaning cloth. Consists information about the support equipment required for a particular task. Consists information on substitute equipment if correct equipment is not available.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
<i>1.3 Test, Calibrate Equipment</i>											
1.3.1 Check mirror, loupe, cleaning cloth	X	X			X					Skipped this step.	Consists information on how to check the mirror. Consists information on how to check the loupe. Consists information on how to check the cleaning cloth.
1.3.2 Check support equipment	X	X			X					Skipped this step.	Consists information about the support equipment (Boroscope). Consists information on how to check the support equipment (Boroscope). Consists information on how to handle the support equipment.
2.0 ACCESS INSPECTION TASK											
<i>2.1 Locate Task Area</i>	X	X			X						
2.1.1 Locate task area near the landing gear.	X	X			X					Located the task area near the landing gear. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on task area. Consists information on locating the correct task area. Consists information on aircraft numerical locations. Consists information on clear landmarks to help define boundaries of an inspection task.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
2.2 Access Inspection Area											
2.2.1 Move support equipment into place	X	X			X					Moved the equipment into place. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on adequate access equipment required for performing the task. Consists information on how to move the support equipment to an appropriate place.
2.2.2 Removes the wheel fairings and brake fairings to gain access to the inspection area									X	Removed the wheel fairings and brake fairings.	Consists information on how to remove the wheel fairings and brake fairings, and gain access.
2.2.3 Use support equipment to reach inspection area											Consists information on how to use appropriate support equipment to reach the inspection area.
2.2.4 Move body, eyes, light, mirror and loupe as needed to cover area	X	X			X					Moved body and eyes to cover the area.	Consists information on adequate amount of lighting required for the task. Consists information on initial possible position where body, eyes, light, mirror and loupe can be setup to view area. Consists information on comfortable body position while viewing the inspection area. Consists information on easily handling the mirror, lighting and loupe together. Consists information on easily moving the mirror, lighting and loupe together. Consists information on moving the support equipment when the inspector changes his position.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.0 SEARCH FOR INDICATIONS											
<i>3.1 Search by Fixation in Field of View</i>											
3.1.1 Check the main landing gear fairings and brake fairings for cracks, dents, and condition of paint.	X	X			X					Checked the landing gear fairings and brake fairings for cracks, dents, and condition of paint. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to check the main landing gear fairings and break fairings. Consists information on the different types of defects. Consists information on the tools required to inspect the main landing gear fairings and break fairings.
3.1.2 Inspect the main gear spring assemblies for cracks, dents, corrosion, condition of paint or other damage.										Skipped this step.	Consists information on how to inspect the main gear spring assemblies. Consists information on the different types of defects. Consists information on the tools required to inspect the main gear spring assemblies.
3.1.3 Check axles for condition and security.	X	X			X					Checked axles for condition and security. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to check axles for condition and security. Consists information on the tools required to check axles.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.4 Check the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment.	X	X			X					Checked the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to check the main landing gear attachment structure. Consists information on the tools required to check the main landing gear attachment structure. Consists information on damage, cracks, loose rivets, bolts and nuts and security of attachment.
3.1.5 Nose Gear – Inspect torque links, steering rods, and boots for condition and security of attachment.	X		X		X					Inspected torque links, steering rods, and boots for condition and security of attachment. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to inspect torque links, steering rods, and boots. Consists information on the tools required to inspect torque links, steering rods, and boots. Consists information on torque links, steering rods, and boots.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.6 Check strut barrel for corrosion, pitting and cleanliness.										Skipped this step.	Consists information on how to check strut barrel. Consists information on the tools required to check strut barrel. Consists information on the different types of defects.
3.1.7 Check shimmy damper and/or bungees for operation, leakage, and attach points for wear and security.										Skipped this step.	Consists information on how to check shimmy damper and/or bungees and attach points. Consists information on the tools required to check shimmy damper and/or bungees and attach points. Consists information on shimmy damper and/or bungees, and attach points. Consists information on the different types of defects.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.8 Check the nose landing gear wheel fairings for cracks, dents, and condition of paint.	X	X			X					Checked the nose landing gear wheel fairings for cracks, dents, and condition of paint. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to check the nose landing gear wheel fairings. Consists information on the tools required to check the nose landing gear wheel fairings. Consists information on the different types of defects.
3.1.9 Inspect the nose gear fork for cracks, general condition, and security of attachment.	X	X	X		X					Inspected the nose gear fork for cracks, general condition, and security of attachment. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to inspect the nose gear fork. Consists information on the tools required to inspect the nose gear fork. Consists information on the different types of defects.
3.1.10 Inspect the nose gear attachment structure for cracks, or other damage and security of attachment.	X	X	X		X					Inspected the nose gear attachment structure for cracks, or other damage and security of attachment. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to inspect the nose gear attachment structure. Consists information on the tools required to inspect the nose gear attachment structure. Consists information on the different types of defects.
3.1.11 Test toe brakes and parking brake for proper operation.										Skipped this step.	Consists information on how to test toe brakes and parking brake. Consists information on the tools required to test toe brakes and parking brake.
3.1.12 Check the master cylinder and parking brake mechanism for condition and security.	X	X			X					Skipped the master cylinder, but checked the parking brake for condition and security. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to check the master cylinder and parking brake mechanism. Consists information on the tools required to check the master cylinder and parking brake mechanism.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.13 Check the fluid level and test operation of toe and parking brake. Refer to Chapter 12-13-00 for servicing instructions.										Skipped this step. Did not refer to chapter 12-13-00.	Consists information on how to check the fluid level and test operation of toe and parking brake. Consists information on the tools required to check the fluid level and test operation of toe and parking brake.
3.1.14 Check the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration.	X	X			X					Checked the brake lines, wheel cylinders, hoses, clamp s, and fittings for leaks, condition, and security and hoses for bulges and deterioration. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to check the brake lines, wheel cylinders, hoses, clamps, fittings and hoses. Consists information on the tools required to check the brake lines, wheel cylinders, hoses, clamps, fittings and hoses. Consists information on the different types of defects.
3.1.15 Check brake lines and hoses for proper routing and support.										Skipped this step.	Consists information on how to check brake lines and hoses. Consists information on the tools required to check brake lines and hoses.
3.1.16 Check tread wear and general condition of the tires.	X	X			X					Checked tread wear and general condition of the tires. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to check tread wear and general condition of the tires. Consists information on the tools required to check tread wear and general condition of the tires.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.17 Check for proper inflation.										Skipped this step.	Consists information on how to check for proper inflation. Consists information on the tools required to check for proper inflation.
3.1.18 Inspect the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage.	X		X		X					Inspected the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to inspect the wheels, brake discs, and linings. Consists information on the tools required to inspect the wheels, brake discs, and linings. Consists information on the different types of defects.
3.1.19 Check wheel through-bolts and nuts for looseness.	X	X			X					Checked wheel through-bolts and nuts for looseness. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to check wheel through-bolts and nuts for looseness. Consists information on the tools required to check wheel through-bolts and nuts for looseness.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
3.1.20 Clean, inspect and lube the wheel bearings.	X	X	X		X					Cleaned, inspected and lubed the wheel bearings. Was not confident of the type of grease. Applied grease with hand. Did not know what solution was used to clean the bearings. Did not have the work card. Did not follow the order prescribed in the work card.	Consists information on how to clean, inspect and lube the wheel bearings. Consists information on the tools required to clean, inspect and lube the wheel bearings.
3.1.21 Check the nose gear steering mechanism for wear, security, and proper rigging.										Skipped this step.	Consists information on how to check the nose gear steering mechanism. Consists information on the tools required to check the nose gear steering mechanism. Consists information on wear, security, and proper rigging.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
4.0 DECISION ON INDICATION											
<i>4.1 Identify Indication Type</i>											Consists information on identifying the various types of indications. Consists information on correctly mapping the defect with area. Consists information on indications under special scrutiny. Consists information on experience required to be familiar with all indication types. Consists information on prototypical information with work cards. Consists information on the correct quality and quantity of lighting required to ensure adequate recognition of indication. Consists information on correct terminologies used for each indication types listed in work card. Consists information on size or severity or severity level rejectable for a particular class of indication.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
<i>4.2 Measure Indication Size</i>											Consists information on equipments required to measure indication area. Consists information on how to measure the indication area. Consists information on landmarks and work card. Consists information on locating and recognizing correct landmarks. Consists information on measuring graticule. Consists information on units on graticule and those specified in work card.
<i>4.3 Compare Indication to Standard</i>											Consists information about correct standards. Consists information on how to compare the indication with the standards. Consists information on physical comparison to standards.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis								OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O		
5.0 RESPOND TO INSPECTION										
<i>5.1 Check Defect Location</i>										Consists information on correctly mapping the location with the defect. Consists information on how to check the defect location appropriately. Consists information on numerical location of data on work card.
<i>5.2 Record Defect Location</i>										Consists information on equipments required to record defect location. Consists information on how to record the defect location appropriately.
<i>5.3 Record Defect Type, Comments</i>										Consists information about various defect types. Consists information about how to record the defect type. Consists information on how to comment about defect type.
<i>5.4 Final Decision</i>										Consists information on how to make a final decision. Consists information about various types of final decisions made for various types of indications. Consists information on the difference between an indication and a standard clearly beyond acceptance limit.
<i>5.4.1 Sign off the work card.</i>										Consists information on how to sign off a work card.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
6.0 RETURN EQUIPMENT TO STORAGE											
<i>6.1 Remove Equipment, Supplies from Inspection Area</i>											Consists information about how to remove equipments and supplies from inspection area. Consists information on the checklist of equipment and supplies to ensure nothing is left in the inspection area.
<i>6.2 Clean Equipment</i>											Consists information on cleaning the equipment correctly. Consists information on correct cleaning material required. Consists information on training inspectors on correct cleaning procedures.
<i>6.3 Return Support Equipment to Storage</i>											Consists information on the correct procedure to return the equipment. Consists information on the correct place to return the equipment. Consists information on how to safely move the support equipment. Consists information on the procedure for safety check of equipment prior to storage. Consists information on signing in and out the equipment correctly.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

Appendix B2

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.0 INITIATE INSPECTION			
<i>1.1 Use Documentation to Plan Task</i>			
1.1.1 Read Documentation	E1.1.1.1 Does not have the correct documentation (EC1). E1.1.1.2 Does not have the documentation (EC 1). E1.1.1.3 Does read the document incorrectly (EC 6). E1.1.1.4 Does not know how to read the document (EC 5). E1.1.1.5 Does not interpret the document correctly (EC 3).	Does know to locate, read and interpret the correct documentation.	Are the inspectors trained to locate the correct documentation? Are the inspectors trained to read and interpret the correct documentation?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.2 Plan task, strategy and mental model	E1.1.2.1 Does not plan the task (EC 4). E1.1.2.2 Does plan the task incorrectly (EC 4). E1.1.2.3 Does not plan the correct task (EC 4). E1.1.2.4 Does not plan the strategy (EC 4). E1.1.2.5 Does plan the strategy incorrectly (EC 4). E1.1.2.6 Does not plan the correct strategy (EC 4). E1.1.2.7 Does not create a mental model (EC 2). E1.1.2.8 Created a wrong mental model (EC 2). E1.1.2.9 Created a mental model irrelevant to task and strategy (EC 2). E1.1.2.10 Does not know to create a mental model (EC 2).	Does plan the correct task. Does plan the correct strategy. Does form the correct mental model.	Are the inspectors trained to plan the correct task? Are the inspectors trained to plan the correct strategy? Are the inspectors trained to form the correct mental model?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.3 Learn type, criticality, probability, location of defects	E1.1.3.1 Does not know about the different types of defects (EC 1). E1.1.3.2 Does not know all the defects (EC 1). E1.1.3.3 Does not know about the criticality of defects (EC 1). E1.1.3.4 Incorrectly maps the defects with criticality (EC 1). E1.1.3.5 Does not know how often the defects occur (EC 1). E1.1.3.6 Does not know about the location of the defects (EC 1). E1.1.3.7 Incorrectly maps the defects with location (EC 1).	Does know about the different type of defects. Does know the correct mapping of the defects with criticality. Does know the probability of occurrence of defects. Does know the correct location of the defects.	Are the inspectors trained to detect the different types of defects? Are the inspectors trained to map the defects with criticality? Are the inspectors trained to gauge the defect occurrence probability? Are the inspectors trained to locate the defects correctly?
1.1.4 Choose starting points for search	E1.1.4.1 Does not know to select the starting point for search (EC 1). E1.1.4.2 Does not know the starting point for the search (EC 1). E1.1.4.3 Select the wrong starting point for search (EC 6).	Does know the correct starting point for search.	Are the inspectors well versed with how to start a search?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.5 Choose search strategy	E1.1.5.1 Does not know what a search strategy is (EC 1). E1.1.5.2 Does not know to select a search strategy (EC 1). E1.1.5.3 Select the wrong search strategy (EC 6).	Does know the correct search strategy.	Are the inspectors trained to form the correct search strategy?
<i>1.2 Assemble Equipment</i>			
1.2.1 Collect supplies, lighting			
1.2.1.1 Collect mirror	E1.2.1.1.1 Does not collect the mirror (EC 1). E1.2.1.1.2 Does collect the faulty mirror (EC 6).	Does know to collect the appropriate mirror.	Are the inspectors trained to collect the mirror?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.2.1.2 Collect magnifying loupe	E1.2.1.2.1 Does not collect the magnifying loupe (EC 1). E1.2.1.2.2 Does collect the faulty magnifying loupe (EC 6).	Does know to collect the appropriate magnifying loupe.	Are the inspectors trained to collect the magnifying loupe?
1.2.1.3 Collect cleaning cloth	E1.2.1.3.1 Does not collect the cleaning cloth (EC 1).	Does know to collect the appropriate magnifying loupe.	Are the inspectors trained to collect the cleaning cloth?
1.2.1.4 Collect measuring equipment	E1.2.1.4.1 Does not collect the measuring equipment (EC 1). E1.2.1.4.2 Does collect the faulty measuring equipment (EC 6).	Does know to collect the appropriate magnifying loupe.	Are the inspectors trained to collect the measuring equipment?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.2.1.5 Collect support equipment	E1.2.1.5.1 Does not collect the support equipment (EC 1). E1.2.1.5.2 Does collect the faulty support equipment (EC 6).	Does know to collect the appropriate magnifying loupe.	Are the inspectors trained to collect the support equipment?
1.2.1.6 Move the workbench closer to the aircraft.	E1.2.1.6.1 Does not know how to move the workbench closer to the aircraft (EC 1). E1.2.1.6.2 Does not move the workbench closer to the aircraft (EC 6).	Does move the workbench closer to the aircraft.	Are the inspectors trained on moving the support equipment closer to the aircraft?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>1.3 Test, Calibrate Equipment</i>			
1.3.1 Check mirror, loupe, cleaning cloth	E1.3.1.1 Does not know how to check mirror (EC 1). E1.3.1.2 Does not check the mirror (EC 1). E1.3.1.3 Does check the mirror incorrectly (EC 6). E1.3.1.4 Does not know how to check loupe (EC 1). E1.3.1.5 Does not check the loupe (EC 1). E1.3.1.6 Does check the loupe incorrectly (EC 6). E1.3.1.7 Does not know how to check cleaning cloth (EC 1). E1.3.1.8 Does not check the cleaning cloth (EC 1). E1.3.1.9 Does check the cleaning cloth incorrectly (EC 6).	Does know how to check the mirror. Does know how to check the loupe. Does know how to check the cleaning cloth.	Are the inspectors trained to check the mirror correctly? Are the inspectors trained to check the loupe correctly? Are the inspectors trained to check the cleaning cloth correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.3.2 Check support equipment (Boroscope)	E1.3.2.1 Does not know how to check support equipment (Boroscope) (EC 1). E1.3.2.2 Does not check the support equipment (Boroscope) (EC 1). E1.3.2.3 Does check the support equipment (Boroscope) incorrectly (EC 6).	Does know how to check the support equipment (Boroscope).	Are the inspectors trained to check the support equipment correctly?
2.0 ACCESS INSPECTION TASK			
<i>2.1 Locate Task Area</i>			

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.1.1 Locate task area near the landing gear.	E2.1.1.1 Does not know how to locate task area near the landing gear (EC 5). E2.1.1.2 Does not locate the task area near the landing gear (EC 6). E2.1.1.3 Does locate the wrong task area near the landing gear (EC 6).	Does locate the correct task area near the landing gear.	Are the inspectors trained in locating the task area near the landing gear correctly?
2.2 Access Inspection Area			

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.2.1 Move support equipment into place	E2.2.1.1 Does not know how to move support equipment into place (EC 5). E2.2.1.2 Does not move support equipment into place (EC 6). E2.2.1.3 Does move the support equipment into inappropriate place (EC 6).	Does move the support equipment into correct place.	Are the inspectors trained on handling the support equipment correctly?
2.2.2 Removes the wheel fairings and brake fairings to gain access to the inspection area.	E2.2.2.1 Does not know how to remove the wheel and brake fairings (EC 5). E2.2.2.2 Does not remove the wheel and brake fairings (EC 6).	Does remove the wheel fairings and brake fairings to gain access to the inspection area.	Are the inspectors trained on how to gain access to the different areas for inspection by removing the floor panels?
2.2.3 Use support equipment to reach inspection area	E2.2.3.1 Does not know how to use support equipment to reach inspection area (EC 5). E2.2.3.2 Does not use the support equipment to reach inspection area (EC 6). E2.2.3.3 Does use the wrong support equipment to reach inspection area (EC 6).	Does use the correct support equipment to reach inspection area.	Are the inspectors trained on using the support equipment to reach inspection area?
2.2.4 Move body, eyes, light, mirror and loupe as needed to cover area		Does move body, eyes, light, mirror and loupe as needed to cover area.	Are the inspectors trained on how to position themselves while inspecting a particular area?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.0 SEARCH FOR INDICATIONS			
<i>3.1 Search by Fixation in Field of View</i>			
3.1.1 Check the main landing gear fairings and brake fairings for cracks, dents, and condition of paint.	E3.1.1.1 Does not know how to check the main landing gear fairings and brake fairings for cracks, dents, and condition of paint (EC 1). E3.1.1.2 Does not know how to identify the cracks, dents, and condition of paint (EC 1). E3.1.1.3 Does not bring the correct tools or other equipments to inspect the cracks, dents, and condition of paint (EC 6). E3.1.1.4 Does not inspect the main landing gear fairings and brake fairings for cracks, dents, and condition of paint (EC 1).	Does inspect the main landing gear fairings and brake fairings for cracks, dents, and condition of paint.	Are the inspectors trained on detecting the main landing gear fairings and brake fairings for cracks, dents, and condition of paint?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.2 Inspect the main gear spring assemblies for cracks, dents, corrosion, condition of paint or other damage.</p>	<p>E3.1.2.1 Does not know how to inspect the main gear spring assemblies for cracks, dents, corrosion, condition of paint or other damage (EC 1).</p> <p>E3.1.2.2 Does not bring the correct equipments and tools for the inspection of the main gear spring assemblies for cracks, dents, corrosion, condition of paint or other damage (EC 5).</p> <p>E3.1.2.3 Does not inspect the main gear spring assemblies for cracks, dents, corrosion, condition of paint or other damage (EC 1).</p>	<p>Does inspect the main gear spring assemblies for cracks, dents, corrosion, condition of paint or other damage.</p>	<p>Are the inspectors trained on identifying cracks, dents, corrosion, condition of paint or other damage on the main gear spring assemblies?</p>
<p>3.1.3 Check axles for condition and security.</p>	<p>E3.1.3.1 Does not know how to inspect axles for condition and security (EC 1).</p> <p>E3.1.3.2 Does not bring the correct tools to inspect the axles (EC 5).</p> <p>E3.1.3.3 Does not inspect the axles for condition and security (EC 6).</p>	<p>Does inspect axles for condition and security.</p>	<p>Are the inspectors trained on how to inspect axles for condition and security?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.4 Check the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment.</p>	<p>E3.1.4.1 Does not know how to inspect the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment (EC 1).</p> <p>E3.1.4.2 Does not bring the correct tools or equipments to inspect the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment (EC 5).</p> <p>E3.1.4.3 Does not inspect the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment (EC 6).</p>	<p>Does inspect the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment.</p>	<p>Are the inspectors trained on inspecting the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.5 Nose Gear – Inspect torque links, steering rods, and boots for condition and security of attachment.</p>	<p>E3.1.5.1 Does not know how to inspect torque links, steering rods, and boots for condition and security of attachment on a nose gear (EC 1).</p> <p>E3.1.5.2 Does not bring the correct tools or equipments to inspect the inspect torque links, steering rods, and boots for condition and security of attachment (EC 5).</p> <p>E3.1.5.3 Does not Inspect torque links, steering rods, and boots for condition and security of attachment (EC 6).</p>	<p>Does inspect torque links, steering rods, and boots for condition and security of attachment.</p>	<p>Are the inspectors trained on how to inspect torque links, steering rods, and boots for condition and security of attachment?</p>
<p>3.1.6 Check strut barrel for corrosion, pitting and cleanliness.</p>	<p>E3.1.6.1 Does not know how to inspect the strut barrel for corrosion, pitting and cleanliness (EC 1).</p> <p>E3.1.6.2 Does not bring the correct tools to inspect the strut barrel for corrosion, pitting and cleanliness (EC 5).</p> <p>E3.1.6.3 Does not inspect the strut barrel for corrosion, pitting and cleanliness (EC 6).</p>	<p>Does inspect strut barrel for corrosion, pitting and cleanliness.</p>	<p>Are the inspectors trained on how to inspect the strut barrel for corrosion, pitting and cleanliness?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.7 Check shimmy damper and/or bungees for operation, leakage, and attach points for wear and security.</p>	<p>E3.1.7.1 Does not know how to inspect shimmy damper and/or bungees for operation, leakage, and attach points for wear and security (EC 1).</p> <p>E3.1.7.2 Does not bring the correct tools to inspect the shimmy damper and/or bungees for operation, leakage, and attach points for wear and security (EC 5).</p> <p>E3.1.7.3 Does not inspect the shimmy damper and/or bungees for operation, leakage, and attach points for wear and security (EC 6).</p>	<p>Does inspect the shimmy damper and/or bungees for operation, leakage, and attach points for wear and security.</p>	<p>Are the inspectors trained on how to inspect the shimmy damper and/or bungees for operation, leakage, and attach points for wear and security?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.8 Check the nose landing gear wheel fairings for cracks, dents, and condition of paint.</p>	<p>E3.1.8.1 Does not know how to inspect the nose landing gear wheel fairings for cracks, dents, and condition of paint (EC 1).</p> <p>E3.1.8.2 Does not bring the correct tools to inspect the nose landing gear wheel fairings for cracks, dents, and condition of paint (EC 5).</p> <p>E3.1.8.3 Does not inspect nose landing gear wheel fairings for cracks, dents, and condition of paint (EC 6).</p>	<p>Does inspect the nose landing gear wheel fairings for cracks, dents, and condition of paint.</p>	<p>Are the inspectors trained on how to inspect the nose landing gear wheel fairings for cracks, dents, and condition of paint?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.9 Inspect the nose gear fork for cracks, general condition, and security of attachment.</p>	<p>E3.1.9.1 Does not know how to inspect the nose gear fork for cracks, general condition, and security of attachment (EC 1).</p> <p>E3.1.9.2 Does not bring the correct tools to inspect the nose gear fork for cracks, general condition, and security of attachment (EC 5).</p> <p>E3.1.9.3 Does not inspect the nose gear fork for cracks, general condition, and security of attachment (EC 6).</p>	<p>Does inspect the nose gear fork for cracks, general condition, and security of attachment</p>	<p>Are the inspectors trained on how to inspect the nose gear fork for cracks, general condition, and security of attachment?</p>
<p>3.1.10 Inspect the nose gear attachment structure for cracks, or other damage and security of attachment.</p>	<p>E3.1.10.1 Does not know how to inspect the nose gear attachment structure for cracks, or other damage and security of attachment (EC 1).</p> <p>E3.1.10.2 Does not bring the correct tools to inspect the nose gear attachment structure for cracks, or other damage and security of attachment (EC 5).</p> <p>E3.1.10.3 Does not inspect the nose gear attachment structure for cracks, or other damage and security of attachment (EC 6).</p>	<p>Does inspect the nose gear attachment structure for cracks, or other damage and security of attachment.</p>	<p>Are the inspectors trained on how to inspect the nose gear attachment structure for cracks, or other damage and security of attachment?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.1.11 Test toe brakes and parking brake for proper operation.	E3.1.11.1 Does not know how to test toe brakes and parking brake for proper operation (EC 1). E3.1.11.2 Does not bring the correct for testing toe brakes and parking brake for proper operation (EC 5). E3.1.11.3 Does not test toe brakes and parking brake for proper operation (EC 6).	Does test toe brakes and parking brake for proper operation.	Are the inspectors trained on testing toe brakes and parking brake for proper operation?
3.1.12 Check the master cylinder and parking brake mechanism for condition and security.	E3.1.12.1 Does not know how to inspect the master cylinder and parking brake mechanism for condition and security (EC 1). E3.1.12.2 Does not bring the correct for inspecting the master cylinder and parking brake mechanism for condition and security (EC 5). E3.1.12.3 Does not inspect the master cylinder and parking brake mechanism for condition and security (EC 6).	Does inspect the master cylinder and parking brake mechanism for condition and security.	Are the inspectors trained on inspecting the master cylinder and parking brake mechanism for condition and security?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.13 Check the fluid level and test operation of toe and parking brake. Refer to Chapter 12-13-00 for servicing instructions.</p>	<p>E3.1.13.1 Does not know how to check the fluid level and test operation of toe and parking brake (EC 1).</p> <p>E3.1.13.2 Does not bring the correct tools for checking the fluid level and test operation of toe and parking brake (EC 5).</p> <p>E3.1.13.3 Does not check the fluid level and test operation of toe and parking brake (EC 6).</p>	<p>Does check the fluid level and test operation of toe and parking brake.</p>	<p>Are the inspectors trained on checking the fluid level and test operation of toe and parking brake?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.14 Check the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration.</p>	<p>E3.1.14.1 Does not know how to check the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration (EC 1).</p> <p>E3.1.14.2 Does not bring the correct tools for Checking the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration (EC 5).</p> <p>E3.1.14.3 Does not check the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration (EC 6).</p>	<p>Does check the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration.</p>	<p>Are the inspectors trained on checking the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.1.15 Check brake lines and hoses for proper routing and support.	<p>E3.1.15.1 Does not know how to check brake lines and hoses for proper routing and support (EC 1).</p> <p>E3.1.15.2 Does not bring the correct tools for checking brake lines and hoses for proper routing and support (EC 5).</p> <p>E3.1.15.3 Does not check brake lines and hoses for proper routing and support (EC 6).</p>	Does check brake lines and hoses for proper routing and support.	Are the inspectors trained on inspecting brake lines and hoses for proper routing and support?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.1.16 Check tread wear and general condition of the tires.	E3.1.16.1 Does not know how to check tread wear and general condition of the tires (EC 1). E3.1.16.2 Does not bring the correct tools for checking tread wear and general condition of the tires (EC 5). E3.1.16.3 Does not check tread wear and general condition of the tires (EC 6).	Does inspect tread wear and general condition of the tires.	Are the inspectors trained on inspecting tread wear and general condition of the tires?
3.1.17 Check for proper inflation.	E3.1.17.1 Does not know how to check for proper inflation (EC 1). E3.1.17.2 Does not bring the correct tools for checking proper inflation (EC 5). E3.1.17.3 Does not check for proper inflation (EC 6).	Does check for proper inflation.	Are the inspectors trained on inspecting for proper inflation?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p>3.1.18 Inspect the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage.</p>	<p>E3.1.18.1 Does not know how to inspect the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage (EC 1).</p> <p>E3.1.18.2 Does not bring the correct tools for inspecting the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage (EC 5).</p> <p>E3.1.18.3 Does not inspect the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage (EC 6).</p>	<p>Does inspect the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage.</p>	<p>Are the inspectors trained on inspecting the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage?</p>
<p>3.1.19 Check wheel through-bolts and nuts for looseness.</p>	<p>E3.1.19.1 Does not know how to check wheel through-bolts and nuts for looseness (EC 1).</p> <p>E3.1.19.2 Does not bring the equipments to check wheel through-bolts and nuts for looseness (EC 5).</p> <p>E3.1.19.3 Does not check wheel through-bolts and nuts for looseness (EC 6).</p>	<p>Does check wheel through-bolts and nuts for looseness.</p>	<p>Are the inspectors trained on inspecting the wheel through-bolts and nuts for looseness?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
3.1.20 Clean, inspect and lube the wheel bearings.	E3.1.20.1 Does not know how to inspect and lube the wheel bearings (EC 1). E3.1.20.2 Does not bring the equipments for inspecting and lubricating the wheel bearings (EC 5). E3.1.20.3 Does not inspect and lube the wheel bearings (EC 6).	Does clean, inspect and lube the wheel bearings.	Are the inspectors trained on inspecting, cleaning and lubricating the wheel bearings?
3.1.21 Check the nose gear steering mechanism for wear, security, and proper rigging.	E3.1.21.1 Does not know how to inspect the nose gear steering mechanism for wear, security, and proper rigging (EC 1). E3.1.21.2 Does not bring the correct tools for inspection (EC 5). E3.1.21.3 Does not inspect the nose gear steering mechanism for wear, security, and proper rigging (EC 1).	Does inspect the nose gear steering mechanism for wear, security, and proper rigging.	Are the inspectors trained on inspecting the nose gear steering mechanism for wear, security, and proper rigging?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
4.0 DECISION ON INDICATION			
<i>4.1 Identify Indication Type</i>	E4.1.1 Does not know the correct indication type (EC 5). E4.1.2 Identifies the type of defect incorrectly (EC 6). E4.1.3 Forgets the area where the inspector has originally identified the indication (EC 6). E4.1.4 Interprets the indication type incorrectly (EC 3).	Does identify the correct indication.	Are the inspectors trained in identifying the correct indication type?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p><i>4.2 Measure Indication Size</i></p>	<p>E4.2.1 Does not know how to measure the indication size (EC 5).</p> <p>E 4.2.2 Does not bring the correct equipment to measure the indication size. (EC 6).</p> <p>E4.2.3 Measures the indication incorrectly (EC 6).</p> <p>E4.2.4 Interprets the measurement of indication size incorrectly (EC 3).</p>	<p>Does measure the indication size correctly.</p>	<p>Are the inspectors trained in measuring the indication size correctly?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p><i>4.3 Compare Indication to Standard</i></p>	<p>E 4.3.1 Does not know the correct standards (EC 5).</p> <p>E4.3.2 Does not bring the correct standards documentation (EC 6).</p> <p>E4.3.3 Does not know how to compare the indication to standard (EC 5).</p> <p>E4.3.4 Compares the indication to standard incorrectly (EC 6).</p> <p>E4.3.5 Interprets the comparison incorrectly (EC 3).</p>	<p>Does compare the indication to standard correctly.</p>	<p>Are the inspectors trained in comparing the indication to standard correctly?</p>
<p>5.0 RESPOND TO INSPECTION</p>			
<p><i>5.1 Check Defect Location</i></p>	<p>E5.1.1 Does not know the correct defect location (EC 5).</p> <p>E5.1.2 Checks the defect location incorrectly (EC 6).</p> <p>E5.1.3 Misses the location where the inspector has originally identified the defect (EC 6).</p>	<p>Does check the defect location correctly.</p>	<p>Are the inspectors trained to check the correct location of defect?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>5.2 Record Defect Location</i>	E5.2.1 Does not know how to record the defect location (EC 5). E5.2.2 Does not bring the correct equipments to record the defect location (EC 6). E5.2.3 Records the indication incorrectly (EC 6).	Does record the defect location correctly.	Are the inspectors trained to record the location of defect?
<i>5.3 Record Defect Type, Comments</i>	E5.3.1 Does not know the correct defect type (EC 5). E5.3.2 Records the type of defect incorrectly (EC 6). E5.3.3 Does not know how to record the comments on a particular defect type (EC 5). E5.3.4 Records the comments incorrectly (EC 6).	Does record the defect type and comments correctly.	Are the inspectors trained to record the defect type and comments correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>5.4 Final Decision</i>	E5.4.1 Does not make the correct final decision (EC 6). E5.4.2 Does not know how to make a final decision (EC 5).	Does make the correct final decision.	Are the inspectors trained to make the correct final decision?
5.4.1 Sign off the work card.	E5.4.1.1 Does not know how to sign off the work card (EC 5). E5.4.1.2 Does not bring the correct work card (EC 6). E5.4.1.3 Signs off the work card incorrectly (EC 6).	Does sign off the work card correctly.	Are the inspectors trained on to sign off work card?
6.0 RETURN EQUIPMENT TO STORAGE			
<i>6.1 Remove Equipment, Supplies from Inspection Area</i>	E6.1.1 Does not know to remove the equipments from the inspection area (EC 5). E6.1.2 Does not know to remove supplies from the inspection area (EC 5). E6.1.3 Removes the equipments and supplies from the inspection area incorrectly (EC 6).	Does remove the equipment and supplies from the inspection area correctly.	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>6.2 Clean Equipment</i>	E6.2.1 Does not know how to clean the equipment correctly (EC 5). E6.2.2 Does not bring the correct cleaning equipment (EC 6).	Does clean the equipment correctly.	Are the inspectors trained on cleaning the equipment correctly?
<i>6.3 Return Support Equipment to Storage</i>	E6.3.1 Does not know where to return the support equipment (EC 5). E6.3.2 Does not know the correct procedure to return support equipment (EC 5). E6.3.3 Does not return the support equipment to storage (EC 6).	Does return the support equipment to storage.	Are the inspectors trained on returning the support equipment to the storage?

Appendix B3

EC 1 TYPE ERROR	TRAINING NEEDS
<p>E1.1.1.1 Does not have the correct documentation (EC1).</p> <p>E1.1.1.2 Does not have the documentation (EC 1).</p>	<p>Are the inspectors trained to locate the correct documentation?</p>
<p>E1.1.3.1 Does not know about the different types of defects (EC 1).</p> <p>E1.1.3.2 Does not know all the defects (EC 1).</p> <p>E1.1.3.3 Does not know about the criticality of defects (EC 1).</p> <p>E1.1.3.4 Does map the defects with criticality incorrectly (EC 1).</p> <p>E1.1.3.5 Does not know how often the defects occur (EC 1).</p> <p>E1.1.3.6 Does not know about the location of the defects (EC 1).</p> <p>E1.1.3.7 Does map the defects with location incorrectly (EC 1).</p>	<p>Are the inspectors trained to detect the different types of defects?</p> <p>Are the inspectors trained to map the defects with criticality?</p> <p>Are the inspectors trained to determine the probability of the occurring defects?</p> <p>Are the inspectors trained to locate the defects correctly?</p>

EC 1 TYPE ERROR	TRAINING NEEDS
E1.1.4.1 Does not know how to select the starting point for search (EC 1). E1.1.4.2 Does not know the starting point for the search (EC 1).	Are the inspectors well versed with how to start a search?
E1.1.5.1 Does not know what a search strategy is (EC 1). E1.1.5.2 Does not how to select a search strategy (EC 1).	Are the inspectors trained to form the correct search strategy?
E1.2.1.1.1 Does not collect the mirror (EC 1). E1.2.1.2.1 Does not collect the magnifying loupe (EC 1). E1.2.1.3.1 Does not collect the cleaning cloth at the required time (EC 1). E1.2.1.4.1 Does not collect the measuring equipment (EC 1).	Are the inspectors trained on collecting the appropriate equipment?

EC 1 TYPE ERROR	TRAINING NEEDS
E1.2.1.5.1 Does not collect the support equipment (EC 1).	Are the inspectors trained on collecting the appropriate equipment?
E1.2.1.6.1 Does not know how to move the workbench closer to the aircraft (EC 1).	Are the inspectors trained on moving the support equipment closer to the aircraft?
E1.3.1.1 Does not check the mirror (EC 1). E1.3.1.3 Does not check the loupe (EC 1). E1.3.1.5 Does not check the cleaning cloth (EC 1).	Are the inspectors trained to check the mirror correctly? Are the inspectors trained to check the loupe correctly? Are the inspectors trained to check the cleaning cloth correctly?
E1.3.2.1 Does not know how to check support equipment (EC 1). E1.3.2.2 Does not check the support equipment (EC 1).	Are the inspectors trained to check the support equipment correctly?

EC 1 TYPE ERROR	TRAINING NEEDS
<p>E3.1.1.1 Does not know how to check the main landing gear fairings and brake fairings for cracks, dents, and condition of paint (EC 1).</p> <p>E3.1.1.2 Does not know how to identify the cracks, dents, and condition of paint (EC 1).</p> <p>E3.1.1.4 Does not inspect the main landing gear fairings and brake fairings for cracks, dents, and condition of paint (EC 1).</p>	<p>Are the inspectors trained on detecting the main landing gear fairings and brake fairings for cracks, dents, and condition of paint?</p>
<p>E3.1.2.1 Does not know how to inspect the main gear spring assemblies for cracks, dents, corrosion, condition of paint or other damage (EC 1).</p> <p>E3.1.2.3 Does not inspect the main gear spring assemblies for cracks, dents, corrosion, condition of paint or other damage (EC 1).</p>	<p>Are the inspectors trained on identifying cracks, dents, corrosion, condition of paint or other damage on the main gear spring assemblies?</p>

EC 1 TYPE ERROR	TRAINING NEEDS
E3.1.3.1 Does not know how to inspect axles for condition and security (EC 1).	Are the inspectors trained on how to inspect axles for condition and security?
E3.1.4.1 Does not know how to inspect the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment (EC 1).	Are the inspectors trained on inspecting the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment?
E3.1.5.1 Does not know how to inspect torque links, steering rods, and boots for condition and security of attachment on a nose gear (EC 1).	Are the inspectors trained on how to inspect torque links, steering rods, and boots for condition and security of attachment?
E3.1.6.1 Does not know how to inspect the strut barrel for corrosion, pitting and cleanliness (EC 1).	Are the inspectors trained on how to inspect the strut barrel for corrosion, pitting and cleanliness?
E3.1.7.1 Does not know how to inspect shimmy damper and/or bungees for operation, leakage, and attach points for wear and security (EC 1).	Are the inspectors trained on how to inspect the shimmy damper and/or bungees for operation, leakage, and attach points for wear and security?
E3.1.8.1 Does not know how to inspect the nose landing gear wheel fairings for cracks, dents, and condition of paint (EC 1).	Are the inspectors trained on how to inspect the nose landing gear wheel fairings for cracks, dents, and condition of paint?

EC 1 TYPE ERROR	TRAINING NEEDS
E3.1.9.1 Does not know how to inspect the nose gear fork for cracks, general condition, and security of attachment (EC 1).	Are the inspectors trained on how to inspect the nose gear fork for cracks, general condition, and security of attachment?
E3.1.10.1 Does not know how to inspect the nose gear attachment structure for cracks, or other damage and security of attachment (EC 1).	Are the inspectors trained on how to inspect the nose gear attachment structure for cracks, or other damage and security of attachment?
E3.1.11.1 Does not know how to test toe brakes and parking brake for proper operation (EC 1).	Are the inspectors trained on testing toe brakes and parking brake for proper operation?
E3.1.12.1 Does not know how to inspect the master cylinder and parking brake mechanism for condition and security (EC 1).	Are the inspectors trained on inspecting the master cylinder and parking brake mechanism for condition and security?
E3.1.13.1 Does not know how to check the fluid level and test operation of toe and parking brake (EC 1).	Are the inspectors trained on checking the fluid level and test operation of toe and parking brake?
E3.1.14.1 Does not know how to check the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration (EC 1).	Are the inspectors trained on checking the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration?
E3.1.15.1 Does not know how to check brake lines and hoses for proper routing and support (EC 1).	Are the inspectors trained on inspecting brake lines and hoses for proper routing and support?

EC 1 TYPE ERROR	TRAINING NEEDS
E3.1.16.1 Does not know how to check tread wear and general condition of the tires (EC 1).	Are the inspectors trained on inspecting tread wear and general condition of the tires?
E3.1.17.1 Does not know how to check for proper inflation (EC 1).	Are the inspectors trained on inspecting for proper inflation?
E3.1.18.1 Does not know how to inspect the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage (EC 1).	Are the inspectors trained on inspecting the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage?
E3.1.19.1 Does not know how to check wheel through-bolts and nuts for looseness (EC 1).	Are the inspectors trained on inspecting the wheel through-bolts and nuts for looseness?
E3.1.20.1 Does not know how to inspect and lube the wheel bearings (EC 1).	Are the inspectors trained on inspecting, cleaning and lubricating the wheel bearings?
E3.1.21.1 Does not know how to inspect the nose gear steering mechanism for wear, security, and proper rigging (EC 1). E3.1.21.3 Does not inspect the nose gear steering mechanism for wear, security, and proper rigging (EC 1)	Are the inspectors trained on inspecting the nose gear steering mechanism for wear, security, and proper rigging?

EC 2 TYPE ERROR	TRAINING NEEDS
E1.1.2.7 Does not create a mental model (EC 2). E1.1.2.8 Created an incorrect mental model (EC 2). E1.1.2.9 Created a mental model irrelevant to task and strategy (EC 2). E1.1.2.10 Does not know how to create a mental model (EC 2).	Are the inspectors trained to form the correct mental model? Are the inspectors trained to plan the correct strategy?

EC 3 TYPE ERROR	TRAINING NEEDS
E4.1.4 Interprets the indication type incorrectly (EC 3).	Are the inspectors trained in identifying the correct indication type?
E4.2.4 Interprets the measurement of indication size incorrectly (EC 3).	Are the inspectors trained in measuring the indication size correctly?
E4.3.5 Interprets the comparison incorrectly (EC 3).	Are the inspectors trained in comparing the indication to standard correctly?

EC 4 TYPE ERROR	TRAINING NEEDS
E1.1.2.1 Does not plan the task (EC 4). E1.1.2.2 Does plan the task incorrectly (EC 4). E1.1.2.3 Does not plan the correct task (EC 4). E1.1.2.4 Does not plan the strategy (EC 4). E1.1.2.5 Does plan the strategy incorrectly (EC 4). E1.1.2.6 Does not plan the correct strategy (EC 4).	Are the inspectors trained to form the correct task? Are the inspectors trained to form the correct mental model? Are the inspectors trained to plan the correct strategy?

EC 5 TYPE ERROR	TRAINING NEEDS
E1.1.1.4 Does not know how to read the document (EC 5).	Are the inspectors trained to read documentation?
E2.1.1.1 Does not know how to locate task area near the landing gear (EC 5).	Are the inspectors trained in locating the task area near the landing gear correctly?
E2.2.1.1 Does not know how to move support equipment into place (EC 5).	Are the inspectors trained on handling the support equipment correctly?
E2.2.2.1 Does not know how to remove the wheel and brake fairings (EC 5).	Are the inspectors trained on how to gain access to the different areas for inspection by removing the floor panels?
E2.2.3.1 Does not know how to use support equipment to reach inspection area (EC 5).	Are the inspectors trained on using the support equipment to reach inspection area?
E3.1.2.2 Does not bring the correct equipments and tools for the inspection of the main gear spring assemblies for cracks, dents, corrosion, condition of paint or other damage (EC 5).	Are the inspectors trained on identifying cracks, dents, corrosion, condition of paint or other damage on the main gear spring assemblies?
E3.1.3.2 Does not bring the correct tools to inspect the axles (EC 5).	Are the inspectors trained on how to inspect axles for condition and security?

EC 5 TYPE ERROR	TRAINING NEEDS
E3.1.4.2 Does not bring the correct tools or equipments to inspect the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment (EC 5).	Are the inspectors trained on inspecting the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment?
E3.1.5.2 Does not bring the correct tools or equipments to inspect the inspect torque links, steering rods, and boots for condition and security of attachment (EC 5).	Are the inspectors trained on how to inspect torque links, steering rods, and boots for condition and security of attachment?
E3.1.6.2 Does not bring the correct tools to inspect the strut barrel for corrosion, pitting and cleanliness (EC 5).	Are the inspectors trained on how to inspect the strut barrel for corrosion, pitting and cleanliness?
E3.1.7.2 Does not bring the correct tools to inspect the shimmy damper and/or bungees for operation, leakage, and attach points for wear and security (EC 5).	Are the inspectors trained on how to inspect the shimmy damper and/or bungees for operation, leakage, and attach points for wear and security?

EC 5 TYPE ERROR	TRAINING NEEDS
E3.1.8.2 Does not bring the correct tools to inspect the nose landing gear wheel fairings for cracks, dents, and condition of paint (EC 5).	Are the inspectors trained on how to inspect the nose landing gear wheel fairings for cracks, dents, and condition of paint?
E3.1.9.2 Does not bring the correct tools to inspect the nose gear fork for cracks, general condition, and security of attachment (EC 5).	Are the inspectors trained on how to inspect the nose gear fork for cracks, general condition, and security of attachment?
E3.1.10.2 Does not bring the correct tools to inspect the nose gear attachment structure for cracks, or other damage and security of attachment (EC 5).	Are the inspectors trained on how to inspect the nose gear attachment structure for cracks, or other damage and security of attachment?
E3.1.11.2 Does not bring the correct for testing toe brakes and parking brake for proper operation (EC 5).	Are the inspectors trained on testing toe brakes and parking brake for proper operation?
E3.1.12.2 Does not bring the correct for inspecting the master cylinder and parking brake mechanism for condition and security (EC 5).	Are the inspectors trained on inspecting the master cylinder and parking brake mechanism for condition and security?
E3.1.13.2 Does not bring the correct tools for checking the fluid level and test operation of toe and parking brake (EC 5).	Are the inspectors trained on checking the fluid level and test operation of toe and parking brake?
E3.1.14.2 Does not bring the correct tools for Checking the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration (EC 5).	Are the inspectors trained on checking the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration?

EC 5 TYPE ERROR	TRAINING NEEDS
E3.1.15.2 Does not bring the correct tools for checking brake lines and hoses for proper routing and support (EC 5).	Are the inspectors trained on inspecting brake lines and hoses for proper routing and support?
E3.1.16.2 Does not bring the correct tools for checking tread wear and general condition of the tires (EC 5).	Are the inspectors trained on inspecting tread wear and general condition of the tires?
E3.1.17.2 Does not bring the correct tools for checking proper inflation (EC 5).	Are the inspectors trained on inspecting for proper inflation?
E3.1.18.2 Does not bring the correct tools for inspecting the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage (EC 5).	Are the inspectors trained on inspecting the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage?
E3.1.19.2 Does not bring the equipments to check wheel through-bolts and nuts for looseness (EC 5).	Are the inspectors trained on inspecting the wheel through-bolts and nuts for looseness?
E3.1.20.2 Does not bring the equipments for inspecting and lubricating the wheel bearings (EC 5).	Are the inspectors trained on inspecting, cleaning and lubricating the wheel bearings?
E3.1.21.2 Does not bring the correct tools for inspection (EC 5).	Are the inspectors trained on inspecting the nose gear steering mechanism for wear, security, and proper rigging?

EC 5 TYPE ERROR	TRAINING NEEDS
E4.1.1 Does not know the correct indication type (EC 5).	Are the inspectors trained in identifying the correct indication type?
E4.2.1 Does not know how to measure the indication size (EC 5).	Are the inspectors trained in measuring the indication size correctly?
E 4.3.1 Does not know the correct standards (EC 5). E4.3.3 Does not know how to compare the indication to standard (EC 5).	Are the inspectors trained in comparing the indication to standard correctly?
E5.1.1 Does not know the correct defect location (EC 5).	Are the inspectors trained to check the correct location of defect?
E5.2.1 Does not know how to record the defect location (EC 5).	Are the inspectors trained to record the location of defect?
E5.3.1 Does not know the correct defect type (EC 5). E5.3.3 Does not know how to record the comments on a particular defect type (EC 5).	Are the inspectors trained to record the defect type and comments correctly?

EC 5 TYPE ERROR	TRAINING NEEDS
E5.4.2 Does not know how to make a final decision (EC 5).	Are the inspectors trained to make the correct final decision?
E5.4.1.1 Does not know how to sign off the work card (EC 5).	Are the inspectors trained on to sign off work card?
E6.1.1 Does not know to remove the equipments from the inspection area (EC 5). E6.1.2 Does not know to remove supplies from the inspection area (EC 5).	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?
E6.2.1 Does not know how to clean the equipment correctly (EC 5).	Are the inspectors trained on cleaning the equipment correctly?
E6.3.1 Does not know where to return the support equipment (EC 5). E6.3.2 Does not know the correct procedure to return support equipment (EC 5).	Are the inspectors trained on returning the support equipment to the storage?

EC 6 TYPE ERROR	TRAINING NEEDS
E1.1.1.3 Does read the document incorrectly (EC 6).	Are the inspectors trained to read and interpret the correct documentation?
E1.1.4.3 Select the wrong starting point for search (EC 6).	Are the inspectors well versed with how to start a search?
E1.1.5.3 Select the wrong search strategy (EC 6).	Are the inspectors trained to form the correct search strategy?
E1.2.1.1.2 Does collect the faulty mirror (EC 6).	Are the inspectors trained to collect the mirror?
E1.2.1.2.2 Does collect the faulty magnifying loupe (EC 6).	Are the inspectors trained to collect the magnifying loupe?
E1.2.1.4.2 Does collect the faulty measuring equipment (EC 6).	Are the inspectors trained to collect the measuring equipment?
E1.2.1.5.2 Does collect the faulty support equipment (EC 6).	Are the inspectors trained to collect the support equipment?
E1.2.1.6.2 Does not move the workbench closer to the aircraft. (EC 6)	Are the inspectors trained on moving the support equipment closer to the aircraft?
E1.3.1.3 Does check the mirror incorrectly (EC 6). E1.3.1.6 Does check the loupe incorrectly (EC 6). E1.3.1.9 Does check the cleaning cloth incorrectly (EC 6).	Are the inspectors trained to check the mirror correctly? Are the inspectors trained to check the loupe correctly? Are the inspectors trained to check the cleaning cloth correctly?
E1.3.2.3 Does check the support equipment incorrectly (EC 6).	Are the inspectors trained to check the support equipment correctly?

EC 6 TYPE ERROR	TRAINING NEEDS
E2.1.1.2 Does not locate the task area near the landing gear (EC 6). E2.1.1.3 Does locate the wrong task area near the landing gear (EC 6).	Are the inspectors trained in locating the task area near the landing gear correctly?
E2.2.1.2 Does not move support equipment into place (EC 6). E2.2.1.3 Does move the support equipment into inappropriate place (EC 6).	Are the inspectors trained on handling the support equipment correctly?
E2.2.2.2 Does not remove the wheel and brake fairings (EC 6).	Are the inspectors trained on how to gain access to the different areas for inspection by removing the floor panels?
E2.2.3.2 Does not use the support equipment to reach inspection area (EC 6). E2.2.3.3 Does use the wrong support equipment to reach inspection area (EC 6).	Are the inspectors trained on using the support equipment to reach inspection area?
E3.1.1.3 Does not bring the correct tools or other equipments to inspect the cracks, dents, and condition of paint (EC 6).	Are the inspectors trained on detecting the main landing gear fairings and brake fairings for cracks, dents, and condition of paint?

EC 6 TYPE ERROR	TRAINING NEEDS
E3.1.3.3 Does not inspect the axles for condition and security (EC 6).	Are the inspectors trained on how to inspect axles for condition and security?
E3.1.4.3 Does not inspect the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment (EC 6).	Are the inspectors trained on inspecting the main landing gear attachment structure for damage, cracks, loose rivets, bolts and nuts and security of attachment?
E3.1.5.3 Does not Inspect torque links, steering rods, and boots for condition and security of attachment (EC 6).	Are the inspectors trained on how to inspect torque links, steering rods, and boots for condition and security of attachment?
E3.1.6.3 Does not inspect the strut barrel for corrosion, pitting and cleanliness (EC 6).	Are the inspectors trained on how to inspect the strut barrel for corrosion, pitting and cleanliness?

EC 6 TYPE ERROR	TRAINING NEEDS
E3.1.7.3 Does not inspect the shimmy damper and/or bungees for operation, leakage, and attach points for wear and security (EC 6).	Are the inspectors trained on how to inspect the shimmy damper and/or bungees for operation, leakage, and attach points for wear and security?
E3.1.8.3 Does not inspect nose landing gear wheel fairings for cracks, dents, and condition of paint (EC 6).	Are the inspectors trained on how to inspect the nose landing gear wheel fairings for cracks, dents, and condition of paint?
E3.1.9.3 Does not inspect the nose gear fork for cracks, general condition, and security of attachment (EC 6).	Are the inspectors trained on how to inspect the nose gear fork for cracks, general condition, and security of attachment?
E3.1.10.3 Does not inspect the nose gear attachment structure for cracks, or other damage and security of attachment (EC 6).	Are the inspectors trained on how to inspect the nose gear attachment structure for cracks, or other damage and security of attachment?
E3.1.11.3 Does not test toe brakes and parking brake for proper operation (EC 6).	Are the inspectors trained on testing toe brakes and parking brake for proper operation?
E3.1.12.3 Does not inspect the master cylinder and parking brake mechanism for condition and security (EC 6).	Are the inspectors trained on inspecting the master cylinder and parking brake mechanism for condition and security?
E3.1.13.3 Does not check the fluid level and test operation of toe and parking brake (EC 6).	Are the inspectors trained on checking the fluid level and test operation of toe and parking brake?

EC 6 TYPE ERROR	TRAINING NEEDS
E3.1.14.3 Does not check the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration (EC 6).	Are the inspectors trained on checking the brake lines, wheel cylinders, hoses, clamps, and fittings for leaks, condition, and security and hoses for bulges and deterioration?
E3.1.15.3 Does not check brake lines and hoses for proper routing and support (EC 6).	Are the inspectors trained on inspecting brake lines and hoses for proper routing and support?
E3.1.16.3 Does not check tread wear and general condition of the tires (EC 6).	Are the inspectors trained on inspecting tread wear and general condition of the tires?
E3.1.17.3 Does not check for proper inflation (EC 6).	Are the inspectors trained on inspecting for proper inflation?
E3.1.18.3 Does not inspect the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage (EC 6).	Are the inspectors trained on inspecting the wheels, brake discs, and linings for wear, cracks, warps, dents, or other damage?
E3.1.19.3 Does not check wheel through-bolts and nuts for looseness (EC 6).	Are the inspectors trained on inspecting the wheel through-bolts and nuts for looseness?
E3.1.20.3 Does not inspect and lube the wheel bearings (EC 6).	Are the inspectors trained on inspecting, cleaning and lubricating the wheel bearings?

EC 6 TYPE ERROR	TRAINING NEEDS
E4.1.2 Identifies the type of defect incorrectly (EC 6). E4.1.3 Forgets the area where the inspector has originally identified the indication (EC 6).	Are the inspectors trained in identifying the correct indication type?
E 4.2.2 Does not bring the correct equipment to measure the indication size. (EC 6). E4.2.3 Measures the indication incorrectly (EC 6).	Are the inspectors trained in measuring the indication size correctly?
E4.3.2 Does not bring the correct standards documentation (EC 6). E4.3.4 Compares the indication to standard incorrectly (EC 6).	Are the inspectors trained in comparing the indication to standard correctly?
E5.1.2 Checks the defect location incorrectly (EC 6). E5.1.3 Misses the location where the inspector has originally identified the defect (EC 6).	Are the inspectors trained to check the correct location of defect?
E5.2.2 Does not bring the correct equipments to record the defect location (EC 6). E5.2.3 Records the indication incorrectly (EC 6).	Are the inspectors trained to record the location of defect?

EC 6 TYPE ERROR	TRAINING NEEDS
E5.3.2 Records the type of defect incorrectly (EC 6). E5.3.4 Records the comments incorrectly (EC 6).	Are the inspectors trained to record the defect type and comments correctly?
E5.4.1 Does not make the correct final decision (EC 6).	Are the inspectors trained to make the correct final decision?
E5.4.1.2 Does not bring the correct work card (EC 6). E5.4.1.3 Signs off the work card incorrectly (EC 6).	Are the inspectors trained on to sign off work card?
E6.1.3 Removes the equipments and supplies from the inspection area incorrectly (EC 6).	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?
E6.2.2 Does not bring the correct cleaning equipment (EC 6).	Are the inspectors trained on cleaning the equipment correctly?
E6.3.3 Does not return the support equipment to storage (EC 6).	Are the inspectors trained on returning the support equipment to the storage?

Appendix B4

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.1.1 Consists information on: <ul style="list-style-type: none"> • Identifying the correct document. • Reading the correct information. 	6.1.5 Documented procedures 6.4 Reports and documentation				
1.1.2 Consists information on: <ul style="list-style-type: none"> • tasks • strategies • mental models • planning the appropriate task • planning the appropriate strategy • creating appropriate mental models 	6.1 Selection of Parameters				
1.1.3 Consists information on: <ul style="list-style-type: none"> • different types of defects • criticality of the defects • probability of the defects • location of the defects • correctly mapping the defects with criticality. • correctly mapping the defects with location. 	5.0 Employer defined applications 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria			

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.1.4 <ul style="list-style-type: none"> • Consists information on starting point for search. • Consists of steps on correctly choosing the starting point for search. 	6.1 Selection of Parameters				
1.1.5 <ul style="list-style-type: none"> • Consists information about various search strategies. • Consists information on how to choose the appropriate strategy. 	6.1 Selection of Parameters				
1.2.1, 1.2.2 <ul style="list-style-type: none"> • Consists information on tools required for a particular task. • Consists information on using the tools and support equipment. • Consists information about the mirror, magnifying loupe and cleaning cloth. • Consists information on how to collect an appropriate mirror. • Consists information on how to collect an appropriate magnifying loupe. • Consists information on how to collect a cleaning cloth. • Consists information about the support equipment required for a particular task. • Consists information on substitute equipment if correct equipment is not available. 	4.0 Equipment		2.0 Equipment Accessories		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.3.1 <ul style="list-style-type: none"> Consists information on how to check the mirror. Consists information on how to check the loupe. Consists information on how to check the cleaning cloth. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
1.3.2 <ul style="list-style-type: none"> Consists information about the support equipment (Boroscope). Consists information on how to check the support equipment (Boroscope). Consists information on how to handle the support equipment. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.1.1 <ul style="list-style-type: none"> Consists information on task area. Consists information on locating the correct task area. Consists information on aircraft numerical locations. Consists information on clear landmarks to help define boundaries of an inspection task. 	6.1 Selection of parameters	6.0 Visual perception			
2.2.1 <ul style="list-style-type: none"> Consists information on adequate access equipment required for performing the task. Consists information on how to move the support equipment to an appropriate place. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.2.2 <ul style="list-style-type: none"> Consists information on how to remove the wheel fairings and brake fairings, and gain access. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
2.2.3 <ul style="list-style-type: none"> Consists information on how to use appropriate support equipment to reach the inspection area. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.2.4 <ul style="list-style-type: none"> Consists information on adequate amount of lighting required for the task. Consists information on initial possible position where body, eyes, light, mirror and loupe can be setup to view area. Consists information on comfortable body position while viewing the inspection area. Consists information on easily handling mirror, lighting and loupe together. Consists information on easily moving mirror, lighting and loupe together. Consists information on moving the support equipment when the inspector changes his position. 	3.0 Fundamentals 4.0 Equipment	3.0 Lighting 4.0 Material Attributes	1.0 Principles /theory 2.0 Equipment accessories		
3.1.1 <ul style="list-style-type: none"> Consists information on how to check the main landing gear fairings and break fairings. Consists information on all the different types of defects. Consists information on the tools required to inspect the main landing gear fairings and break fairings. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/ Evaluation		
3.1.2 <ul style="list-style-type: none"> Consists information on how to inspect the main gear spring assemblies. Consists information on the different types of defects. Consists information on the tools required to inspect the main gear spring assemblies. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/ Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.3 <ul style="list-style-type: none"> Consists information on how to check axles for condition and security. Consists information on the tools required to check axles 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.4 <ul style="list-style-type: none"> Consists information on how to check the main landing gear attachment structure. Consists information on the tools required to check the main landing gear attachment structure. Consists information on damage, cracks, loose rivets, bolts and nuts and security of attachment. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.5 <ul style="list-style-type: none"> Consists information on how to inspect torque links, steering rods, and boots. Consists information on the tools required to inspect torque links, steering rods, and boots. Consists information on torque links, steering rods, and boots. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.6 <ul style="list-style-type: none"> Consists information on how to check strut barrel. Consists information on the tools required to check strut barrel. Consists information on the different types of defects. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		

<p>3.1.7</p> <ul style="list-style-type: none"> • Consists information on how to check shimmy damper and/or bungees and attach points. • Consists information on the tools required to check shimmy damper and/or bungees and attach points. • Consists information on shimmy damper and/or bungees, and attach points. • Consists information on the different types of defects. 	<p>4.0 Equipment 6.0 Visual testing to specific procedures</p>	<p>5.10 Position 7.1 Automated Systems</p>	<p>1.3 Test object characteristics 2.6 Automated systems 4.0 Interpretation/Evaluation</p>		
<p>3.1.8</p> <ul style="list-style-type: none"> • Consists information on how to check the nose landing gear wheel fairings. • Consists information on the tools required to check the nose landing gear wheel fairings. • Consists information on the different types of defects. 	<p>4.0 Equipment 6.0 Visual testing to specific procedures</p>	<p>5.10 Position 7.1 Automated Systems</p>	<p>1.3 Test object characteristics 2.6 Automated systems 4.0 Interpretation/Evaluation</p>		
<p>3.1.9</p> <ul style="list-style-type: none"> • Consists information on how to inspect the nose gear fork. • Consists information on the tools required to inspect the nose gear fork. • Consists information on the different types of defects. 	<p>4.0 Equipment 6.0 Visual testing to specific procedures</p>	<p>5.10 Position 7.1 Automated Systems</p>	<p>1.3 Test object characteristics 2.6 Automated systems 4.0 Interpretation/Evaluation</p>		
<p>3.1.10</p> <ul style="list-style-type: none"> • Consists information on how to inspect the nose gear attachment structure. • Consists information on the tools required to inspect the nose gear attachment structure. • Consists information on the different types of defects. 	<p>4.0 Equipment 6.0 Visual testing to specific procedures</p>	<p>5.10 Position</p>	<p>1.3 Test object characteristics 4.0 Interpretation/Evaluation</p>		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.11 <ul style="list-style-type: none"> Consists information on how to test toe brakes and parking brake. Consists information on the tools required to test toe brakes and parking brake. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.12 <ul style="list-style-type: none"> Consists information on how to check the master cylinder and parking brake mechanism. Consists information on the tools required to check the master cylinder and parking brake mechanism. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.13 <ul style="list-style-type: none"> Consists information on how to check the fluid level and test operation of toe and parking brake. Consists information on the tools required to check the fluid level and test operation of toe and parking brake. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.14 <ul style="list-style-type: none"> Consists information on how to check the rake lines, wheel cylinders, hoses, clamps, fittings and hoses. Consists information on the tools required to check the brake lines, wheel cylinders, hoses, clamps, fittings and hoses. Consists information on the different types of defects. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.15 <ul style="list-style-type: none"> Consists information on how to check brake lines and hoses. Consists information on the tools required to check brake lines and hoses. 	4.0 Equipment 6.0 Visual testing to specific procedures	4.1 Cleanliness 5.10 Position	1.2.2 Cleanliness 1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.16 <ul style="list-style-type: none"> Consists information on how to check tread wear and general condition of the tires. Consists information on the tools required to check tread wear and general condition of the tires. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.17 <ul style="list-style-type: none"> Consists information on how to check for proper inflation. Consists information on the tools required to check for proper inflation. 	4.0 Equipment 6.0 Visual testing to specific procedures	7.8 Light sources and special lighting	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.18 <ul style="list-style-type: none"> Consists information on how to inspect the wheels, brake discs, and linings. Consists information on the tools required to inspect the wheels, brake discs, and linings. Consists information on the different types of defects. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	4.0 Interpretation/Evaluation 6.1 Electrical shock		
3.1.19 <ul style="list-style-type: none"> Consists information on how to check wheel through-bolts and nuts for looseness. Consists information on the tools required to check wheel through-bolts and nuts for looseness. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
3.1.20 <ul style="list-style-type: none"> Consists information on how to clean, inspect and lube the wheel bearings. Consists information on the tools required to clean, inspect and lube the wheel bearings. 	3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	4.1 Cleanliness 6.0 Visual perception	1.2.2 Cleanliness 1.3 Test object characteristics 4.0 Interpretation/Evaluation		
3.1.21 <ul style="list-style-type: none"> Consists information on how to check the nose gear steering mechanism. Consists information on the tools required to check the nose gear steering mechanism. Consists information on wear, security, and proper rigging. 	3.5 Visual perception 4.0 Equipment 6.0 Visual testing to specific procedures	7.1 Automated systems	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
4.1 <ul style="list-style-type: none"> Consists information on identifying the various types of indications. Consists information on correctly mapping the defect with area. Consists information on indications under special scrutiny. Consists information on the experience required to be familiar with all indication types. Consists information on prototypical information with work cards. Consists information on the correct quality and quantity of lighting required to ensure adequate recognition of indication. Consists information on correct terminologies used for each indication types listed in work card. Consists information on size or severity or severity level rejectable for a particular class of indication. 	2.0 Definitions 3.2 Lighting 3.5 Visual perception 6.1 Selection of parameters 6.3 Classification of indications per acceptance criteria 6.4 Reports and documentation	3.0 Lighting 6.0 Visual perception 9.0 Acceptance/Rejection criteria 10.0 Recording and reports	1.1 Vision and light 1.3 Test object characteristics 4.3 Discontinuity variables affecting test results 4.6 Process for reporting visual discontinuities		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
4.2 <ul style="list-style-type: none"> • Consists information on equipments required to measure indication area. • Consists information on how to measure the indication area. • Consists information on landmarks and work card. • Consists information on locating and recognizing correct landmarks. • Consists information on measuring graticule. • Consists information on units on graticule and those specified in work card. 	4.0 Equipment 6.1.5 Documented procedures 6.3 Classification of indications per acceptance criteria 6.4 Reports and documentation	7.0 Equipment 9.0 Acceptance/ Rejection criteria 10.0 Recording and reports	2.0 Equipment accessories 2.3 Linear measurement 4.4 Determination of dimensions 4.6 Process for reporting visual discontinuities 5.0 Procedures and documentation		
4.3 <ul style="list-style-type: none"> • Consists information about correct standards. • Consists information on how to compare the indication with the standards. • Consists information on physical comparison to standards. 	6.2 Test standards/ calibration	9.0 Acceptance/ Rejection criteria	3.9 Requirements		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
5.1 <ul style="list-style-type: none"> Consists information on correctly mapping the location with the defect. Consists information on how to check the defect location appropriately. Consists information on numerical location of data on work card. 	5.0 Employer defined applications 6.0 Visual testing to specific procedures 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria	5.0 Procedures and documentation		
5.2 <ul style="list-style-type: none"> Consists information on equipments required to record defect location. Consists information on how to record the defect location appropriately. 	4.0 Equipment	7.0 Equipment	2.0 Equipment accessories		
5.3 <ul style="list-style-type: none"> Consists information about various defect types. Consists information about how to record the defect type. Consists information on how to comment about defect type. 	4.0 Equipment 6.0 Visual testing to specific procedures 6.4 Reports and documentation	10.0 Recording and reports	1.3 Test object characteristics 4.0 Interpretation/ Evaluation 5.0 Procedures and documentation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
5.4 <ul style="list-style-type: none"> Consists information on how to make a final decision. Consists information about various types of final decisions made for various types of indications. Consists information on the difference between an indication and a standard clearly beyond acceptance limit. 	6.2 Test standards and calibration 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria	5.0 Procedures and documentation		
5.4.1 <ul style="list-style-type: none"> Consists information on how to sign off a work card. 	6.4 Reports and documentation	10.0 Recording and reports	5.0 Procedures and documentation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
6.1 <ul style="list-style-type: none"> Consists information about how to remove equipments and supplies from inspection area. Consists information on the checklist of equipment and supplies to ensure nothing is left in the inspection area. 	4.0 Equipment	7.0 Equipment	2.0 Equipment accessories		
6.2 <ul style="list-style-type: none"> Consists information on cleaning the equipment correctly. Consists information on correct cleaning material required. Consists information on training inspectors on correct cleaning procedures. 	3.4 Environmental factors	5.2 Cleanliness	1.2.2 Cleanliness 5.0 Procedures and documentation		
6.3 <ul style="list-style-type: none"> Consists information on the correct procedure to return the equipment. Consists information on the correct place to return the equipment. Consists information on how to safely move the support equipment. Consists information on the procedure for safety check of equipment prior to storage. Consists information on signing in and out the equipment correctly. 	3.3 Material attributes	4.0 Material attributes	5.0 Procedures and documentation		

Appendix C1

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT	
	A	S	P	D	M	C	F	O				
1.0 INITIATE INSPECTION												
<i>1.1 Use Documentation to Plan Task</i>												
1.1.1 Read Documentation	X	X			X						Skipped this step. Did not have the work card initially. Referred to the work card when asked to do so.	Consists information on: <ul style="list-style-type: none"> Identifying the correct document. Reading the correct information.
1.1.2 Plan task, strategy and mental model	X	X			X						Planned the task appropriately. Planned the search strategy. Created an appropriate mental model.	Consists information on: <ul style="list-style-type: none"> tasks strategies mental models planning the appropriate task planning the appropriate strategy creating appropriate mental models
1.1.3 Learn type, criticality, probability, location of defects	X	X			X						Skipped this step Knew about the location of the defect	Consists information on: <ul style="list-style-type: none"> different types of defects criticality of the defects probability of the defects location of the defects correctly mapping the defects with criticality. correctly mapping the defects with location.
1.1.4 Choose starting points for search	X	X			X						Skipped this step.	Consists information on starting point for search. Consists of steps on correctly choosing the starting point for search.
A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others												

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
1.1.5 Choose search strategy	X	X			X					Did not use any specific instrument to search for defects. Did not have the work card.	Consists information about various search strategies. Consists information on how to choose the appropriate strategy.
<i>1.2 Assemble Equipment</i>											
1.2.1 Collect supplies, lighting	X	X			X					Moved the workbench closer to the aircraft. Collected the supplies and lighting.	Consists information on tools required for a particular task. Consists information on using the tools and support equipment.
1.2.2 Collect support equipment	X	X			X					Collected the support equipment.	Consists information about the mirror, magnifying loupe and cleaning cloth. Consists information on how to collect an appropriate mirror. Consists information on how to collect an appropriate magnifying loupe. Consists information on how to collect a cleaning cloth. Consists information about the support equipment required for a particular task. Consists information on substitute equipment if correct equipment is not available.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
<i>1.3 Test, Calibrate Equipment</i>											
1.3.1 Check mirror, loupe, cleaning cloth	X	X			X					Skipped this step.	Consists information on how to check the mirror. Consists information on how to check the loupe. Consists information on how to check the cleaning cloth.
1.3.2 Check support equipment	X	X			X					Skipped this step.	Consists information about the support equipment (Boroscope). Consists information on how to check the support equipment (Boroscope). Consists information on how to handle the support equipment.
2.0 ACCESS INSPECTION TASK											
<i>2.1 Locate Task Area</i>	X	X			X						
2.1.1 Locate task area near the aileron.	X	X			X					Located the task area near the aileron.	Consists information on task area. Consists information on locating the correct task area. Consists information on aircraft numerical locations. Consists information on clear landmarks to help define boundaries of an inspection task.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
<i>2.2 Access Inspection Area</i>											
2.2.1 Move support equipment into place	X	X			X					Moved the workbench into place.	Consists information on adequate access equipment required for performing the task. Consists information on how to move the support equipment to an appropriate place.
2.2.2 Position the aileron trim tab to gain access to push rod aft attached point.	X	X	X							Positioned the aileron trim tab to gain access to push rod aft attached point.	Consists information on how to position the aileron trim tab to gain access to push rod aft attached point.
2.2.3 Remove cotter pin, nut, washer and bolt securing push rod to hinge.	X	X								Removed the cotter pin, nut, washer and bolt securing push rod to hinge.	Consists information on how to remove the cotter pin, nut, washer and bolt securing push rod to hinge.
2.2.4 Position aileron to down position.	X	X								Positioned the aileron to down position.	Consists information on how to position the aileron to down position.
2.2.5 Remove cotter pin, nut, washer and bolt from inboard and outboard hinges.	X	X								Removed the cotter pin, nut, washer and bolt from inboard and outboard hinges.	Consists information on how to remove the cotter pin, nut, washer and bolt from inboard and outboard hinges.
2.2.6 Disconnect bonding jumper located in the outboard hinge area.	X	X	X		X					Disconnected the bonding jumper located in the outboard hinge area.	Consists information on how to disconnect the bonding jumper located in the outboard hinge area.
2.2.7 Pull aileron aft, separating the yoke from the aileron quadrant.	X	X								Pulled the aileron aft, separating the yoke from the aileron quadrant.	Consists information on how to pull the aileron aft, separating the yoke from the aileron quadrant.
A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others											

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
4.0 DECISION ON INDICATION											
<i>4.1 Identify Indication Type</i>	X	X	X		X					Identified the indication as a dent.	Consists information on identifying the various types of indications. Consists information on correctly mapping the defect with area. Consists information on indications under special scrutiny. Consists information on experience required to be familiar with all indication types. Consists information on prototypical information with work cards. Consists information on correct quality and quantity of lighting required to ensure adequate recognition of indication. Consists information on correct terminologies used for each indication types listed in work card. Consists information on size or severity or severity level rejectable for a particular class of indication.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
<i>4.2 Measure Indication Size</i>	X	X	X				X			Measured indication size.	Consists information on equipments required to measure indication area. Consists information on how to measure the indication area. Consists information on landmarks and work card. Consists information on locating and recognizing correct landmarks. Consists information on measuring graticule. Consists information on units of graticule and those specified in work card.
<i>4.3 Compare Indication to Standard</i>	X	X	X							Did not compare the indication to a standard.	Consists information about correct standards. Consists information on how to compare the indication with the standards. Consists information on physical comparison to standards.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
5.0 RESPOND TO INSPECTION											
<i>5.1 Check Defect Location</i>	X	X								Checked the defect location.	Consists information on correctly mapping the location with the defect. Consists information on how to check the defect location appropriately. Consists information on numerical location of data on work card.
<i>5.2 Record Defect Location</i>	X									Recorded the defect location.	Consists information on equipments required to record defect location. Consists information on how to record the defect location appropriately.
<i>5.3 Record Defect Type, Comments</i>	X									Recorded the defect type.	Consists information about various defect types. Consists information about how to record the defect type. Consists information on how to comment about defect type.
<i>5.4 Final Decision</i>		X	X	X	X					Tagged the aileron. Did not make a decision whether to replace or fix the aileron.	Consists information on how to make a final decision. Consists information about various types of final decisions made for various types of indications. Consists information on the difference between an indication and a standard clearly beyond acceptance limit.
<i>5.4.1 Sign off the work card.</i>										Did not sign the work card	Consists information on how to sign off a work card.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
6.0 RETURN EQUIPMENT TO STORAGE											
<i>6.1 Remove Equipment, Supplies from Inspection Area</i>	X									Removed the equipment, supplies from the inspection area.	Consists information about how to remove equipments and supplies from inspection area. Consists information on checklist of equipment and supplies to ensure nothing is left in the inspection area.
<i>6.2 Clean Equipment</i>	X									Cleaned the equipment.	Consists information on cleaning the equipment correctly. Consists information on correct cleaning material required. Consists information on training inspectors on correct cleaning procedures.
<i>6.3 Return Support Equipment to Storage</i>	X									Returned the support equipment to storage.	Consists information on the correct procedure to return the equipment. Consists information on the correct place to return the equipment. Consists information on how to safely move the support equipment. Consists information on the procedure for safety check of equipment prior to storage. Consists information on signing in and out the equipment correctly.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

Appendix C2

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.0 INITIATE INSPECTION			
<i>1.1 Use Documentation to Plan Task</i>			
1.1.1 Read Documentation	E1.1.1.1 Does not have the correct documentation (EC1). E1.1.1.2 Does not have the documentation (EC 1). E1.1.1.3 Does read the document incorrectly (EC 6). E1.1.1.4 Does not know how to read the document (EC 5). E1.1.1.5 Does not interpret the document correctly (EC 3).	Does know to locate, read and interpret the correct documentation.	Are the inspectors trained to locate the correct documentation? Are the inspectors trained to read and interpret the correct documentation?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.2 Plan task, strategy and mental model	E1.1.2.1 Does not plan the task (EC 4). E1.1.2.2 Does plan the task incorrectly (EC 4). E1.1.2.3 Does not plan the correct task (EC 4). E1.1.2.4 Does not plan the strategy (EC 4). E1.1.2.5 Does plan the strategy incorrectly (EC 4). E1.1.2.6 Does not plan the correct strategy (EC 4). E1.1.2.7 Does not create a mental model (EC 2). E1.1.2.8 Created a wrong mental model (EC 2). E1.1.2.9 Created a mental model irrelevant to task and strategy (EC 2). E1.1.2.10 Does not know to create a mental model (EC 2).	Does plan the correct task. Does plan the correct strategy. Does form the correct mental model.	Are the inspectors trained to plan the correct task? Are the inspectors trained to plan the correct strategy? Are the inspectors trained to form the correct mental model?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.3 Learn type, criticality, probability, location of defects	E1.1.3.1 Does not know about the different types of defects (EC 1). E1.1.3.2 Does not know all the defects (EC 1). E1.1.3.3 Does not know about the criticality of defects (EC 1). E1.1.3.4 Incorrectly maps the defects with criticality (EC 1). E1.1.3.5 Does not know how often the defects occur (EC 1). E1.1.3.6 Does not know about the location of the defects (EC 1). E1.1.3.7 Incorrectly maps the defects with location (EC 1).	Does know about the different type of defects. Does know the correct mapping of the defects with criticality. Does know the probability of occurrence of defects. Does know the correct location of the defects.	Are the inspectors trained to detect the different types of defects? Are the inspectors trained to map the defects with criticality? Are the inspectors trained to gauge the defect occurrence probability? Are the inspectors trained to locate the defects correctly?
1.1.4 Choose starting points for search	E1.1.4.1 Does not know to select the starting point for search (EC 1). E1.1.4.2 Does not know the starting point for the search (EC 1). E1.1.4.3 Select the wrong starting point for search (EC 6).	Does know the correct starting point for search.	Are the inspectors well versed with how to start a search?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.5 Choose search strategy	E1.1.5.1 Does not know what a search strategy is (EC 1). E1.1.5.2 Does not know to select a search strategy (EC 1). E1.1.5.3 Select the wrong search strategy (EC 6).	Does know the correct search strategy.	Are the inspectors trained to form the correct search strategy?
<i>1.2 Assemble Equipment</i>			
1.2.1 Collect supplies, lighting			
1.2.1.1 Collect mirror	E1.2.1.1.1 Does not collect the mirror (EC 1). E1.2.1.1.2 Does collect the faulty mirror (EC 6).	Does know to collect the appropriate mirror.	Are the inspectors trained to collect the mirror?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.2.1.2 Collect magnifying loupe	E1.2.1.2.1 Does not collect the magnifying loupe (EC 1). E1.2.1.2.2 Does collect the faulty magnifying loupe (EC 6).	Does know to collect the appropriate magnifying loupe	Are the inspectors trained to collect the magnifying loupe?
1.2.1.3 Collect cleaning cloth	E1.2.1.3.1 Does not collect the cleaning cloth (EC 1).	Does know to collect the appropriate magnifying loupe	Are the inspectors trained to collect the cleaning cloth?
1.2.1.4 Collect measuring equipment	E1.2.1.4.1 Does not collect the measuring equipment (EC 1). E1.2.1.4.2 Does collect the faulty measuring equipment (EC 6).	Does know to collect the appropriate magnifying loupe	Are the inspectors trained to collect the measuring equipment?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.2.1.5 Collect support equipment	E1.2.1.5.1 Does not collect the support equipment (EC 1). E1.2.1.5.2 Does collect the faulty support equipment (EC 6).	Does know to collect the appropriate magnifying loupe	Are the inspectors trained to collect the support equipment?
1.2.1.6 Move the workbench closer to the aircraft.	E1.2.1.6.1 Does not know how to move the workbench closer to the aircraft (EC 1). E1.2.1.6.2 Does not move the workbench closer to the aircraft (EC 6).	Does move the workbench closer to the aircraft.	Are the inspectors trained on moving the support equipment closer to the aircraft?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>1.3 Test, Calibrate Equipment</i>			
1.3.1 Check mirror, loupe, cleaning cloth	E1.3.1.1 Does not know how to check mirror (EC 1). E1.3.1.2 Does not check the mirror (EC 1). E1.3.1.3 Does check the mirror incorrectly (EC 6). E1.3.1.4 Does not know how to check loupe (EC 1). E1.3.1.5 Does not check the loupe (EC 1). E1.3.1.6 Does check the loupe incorrectly (EC 6). E1.3.1.7 Does not know how to check cleaning cloth (EC 1). E1.3.1.8 Does not check the cleaning cloth (EC 1). E1.3.1.9 Does check the cleaning cloth incorrectly (EC 6).	Does know how to check the mirror. Does know how to check the loupe. Does know how to check the cleaning cloth.	Are the inspectors trained to check the mirror correctly? Are the inspectors trained to check the loupe correctly? Are the inspectors trained to check the cleaning cloth correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.3.2 Check support equipment (Boroscope)	E1.3.2.1 Does not know how to check support equipment (Boroscope) (EC 1). E1.3.2.2 Does not check the support equipment (Boroscope) (EC 1). E1.3.2.3 Does check the support equipment (Boroscope) incorrectly (EC 6).	Does know how to check the support equipment (Boroscope)	Are the inspectors trained to check the support equipment correctly?
2.0 ACCESS INSPECTION TASK			
<i>2.1 Locate Task Area</i>			

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.1.1 Locate task area near the aileron.	E2.1.1.1 Does not know how to locate task area near the aileron (EC 5). E2.1.1.2 Does not locate the task area near the aileron (EC 6). E2.1.1.3 Does locate the wrong task area near the aileron (EC 6).	Does locate the correct task area near the aileron.	Are the inspectors trained in locating the correct the task area near the aileron?
<i>2.2 Access Inspection Area</i>			
2.2.1 Move support equipment into place	E2.2.1.1 Does not know how to move support equipment into place (EC 5). E2.2.1.2 Does not move support equipment into place (EC 6). E2.2.1.3 Does move the support equipment into inappropriate place (EC 6).	Does move the support equipment into correct place.	Are the inspectors trained on handling the support equipment correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.2.2 Position the aileron trim tab to gain access to push rod aft-attached point.	E2.2.2.1 Does not know how to position the aileron trim tab to gain access to push rod aft-attached point (EC 5). E2.2.2.2 Does not position the aileron trim tab to gain access to push rod aft-attached point (EC 6). E2.2.2.2 Positions the aileron trim tab incorrectly (EC 6).	Does position the aileron trim tab to gain access to push rod aft-attached point.	Are the inspectors trained on positioning the aileron trim tab to gain access to push rod aft-attached point correctly?
2.2.3 Remove cotter pin, nut, washer and bolt securing push rod to hinge.	E2.2.3.1 Does not know how to remove cotter pin, nut, washer and bolt securing push rod to hinge (EC 5). E2.2.3.2 Does not remove cotter pin, nut, washer and bolt securing push rod to hinge (EC 6).	Does remove cotter pin, nut, washer and bolt securing push rod to hinge.	Are the inspectors trained on removing cotter pin, nut, washer and bolt securing push rod to hinge?
2.2.4 Position aileron to down position.	E2.2.4.1 Does not know how to position aileron to down position (EC 5). E2.2.4.2 Does not position aileron to down position (EC 6). E2.2.4.3 Positions the aileron to down position incorrectly (EC 6).	Does position the aileron to down position correctly.	Are the inspectors trained on positioning the aileron to down position correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.2.5 Remove cotter pin, nut, washer and bolt from inboard and outboard hinges.	E2.2.5.1 Does not know how to remove cotter pin, nut, washer and bolt from inboard and outboard hinges (EC 5). E2.2.5.2 Does not remove cotter pin, nut, washer and bolt from inboard and outboard hinges (EC 6).	Does remove cotter pin, nut, washer and bolt from inboard and outboard hinges.	Are the inspectors trained on removing cotter pin, nut, washer and bolt from inboard and outboard hinges correctly?
2.2.6 Disconnect bonding jumper located in the outboard hinge area.	E2.2.6.1 Does not know how to disconnect bonding jumper located in the outboard hinge area (EC 5). E2.2.6.2 Does not disconnect bonding jumper located in the outboard hinge area (EC 6).	Does disconnect bonding jumper located in the outboard hinge area.	Are the inspectors trained on disconnecting bonding jumper located in the outboard hinge area correctly?
2.2.7 Pull aileron aft, separating the yoke from the aileron quadrant.	E2.2.7.1 Does not know how to pull aileron aft, separating the yoke from the aileron quadrant (EC 5). E2.2.7.2 Does not pull aileron aft, separating the yoke from the aileron quadrant (EC 6).	Does pull aileron aft, separating the yoke from the aileron quadrant.	Are the inspectors trained on pulling aileron aft, separating the yoke from the aileron quadrant correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
4.0 DECISION ON INDICATION			
<i>4.1 Identify Indication Type</i>	E4.1.1 Does not know the correct indication type (EC 5). E4.1.2 Identifies the type of defect incorrectly (EC 6). E4.1.3 Forgets the area where the inspector has originally identified the indication (EC 6). E4.1.4 Interprets the indication type incorrectly (EC 3).	Does identify the correct indication.	Are the inspectors trained in identifying the correct indication type?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p><i>4.2 Measure Indication Size</i></p>	<p>E4.2.1 Does not know how to measure the indication size (EC 5).</p> <p>E 4.2.2 Does not bring the correct equipment to measure the indication size. (EC 6).</p> <p>E4.2.3 Measures the indication incorrectly (EC 6).</p> <p>E4.2.4 Interprets the measurement of indication size incorrectly (EC 3).</p>	<p>Does measure the indication size correctly.</p>	<p>Are the inspectors trained in measuring the indication size correctly?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p><i>4.3 Compare Indication to Standard</i></p>	<p>E 4.3.1 Does not know the correct standards (EC 5).</p> <p>E4.3.2 Does not bring the correct standards documentation (EC 6).</p> <p>E4.3.3 Does not know how to compare the indication to standard (EC 5).</p> <p>E4.3.4 Compares the indication to standard incorrectly (EC 6).</p> <p>E4.3.5 Interprets the comparison incorrectly (EC 3).</p>	<p>Does compare the indication to standard correctly.</p>	<p>Are the inspectors trained in comparing the indication to standard correctly?</p>
<p>5.0 RESPOND TO INSPECTION</p>			
<p><i>5.1 Check Defect Location</i></p>	<p>E5.1.1 Does not know the correct defect location (EC 5).</p> <p>E5.1.2 Checks the defect location incorrectly (EC 6).</p> <p>E5.1.3 Misses the location where the inspector has originally identified the defect (EC 6).</p>	<p>Does check the defect location correctly.</p>	<p>Are the inspectors trained to check the correct location of defect?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>5.2 Record Defect Location</i>	E5.2.1 Does not know how to record the defect location. (EC 5). E5.2.2 Does not bring the correct equipments to record the defect location. (EC 6). E5.2.3 Records the indication incorrectly (EC 6).	Does record the defect location correctly.	Are the inspectors trained to record the location of defect?
<i>5.3 Record Defect Type, Comments</i>	E5.3.1 Does not know the correct defect type (EC 5). E5.3.2 Records the type of defect incorrectly (EC 6). E5.3.3 Does not know how to record the comments on a particular defect type (EC 5). E5.3.4 Records the comments incorrectly (EC 6).	Does record the defect type and comments correctly.	Are the inspectors trained to record the defect type and comments correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>5.4 Final Decision</i>	E5.4.1 Does not make the correct final decision (EC 6). E5.4.2 Does not know how to make a final decision (EC 5).	Does make the correct final decision.	Are the inspectors trained to make the correct final decision?
5.4.1 Sign off the work card.	E5.4.1.1 Does not know how to sign off the work card (EC 5). E5.4.1.2 Does not bring the correct work card (EC 6). E5.4.1.3 Signs off the work card incorrectly (EC 6).	Does sign off the work card correctly.	Are the inspectors trained on to sign off work card?
6.0 RETURN EQUIPMENT TO STORAGE			
<i>6.1 Remove Equipment, Supplies from Inspection Area</i>	E6.1.1 Does not know to remove the equipments from the inspection area (EC 5). E6.1.2 Does not know to remove supplies from the inspection area (EC 5). E6.1.3 Removes the equipments and supplies from the inspection area incorrectly (EC 6).	Does remove the equipment and supplies from the inspection area correctly.	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>6.2 Clean Equipment</i>	E6.2.1 Does not know how to clean the equipment correctly (EC 5). E6.2.2 Does not bring the correct cleaning equipment (EC 6).	Does clean the equipment correctly.	Are the inspectors trained on cleaning the equipment correctly?
<i>6.3 Return Support Equipment to Storage</i>	E6.3.1 Does not know where to return the support equipment (EC 5). E6.3.2 Does not know the correct procedure to return support equipment (EC 5). E6.3.3 Does not return the support equipment to storage (EC 6).	Does return the support equipment to storage.	Are the inspectors trained on returning the support equipment to the storage?

Appendix C3

EC 1 TYPE ERROR	TRAINING NEEDS
E1.1.1.1 Does not have the correct documentation (EC1). E1.1.1.2 Does not have the documentation (EC 1).	Are the inspectors trained to locate the correct documentation?
E1.1.3.1 Does not know about the different types of defects (EC 1). E1.1.3.2 Does not know all the defects (EC 1). E1.1.3.3 Does not know about the criticality of defects (EC 1). E1.1.3.4 Does map the defects with criticality incorrectly (EC 1). E1.1.3.5 Does not know how often the defects occur (EC 1). E1.1.3.6 Does not know about the location of the defects (EC 1). E1.1.3.7 Does map the defects with location incorrectly (EC 1).	Are the inspectors trained to detect the different types of defects? Are the inspectors trained to map the defects with criticality? Are the inspectors trained to determine the probability of the occurring defects? Are the inspectors trained to locate the defects correctly?

EC 1 TYPE ERROR	TRAINING NEEDS
E1.1.4.1 Does not know how to select the starting point for search (EC 1). E1.1.4.2 Does not know the starting point for the search (EC 1).	Are the inspectors well versed with how to start a search?
E1.1.5.1 Does not know what a search strategy is (EC 1). E1.1.5.2 Does not how to select a search strategy (EC 1).	Are the inspectors trained to form the correct search strategy?
E1.2.1.1.1 Does not collect the mirror (EC 1). E1.2.1.2.1 Does not collect the magnifying loupe (EC 1). E1.2.1.3.1 Does not collect the cleaning cloth at the required time (EC 1). E1.2.1.4.1 Does not collect the measuring equipment (EC 1).	Are the inspectors trained on collecting the appropriate equipment?

EC 1 TYPE ERROR	TRAINING NEEDS
E1.2.1.5.1 Does not collect the support equipment (EC 1).	Are the inspectors trained on collecting the appropriate equipment?
E1.2.1.6.1 Does not know how to move the workbench closer to the aircraft (EC 1).	Are the inspectors trained on moving the support equipment closer to the aircraft?
E1.3.1.1 Does not check the mirror (EC 1). E1.3.1.3 Does not check the loupe (EC 1). E1.3.1.5 Does not check the cleaning cloth (EC 1).	Are the inspectors trained to check the mirror correctly? Are the inspectors trained to check the loupe correctly? Are the inspectors trained to check the cleaning cloth correctly?
E1.3.2.1 Does not know how to check support equipment (EC 1). E1.3.2.2 Does not check the support equipment (EC 1).	Are the inspectors trained to check the support equipment correctly?

EC 2 TYPE ERROR	TRAINING NEEDS
<p>E1.1.2.7 Does not create a mental model (EC 2).</p> <p>E1.1.2.8 Created an incorrect mental model (EC 2).</p> <p>E1.1.2.9 Created a mental model irrelevant to task and strategy (EC 2).</p> <p>E1.1.2.10 Does not know how to create a mental model (EC 2).</p>	<p>Are the inspectors trained to form the correct mental model?</p> <p>Are the inspectors trained to plan the correct strategy?</p>

EC 3 TYPE ERROR	TRAINING NEEDS
E1.1.1.5 Does not interpret the document correctly (EC 3).	Are the inspectors trained to read and interpret the correct documentation?
E4.1.4 Interprets the indication type incorrectly (EC 3).	Are the inspectors trained in identifying the correct indication type?
E4.2.4 Interprets the measurement of indication size incorrectly (EC 3).	Are the inspectors trained in measuring the indication size correctly?
E4.3.5 Interprets the comparison incorrectly (EC 3).	Are the inspectors trained in comparing the indication to standard correctly?

EC 4 TYPE ERROR	TRAINING NEEDS
E1.1.2.1 Does not plan the task (EC 4). E1.1.2.2 Does plan the task incorrectly (EC 4). E1.1.2.3 Does not plan the correct task (EC 4). E1.1.2.4 Does not plan the strategy (EC 4). E1.1.2.5 Does plan the strategy incorrectly (EC 4). E1.1.2.6 Does not plan the correct strategy (EC 4).	Are the inspectors trained to form the correct task? Are the inspectors trained to form the correct mental model? Are the inspectors trained to plan the correct strategy?
E1.1.1.4 Does not know how to read the document (EC 5).	Are the inspectors trained to read and interpret the correct documentation?

EC 5 TYPE ERROR	TRAINING NEEDS
E1.1.1.4 Does not know how to read the document (EC 5).	Are the inspectors trained to read and interpret the correct documentation?
E2.1.1.1 Does not know how to locate task area near the aileron (EC 5).	Are the inspectors trained in locating the correct the task area near the aileron?
E2.2.1.1 Does not know how to move support equipment into place (EC 5).	Are the inspectors trained on handling the support equipment correctly?
E2.2.2.1 Does not know how to position the aileron trim tab to gain access to push rod aft-attached point (EC 5).	Are the inspectors trained on positioning the aileron trim tab to gain access to push rod aft-attached point correctly?
E2.2.3.1 Does not know how to remove cotter pin, nut, washer and bolt securing push rod to hinge (EC 5).	Are the inspectors trained on removing cotter pin, nut, washer and bolt securing push rod to hinge?
E2.2.4.1 Does not know how to position aileron to down position (EC 5).	Are the inspectors trained on positioning the aileron to down position correctly?
E2.2.5.1 Does not know how to remove cotter pin, nut, washer and bolt from inboard and outboard hinges (EC 5).	Are the inspectors trained on removing cotter pin, nut, washer and bolt from inboard and outboard hinges correctly?
E2.2.6.1 Does not know how to disconnect bonding jumper located in the outboard hinge area (EC 5).	Are the inspectors trained on disconnecting bonding jumper located in the outboard hinge area correctly?

EC 5 TYPE ERROR	TRAINING NEEDS
E2.2.7.1 Does not know how to pull aileron aft, separating the yoke from the aileron quadrant (EC 5).	Are the inspectors trained on pulling aileron aft, separating the yoke from the aileron quadrant correctly?
E4.1.1 Does not know the correct indication type (EC 5).	Are the inspectors trained in identifying the correct indication type?
E4.2.1 Does not know how to measure the indication size (EC 5).	Are the inspectors trained in measuring the indication size correctly?
E 4.3.1 Does not know the correct standards (EC 5). E4.3.3 Does not know how to compare the indication to standard (EC 5).	Are the inspectors trained in comparing the indication to standard correctly?
E5.1.1 Does not know the correct defect location (EC 5).	Are the inspectors trained to check the correct location of defect?
E5.2.1 Does not know how to record the defect location (EC 5).	Are the inspectors trained to record the location of defect?
E5.3.1 Does not know the correct defect type (EC 5). E5.3.3 Does not know how to record the comments on a particular defect type (EC 5).	Are the inspectors trained to record the defect type and comments correctly?

EC 5 TYPE ERROR	TRAINING NEEDS
E5.4.2 Does not know how to make a final decision (EC 5).	Are the inspectors trained to make the correct final decision?
E5.4.1.1 Does not know how to sign off the work card (EC 5).	Are the inspectors trained on to sign off work card?
E6.1.1 Does not know to remove the equipments from the inspection area (EC 5). E6.1.2 Does not know to remove supplies from the inspection area (EC 5).	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?
E6.2.1 Does not know how to clean the equipment correctly (EC 5).	Are the inspectors trained on cleaning the equipment correctly?
E6.3.1 Does not know where to return the support equipment (EC 5). E6.3.2 Does not know the correct procedure to return support equipment (EC 5).	Are the inspectors trained on returning the support equipment to the storage?

EC 6 TYPE ERROR	TRAINING NEEDS
E1.1.1.3 Does read the document incorrectly (EC 6).	Are the inspectors trained to read and interpret the correct documentation?
	Are the inspectors well versed with how to start a search?
E1.1.4.3 Select the wrong starting point for search (EC 6).	
E1.1.5.3 Select the wrong search strategy (EC 6).	Are the inspectors trained to form the correct search strategy?
E1.2.1.1.2 Does collect the faulty mirror (EC 6).	Are the inspectors trained to collect the mirror?
E1.2.1.2.2 Does collect the faulty magnifying loupe (EC 6).	Are the inspectors trained to collect the magnifying loupe?
E1.2.1.4.2 Does collect the faulty measuring equipment (EC 6).	Are the inspectors trained to collect the measuring equipment?
E1.2.1.5.2 Does collect the faulty support equipment (EC 6).	Are the inspectors trained to collect the support equipment?
E1.2.1.6.2 Does not move the workbench closer to the aircraft. (EC 6)	Are the inspectors trained on moving the support equipment closer to the aircraft?
E1.3.1.3 Does check the mirror incorrectly (EC 6).	Are the inspectors trained to check the mirror correctly?
E1.3.1.6 Does check the loupe incorrectly (EC 6).	Are the inspectors trained to check the loupe correctly?
E1.3.1.9 Does check the cleaning cloth incorrectly (EC 6).	Are the inspectors trained to check the cleaning cloth correctly?
E1.3.2.3 Does check the support equipment incorrectly (EC 6).	Are the inspectors trained to check the support equipment correctly?

EC 6 TYPE ERROR	TRAINING NEEDS
E2.1.1.2 Does not locate the task area near the aileron (EC 6). E2.1.1.3 Does locate the wrong task area near the aileron (EC 6).	Are the inspectors trained in locating the correct the task area near the aileron?
E2.2.1.2 Does not move support equipment into place (EC 6). E2.2.1.3 Does move the support equipment into inappropriate place (EC 6).	Are the inspectors trained on handling the support equipment correctly?
E2.2.2.2 Does not position the aileron trim tab to gain access to push rod aft-attached point (EC 6). E2.2.2.2 Positions the aileron trim tab incorrectly (EC 6).	Are the inspectors trained on positioning the aileron trim tab to gain access to push rod aft-attached point correctly?
E2.2.3.2 Does not remove cotter pin, nut, washer and bolt securing push rod to hinge (EC 6).	Are the inspectors trained on removing cotter pin, nut, washer and bolt securing push rod to hinge?
E2.2.4.2 Does not position aileron to down position (EC 6). E2.2.4.3 Positions the aileron to down position incorrectly (EC 6).	Are the inspectors trained on positioning the aileron to down position correctly?

EC 6 TYPE ERROR	TRAINING NEEDS
E2.2.5.2 Does not remove cotter pin, nut, washer and bolt from inboard and outboard hinges (EC 6).	Are the inspectors trained on removing cotter pin, nut, washer and bolt from inboard and outboard hinges correctly?
E2.2.6.2 Does not disconnect bonding jumper located in the outboard hinge area (EC 6).	Are the inspectors trained on disconnecting bonding jumper located in the outboard hinge area correctly?
E2.2.7.2 Does not pull aileron aft, separating the yoke from the aileron quadrant (EC 6).	Are the inspectors trained on pulling aileron aft, separating the yoke from the aileron quadrant correctly?

EC 6 TYPE ERROR	TRAINING NEEDS
E4.1.2 Identifies the type of defect incorrectly (EC 6). E4.1.3 Forgets the area where the inspector has originally identified the indication (EC 6).	Are the inspectors trained in identifying the correct indication type?
E 4.2.2 Does not bring the correct equipment to measure the indication size. (EC 6). E4.2.3 Measures the indication incorrectly (EC 6).	Are the inspectors trained in measuring the indication size correctly?
E4.3.2 Does not bring the correct standards documentation (EC 6). E4.3.4 Compares the indication to standard incorrectly (EC 6).	Are the inspectors trained in comparing the indication to standard correctly?
E5.1.2 Checks the defect location incorrectly (EC 6). E5.1.3 Misses the location where the inspector has originally identified the defect (EC 6).	Are the inspectors trained to check the correct location of defect?
E5.2.2 Does not bring the correct equipments to record the defect location (EC 6). E5.2.3 Records the indication incorrectly (EC 6).	Are the inspectors trained to record the location of defect?

EC 6 TYPE ERROR	TRAINING NEEDS
E5.3.2 Records the type of defect incorrectly (EC 6). E5.3.4 Records the comments incorrectly (EC 6).	Are the inspectors trained to record the defect type and comments correctly?
E5.4.1 Does not make the correct final decision (EC 6).	Are the inspectors trained to make the correct final decision?
E5.4.1.2 Does not bring the correct work card (EC 6). E5.4.1.3 Signs off the work card incorrectly (EC 6).	Are the inspectors trained on to sign off work card?
E6.1.3 Removes the equipments and supplies from the inspection area incorrectly (EC 6).	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?
E6.2.2 Does not bring the correct cleaning equipment (EC 6).	Are the inspectors trained on cleaning the equipment correctly?
E6.3.3 Does not return the support equipment to storage (EC 6).	Are the inspectors trained on returning the support equipment to the storage?

Appendix C4

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.1.1 Consists information on: <ul style="list-style-type: none"> • Identifying the correct document. • Reading the correct information. 	6.1.5 Documented procedures 6.4 Reports and documentation				
1.1.2 Consists information on: <ul style="list-style-type: none"> • tasks • strategies • mental models • planning the appropriate task • planning the appropriate strategy • creating appropriate mental models 	6.1 Selection of Parameters				
1.1.3 Consists information on: <ul style="list-style-type: none"> • different types of defects • criticality of the defects • probability of the defects • location of the defects • correctly mapping the defects with criticality. • correctly mapping the defects with location. 	5.0 Employer defined applications 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria			

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.1.4 <ul style="list-style-type: none"> • Consists information on starting point for search. • Consists of steps on correctly choosing the starting point for search. 	6.1 Selection of Parameters				
1.1.5 <ul style="list-style-type: none"> • Consists information about various search strategies. • Consists information on how to choose the appropriate strategy. 	6.1 Selection of Parameters				
1.2.1, 1.2.2 <ul style="list-style-type: none"> • Consists information on the tools required for a particular task. • Consists information on using the tools and support equipment. • Consists information about the mirror, magnifying loupe and cleaning cloth. • Consists information on how to collect an appropriate mirror. • Consists information on how to collect an appropriate magnifying loupe. • Consists information on how to collect a cleaning cloth. • Consists information about the support equipment required for a particular task. • Consists information on substitute equipment if correct equipment is not available. 	4.0 Equipment		2.0 Equipment Accessories		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.3.1 <ul style="list-style-type: none"> Consists information on how to check the mirror. Consists information on how to check the loupe. Consists information on how to check the cleaning cloth. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
1.3.2 <ul style="list-style-type: none"> Consists information about the support equipment (Boroscope). Consists information on how to check the support equipment (Boroscope). Consists information on how to handle the support equipment. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.1.1 <ul style="list-style-type: none"> Consists information on task area. Consists information on locating the correct task area. Consists information on aircraft numerical locations. Consists information on clear landmarks to help define boundaries of the inspection task. 	6.1 Selection of parameters	6.0 Visual perception			
2.2.1 <ul style="list-style-type: none"> Consists information on adequate access equipment required for performing the task. Consists information on how to move the support equipment to appropriate place. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.2.2 <ul style="list-style-type: none"> Consists information on how to position the aileron trim tab to gain access to push rod aft attached point. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
2.2.3 <ul style="list-style-type: none"> Consists information on how to remove the cotter pin, nut, washer and bolt securing push rod to hinge. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.2.4 <ul style="list-style-type: none"> Consists information on how to position the aileron to down position 	3.0 Fundamentals 4.0 Equipment	5.10 Position 4.0 Material Attributes	2.0 Equipment accessories		
2.2.5 <ul style="list-style-type: none"> Consists information on how to remove the cotter pin, nut, washer and bolt from inboard and outboard hinges 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
2.2.6 <ul style="list-style-type: none"> Consists information on how to disconnect the bonding jumper located in the outboard hinge area. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
2.2.7 <ul style="list-style-type: none"> Consists information on how to pull the aileron aft, separating the yoke from the aileron quadrant. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
4.1 <ul style="list-style-type: none"> Consists information on identifying the various types of indications. Consists information on correctly mapping the defect with area. Consists information on indications under special scrutiny. Consists information on experience required to be familiar with all indication types. Consists information on prototypical information with work cards. Consists information on correct quality and quantity of lighting required to ensure adequate recognition of indication. Consists information on correct terminologies used for each indication types listed in work card. Consists information on size or severity or severity level rejectable for a particular class of indication. 	2.0 Definitions 3.2 Lighting 3.5 Visual perception 6.1 Selection of parameters 6.3 Classification of indications per acceptance criteria 6.4 Reports and documentation	3.0 Lighting 6.0 Visual perception 9.0 Acceptance/ Rejection criteria 10.0 Recording and reports	1.1 Vision and light 1.3 Test object characteristics 4.3 Discontinuity variables affecting test results 4.6 Process for reporting visual discontinuities		
4.2 <ul style="list-style-type: none"> Consists information on the equipments required to measure indication area. Consists information on how to measure the indication area. Consists information on landmarks and work card. Consists information on locating and recognizing correct landmarks. Consists information on measuring graticule. Consists information on units of graticule and those specified in work card. 	4.0 Equipment 6.1.5 Documented procedures 6.3 Classification of indications per acceptance criteria 6.4 Reports and documentation	7.0 Equipment 9.0 Acceptance/ Rejection criteria 10.0 Recording and reports	2.0 Equipment accessories 2.3 Linear measurement 4.4 Determination of dimensions 4.6 Process for reporting visual discontinuities 5.0 Procedures and documentation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
4.3 <ul style="list-style-type: none"> Consists information about correct standards. Consists information on how to compare the indication with the standards. Consists information on physical comparison to standards. 	6.2 Test standards/ calibration	9.0 Acceptance/ Rejection criteria	3.9 Requirements		
5.1 <ul style="list-style-type: none"> Consists information on correctly mapping the location with the defect. Consists information on how to check the defect location appropriately. Consists information on numerical location of data on work card. 	5.0 Employer defined applications 6.0 Visual testing to specific procedures 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria	5.0 Procedures and documentation		
5.2 <ul style="list-style-type: none"> Consists information on equipments required to record defect location. Consists information on how to record the defect location appropriately. 	4.0 Equipment	7.0 Equipment	2.0 Equipment accessories		
5.3 <ul style="list-style-type: none"> Consists information about various defect types. Consists information about how to record the defect type. Consists information on how to comment about defect type. 	4.0 Equipment 6.0 Visual testing to specific procedures 6.4 Reports and documentation	10.0 Recording and reports	1.3 Test object characteristics 4.0 Interpretation/ Evaluation 5.0 Procedures and documentation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
5.4 <ul style="list-style-type: none"> Consists information on how to make a final decision. Consists information about various types of final decisions made for various types of indications. Consists information on the difference between an indication and a standard clearly beyond acceptance limit. 	6.2 Test standards and calibration 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria	5.0 Procedures and documentation		
5.4.1 <ul style="list-style-type: none"> Consists information on how to sign off a work card. 	6.4 Reports and documentation	10.0 Recording and reports	5.0 Procedures and documentation		
6.1 <ul style="list-style-type: none"> Consists information about how to remove equipments and supplies from inspection area. Consists information on checklist of equipment and supplies to ensure nothing is left in the inspection area. 	4.0 Equipment	7.0 Equipment	2.0 Equipment accessories		
6.2 <ul style="list-style-type: none"> Consists information on cleaning the equipment correctly. Consists information on correct cleaning material required. Consists information on training inspectors on correct cleaning procedures. 	3.4 Environmental factors	5.2 Cleanliness	1.2.2 Cleanliness 5.0 Procedures and documentation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
6.3 <ul style="list-style-type: none"> • Consists information on the correct procedure to return the equipment. • Consists information on the correct place to return the equipment. • Consists information on how to safely move the support equipment. • Consists information on the procedure for safety check of equipment prior to storage. • Consists information on signing in and out the equipment correctly. 	3.3 Material attributes	4.0 Material attributes	5.0 Procedures and documentation		

Appendix D1

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
1.0 INITIATE INSPECTION											
<i>1.1 Use Documentation to Plan Task</i>											
1.1.1 Read Documentation	X	X			X					Skipped this step. Did not have the work card initially. Referred to the work card when asked to do so.	Consists information on: <ul style="list-style-type: none"> Identifying the correct document. Reading the correct information.
1.1.2 Plan task, strategy and mental model	X	X			X					Planned the task appropriately. Planned the search strategy. Created an appropriate mental model.	Consists information on: <ul style="list-style-type: none"> tasks strategies mental models planning the appropriate task planning the appropriate strategy creating appropriate mental models
1.1.3 Learn type, criticality, probability, location of defects	X	X			X					Skipped this step Knew about the location of the defect	Consists information on: <ul style="list-style-type: none"> different types of defects criticality of the defects probability of the defects location of the defects correctly mapping the defects with criticality. correctly mapping the defects with location.
1.1.4 Choose starting points for search	X	X			X					Skipped this step.	Consists information on starting point for search. Consists of steps on correctly choosing the starting point for search.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
1.1.5 Choose search strategy	X	X			X					Did not use any specific instrument to search for defects. Did not have the work card.	Consists information about various search strategies. Consists information on how to choose the appropriate strategy.
<i>1.2 Assemble Equipment</i>											
1.2.1 Collect supplies, lighting	X	X			X					Moved the workbench closer to the aircraft. Collected the supplies and lighting.	Consists information on tools required for a particular task. Consists information on using the tools and support equipment.
1.2.2 Collect support equipment	X	X			X					Collected the support equipment.	Consists information about the mirror, magnifying loupe and cleaning cloth. Consists information on how to collect an appropriate mirror. Consists information on how to collect an appropriate magnifying loupe. Consists information on how to collect a cleaning cloth. Consists information about the support equipment required for a particular task. Consists information on substitute equipment if correct equipment is not available.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
<i>1.3 Test, Calibrate Equipment</i>											
1.3.1 Check mirror, loupe, cleaning cloth	X	X			X					Skipped this step.	Consists information on how to check the mirror. Consists information on how to check the loupe. Consists information on how to check the cleaning cloth.
1.3.2 Check the support equipment	X	X			X					Skipped this step.	Consists information about the support equipment (Boroscope). Consists information on how to check the support equipment (Boroscope). Consists information on how to handle the support equipment.
2.0 ACCESS INSPECTION TASK											
<i>2.1 Locate Task Area</i>	X	X			X						
2.1.1 Locate task area near the elevator.	X	X			X					Located the task area near the elevator.	Consists information on task area. Consists information on locating the correct task area. Consists information on aircraft numerical locations. Consists information on clear landmarks to help define boundaries of an inspection task.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
<i>2.2 Access Inspection Area</i>											
2.2.1 Move support equipment into place	X	X			X					Moved the workbench into place.	Consists information on adequate access equipment required for performing the task. Consists information on how to move the support equipment to an appropriate place.
2.2.2 Remove stinger, horizontal stabilizer fairings and trailing edge assembly exposing torque tube.	X				X			X		Removed the stinger, horizontal stabilizer fairings and trailing edge assembly exposing torque tube. Was not able to identify the parts by name.	Consists information on how to remove the stinger, horizontal stabilizer fairings and trailing edge assembly exposing the torque tube.
2.2.3 Remove cotter pins, nuts, washers and bolts attaching push-pull tubes at trim tab actuator.	X				X			X		Removed cotter pins, nuts, washers and bolts attaching push-pull tubes at trim tab actuator.	Consists information on how to remove cotter pins, nuts, washers and bolts attaching push-pull tubes at trim tab actuator
2.2.4 Mark bolts for re-installation in the same push-pull tubes.	X				X			X		Marked the bolts for re-installation in the same push-pull tubes.	Consists information on how to mark the bolts for re-installation in the same push-pull tubes
2.2.5 Disconnect torque tube from elevator hom by removing nuts, washers and bolts.	X	X	X		X					Disconnected torque tube from elevator hom by removing nuts, washers and bolts.	Consists information on how to disconnect the torque tube from elevator hom by removing nuts, washers and bolts.
2.2.6 Disconnect bonding jumper from horizontal stabilizer by removing the screw.	X	X	X		X					Disconnected bonding jumper from horizontal stabilizer by removing the screw.	Consists information on how to disconnect bonding jumper from horizontal stabilizer by removing the screw.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
2.2.7 Support the elevator and remove cotter pins, nuts, washers and bolts securing elevator to horizontal stabilizer.	X	X								Supported the elevator and removed cotter pins, nuts, washers and bolts securing the elevator to horizontal stabilizer.	Consists information on how to support the elevator and removal of cotter pins, nuts, washers and bolts securing the elevator to horizontal stabilizer
2.2.8 Remove the elevator by pulling aft.	X	X								Removed the elevator by pulling aft.	Consists information on how to remove the elevator by pulling the aft.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
4.0 DECISION ON INDICATION											
<i>4.1 Identify Indication Type</i>	X	X	X		X					Identified the indication as a crack.	Consists information on identifying the various types of indications. Consists information on correctly mapping the defect with area. Consists information on indications under special scrutiny. Consists information on experience required to be familiar with all indication types. Consists information on prototypical information with work cards. Consists information on correct quality and quantity of lighting required to ensure adequate recognition of indication. Consists information on correct terminologies used for each indication types listed in work card. Consists information on size or severity or severity level rejectable for a particular class of indication.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
<i>4.2 Measure Indication Size</i>	X	X	X				X			Measured indication size.	Consists information on equipments required to measure indication area. Consists information on how to measure the indication area. Consists information on landmarks and work card. Consists information on locating and recognizing correct landmarks. Consists information on measuring graticule. Consists information on units on graticule and those specified in work card.
<i>4.3 Compare Indication to Standard</i>	X	X	X							Compared the indication to a standard.	Consists information about correct standards. Consists information on how to compare the indication with the standards. Consists information on physical comparison to standards.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
5.0 RESPOND TO INSPECTION											
<i>5.1 Check Defect Location</i>	X	X								Checked the defect location.	Consists information on correctly mapping the location with the defect. Consists information on how to check the defect location appropriately. Consists information on numerical location of data on work card.
<i>5.2 Record Defect Location</i>	X									Recorded the defect location.	Consists information on equipments required to record defect location. Consists information on how to record the defect location appropriately.
<i>5.3 Record Defect Type, Comments</i>	X									Recorded the defect type.	Consists information about various defect types. Consists information about how to record the defect type. Consists information on how to comment about defect type.
<i>5.4 Final Decision</i>		X	X	X	X					Tagged the elevator. Did not make a decision whether to replace or fix the elevator because of the size and location of the defect.	Consists information on how to make a final decision. Consists information about various types of final decisions made for various types of indications. Consists information on the difference between an indication and a standard clearly beyond acceptance limit.
<i>5.4.1 Sign off the work card.</i>										Did not sign the work card	Consists information on how to sign off a work card.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

TASK DESCRIPTION	Task Analysis									OBSERVATIONS	CONTENT
	A	S	P	D	M	C	F	O			
6.0 RETURN EQUIPMENT TO STORAGE											
<i>6.1 Remove Equipment, Supplies from Inspection Area</i>	X									Removed the equipment, supplies from the inspection area.	Consists information about how to remove equipments and supplies from inspection area. Consists information on checklist of equipment and supplies to ensure nothing is left in the inspection area.
<i>6.2 Clean Equipment</i>	X									Cleaned the equipment.	Consists information on cleaning the equipment correctly. Consists information on correct cleaning material required. Consists information on training inspectors on correct cleaning procedures.
<i>6.3 Return Support Equipment to Storage</i>	X									Returned the support equipment to storage.	Consists information on the correct procedure to return the equipment. Consists information on the correct place to return the equipment. Consists information on how to safely move the support equipment. Consists information on the procedure for safety check of equipment prior to storage. Consists information on signing in and out the equipment correctly.

A: Attention S: Senses P: Perception D: Decision Making M: Memory C: Control F: Feedback O: Others

Appendix D2

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.0 INITIATE INSPECTION			
<i>1.1 Use Documentation to Plan Task</i>			
1.1.1 Read Documentation	E1.1.1.1 Does not have the correct documentation (EC1). E1.1.1.2 Does not have the documentation (EC 1). E1.1.1.3 Does read the document incorrectly (EC 6). E1.1.1.4 Does not know how to read the document (EC 5). E1.1.1.5 Does not interpret the document correctly (EC 3).	Does know to locate, read and interpret the correct documentation.	Are the inspectors trained to locate the correct documentation? Are the inspectors trained to read and interpret the correct documentation?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.2 Plan task, strategy and mental model	E1.1.2.1 Does not plan the task (EC 4). E1.1.2.2 Does plan the task incorrectly (EC 4). E1.1.2.3 Does not plan the correct task (EC 4). E1.1.2.4 Does not plan the strategy (EC 4). E1.1.2.5 Does plan the strategy incorrectly (EC 4). E1.1.2.6 Does not plan the correct strategy (EC 4). E1.1.2.7 Does not create a mental model (EC 2). E1.1.2.8 Created a wrong mental model (EC 2). E1.1.2.9 Created a mental model irrelevant to task and strategy (EC 2). E1.1.2.10 Does not know to create a mental model (EC 2).	Does plan the correct task. Does plan the correct strategy. Does form the correct mental model.	Are the inspectors trained to plan the correct task? Are the inspectors trained to plan the correct strategy? Are the inspectors trained to form the correct mental model?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.3 Learn type, criticality, probability, location of defects	E1.1.3.1 Does not know about the different types of defects (EC 1). E1.1.3.2 Does not know all the defects (EC 1). E1.1.3.3 Does not know about the criticality of defects (EC 1). E1.1.3.4 Incorrectly maps the defects with criticality (EC 1). E1.1.3.5 Does not know how often the defects occur (EC 1). E1.1.3.6 Does not know about the location of the defects (EC 1). E1.1.3.7 Incorrectly maps the defects with location (EC 1).	Does know about the different type of defects. Does know the correct mapping of the defects with criticality. Does know the probability of occurrence of defects. Does know the correct location of the defects.	Are the inspectors trained to detect the different types of defects? Are the inspectors trained to map the defects with criticality? Are the inspectors trained to gauge the defect occurrence probability? Are the inspectors trained to locate the defects correctly?
1.1.4 Choose starting points for search	E1.1.4.1 Does not know to select the starting point for search (EC 1). E1.1.4.2 Does not know the starting point for the search (EC 1). E1.1.4.3 Select the wrong starting point for search (EC 6).	Does know the correct starting point for search.	Are the inspectors well versed with how to start a search?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.1.5 Choose search strategy	E1.1.5.1 Does not know what a search strategy is (EC 1). E1.1.5.2 Does not know to select a search strategy (EC 1). E1.1.5.3 Select the wrong search strategy (EC 6).	Does know the correct search strategy.	Are the inspectors trained to form the correct search strategy?
<i>1.2 Assemble Equipment</i>			
1.2.1 Collect supplies, lighting			
1.2.1.1 Collect mirror	E1.2.1.1.1 Does not collect the mirror (EC 1). E1.2.1.1.2 Does collect the faulty mirror (EC 6).	Does know to collect the appropriate mirror.	Are the inspectors trained to collect the mirror?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.2.1.2 Collect magnifying loupe	E1.2.1.2.1 Does not collect the magnifying loupe (EC 1). E1.2.1.2.2 Does collect the faulty magnifying loupe (EC 6).	Does know to collect the appropriate magnifying loupe	Are the inspectors trained to collect the magnifying loupe?
1.2.1.3 Collect cleaning cloth	E1.2.1.3.1 Does not collect the cleaning cloth (EC 1).	Does know to collect the appropriate magnifying loupe	Are the inspectors trained to collect the cleaning cloth?
1.2.1.4 Collect measuring equipment	E1.2.1.4.1 Does not collect the measuring equipment (EC 1). E1.2.1.4.2 Does collect the faulty measuring equipment (EC 6).	Does know to collect the appropriate magnifying loupe	Are the inspectors trained to collect the measuring equipment?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.2.1.5 Collect support equipment	E1.2.1.5.1 Does not collect the support equipment (EC 1). E1.2.1.5.2 Does collect the faulty support equipment (EC 6).	Does know to collect the appropriate magnifying loupe	Are the inspectors trained to collect the support equipment?
1.2.1.6 Move the workbench closer to the aircraft.	E1.2.1.6.1 Does not know how to move the workbench closer to the aircraft (EC 1). E1.2.1.6.2 Does not move the workbench closer to the aircraft (EC 6).	Does move the workbench closer to the aircraft.	Are the inspectors trained on moving the support equipment closer to the aircraft?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>1.3 Test, Calibrate Equipment</i>			
1.3.1 Check mirror, loupe, cleaning cloth	E1.3.1.1 Does not know how to check mirror (EC 1). E1.3.1.2 Does not check the mirror (EC 1). E1.3.1.3 Does check the mirror incorrectly (EC 6). E1.3.1.4 Does not know how to check loupe (EC 1). E1.3.1.5 Does not check the loupe (EC 1). E1.3.1.6 Does check the loupe incorrectly (EC 6). E1.3.1.7 Does not know how to check cleaning cloth (EC 1). E1.3.1.8 Does not check the cleaning cloth (EC 1). E1.3.1.9 Does check the cleaning cloth incorrectly (EC 6).	Does know how to check the mirror. Does know how to check the loupe. Does know how to check the cleaning cloth.	Are the inspectors trained to check the mirror correctly? Are the inspectors trained to check the loupe correctly? Are the inspectors trained to check the cleaning cloth correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
1.3.2 Check support equipment (Boroscope)	E1.3.2.1 Does not know how to check support equipment (Boroscope) (EC 1). E1.3.2.2 Does not check the support equipment (Boroscope) (EC 1). E1.3.2.3 Does check the support equipment (Boroscope) incorrectly (EC 6).	Does know how to check the support equipment (Boroscope)	Are the inspectors trained to check the support equipment correctly?
2.0 ACCESS INSPECTION TASK			
<i>2.1 Locate Task Area</i>			

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.1.1 Locate task area near the elevator.	E2.1.1.1 Does not know how to locate task area near the elevator (EC 5). E2.1.1.2 Does not locate the task area near the elevator (EC 6). E2.1.1.3 Locates the wrong task near the elevator (EC 6).	Does locate task area near the elevator.	Are the inspectors trained on locating the task area near the elevator?
2.2 <i>Access Inspection Area</i>			

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.2.1 Move support equipment into place	E2.2.1.1 Does not know how to move support equipment into place (EC 5). E2.2.1.2 Does not move support equipment into place (EC 6). E2.2.1.3 Does move the support equipment into inappropriate place (EC 6).	Does move the support equipment into correct place.	Are the inspectors trained on handling the support equipment correctly?
2.2.2 Remove stinger, horizontal stabilizer fairings and trailing edge assembly exposing torque tube.	E2.2.2.1 Does not know how to remove stinger, horizontal stabilizer fairings and trailing edge assembly (EC 5). E2.2.2.2 Does not remove stinger, horizontal stabilizer fairings and trailing edge assembly (EC 6).	Does remove the stinger, horizontal stabilizer fairings and trailing edge assembly exposing torque tube.	Are the inspectors trained on how to expose torque tubes by removing stinger, horizontal stabilizer fairings and trailing edge assembly?
2.2.3 Remove cotter pins, nuts, washers and bolts attaching push-pull tubes at trim tab actuator.	E2.2.3.1 Does not know how to remove cotter pins, nuts, washers and bolts attaching push-pull tubes (EC 5). E2.2.3.2 Does not remove cotter pins, nuts, washers and bolts attaching push-pull tubes (EC 6).	Does not remove cotter pins, nuts, washers and bolts attaching push-pull tubes.	Are the inspectors trained on removing cotter pins, nuts, washers and bolts attaching push-pull types at trim lab actuator?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.2.4 Mark bolts for re-installation in the same push-pull tubes.	E2.2.4.1 Does not know how to mark bolts for re-installation in the same push-pull tubes (EC 5). E2.2.4.2 Does not mark bolts for re-installation in the same push-pull tubes (EC 6). E2.2.4.3 Marks the bolts incorrectly (EC 6). E2.2.4.5 Does not know how to interpret the right bolts for marking appropriately (EC 3).	Does mark the bolts for re-installation in the same push-pull tubes.	Are the inspectors trained on marking the bolts for re-installation in the same push-pull tubes?
2.2.5 Disconnect torque tube from elevator hom by removing nuts, washers and bolts.	E2.2.5.1 Does not know how to disconnect torque tube from elevator hom (EC 5). E2.2.5.2 Does not disconnect torque tube from elevator hom (EC 6). E2.2.5.3 Disconnects the torque tube from elevator hom incorrectly (EC 6).	Does disconnect torque tube from elevator hom by removing nuts, washers and bolts.	Are the inspectors trained on disconnecting torque tube from elevator hom by removing nuts, washers and bolts?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.2.6 Disconnect bonding jumper from horizontal stabilizer by removing screw.	E2.2.6.1 Does not know how to disconnect bonding jumper from horizontal stabilizer (EC 5). E2.2.6.2 Does not disconnect bonding jumper from horizontal stabilizer (EC 6). E2.2.6.3 Disconnects bonding jumper from horizontal stabilizer incorrectly (EC 6).	Does disconnect bonding jumper from horizontal stabilizer by removing screw.	Are the inspectors trained on disconnecting bonding jumper from horizontal stabilizer by removing screw?
2.2.7 Support the elevator and remove cotter pins, nuts, washers and bolts securing elevator to horizontal stabilizer.	E2.2.7.1 Does not know how to support the elevator and remove cotter pins, nuts, washers and bolts securing elevator to horizontal stabilizer (EC 5). E2.2.7.2 Does not support the elevator and remove cotter pins, nuts, washers and bolts securing elevator to horizontal stabilizer (EC 6). E2.2.7.3 Supports the elevator and remove cotter pins, nuts, washers and bolts securing elevator to horizontal stabilizer incorrectly (EC 6).	Does support the elevator and remove cotter pins, nuts, washers and bolts securing elevator to horizontal stabilizer.	Are the inspectors trained on supporting torque tube from elevator hom by removing nuts, washers and bolts?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
2.2.8 Remove the elevator by pulling aft.	E2.2.8.1 Does not know how to remove the elevator by pulling aft (EC 5) E2.2.8.2 Does not remove the elevator by pulling aft (EC 6). E2.2.8.3 Does remove the elevator by pulling aft incorrectly (EC 6).	Does remove the elevator by pulling aft.	Are the inspectors trained on removing the elevator by pulling aft?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
4.0 DECISION ON INDICATION			
<i>4.1 Identify Indication Type</i>	E4.1.1 Does not know the correct indication type (EC 5). E4.1.2 Identifies the type of defect incorrectly (EC 6). E4.1.3 Forgets the area where the inspector has originally identified the indication (EC 6). E4.1.4 Interprets the indication type incorrectly (EC 3).	Does identify the correct indication.	Are the inspectors trained in identifying the correct indication type?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p><i>4.2 Measure Indication Size</i></p>	<p>E4.2.1 Does not know how to measure the indication size (EC 5).</p> <p>E 4.2.2 Does not bring the correct equipment to measure the indication size. (EC 6).</p> <p>E4.2.3 Measures the indication incorrectly (EC 6).</p> <p>E4.2.4 Interprets the measurement of indication size incorrectly (EC 3).</p>	<p>Does measure the indication size correctly.</p>	<p>Are the inspectors trained in measuring the indication size correctly?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<p><i>4.3 Compare Indication to Standard</i></p>	<p>E 4.3.1 Does not know the correct standards (EC 5).</p> <p>E4.3.2 Does not bring the correct standards documentation (EC 6).</p> <p>E4.3.3 Does not know how to compare the indication to standard (EC 5).</p> <p>E4.3.4 Compares the indication to standard incorrectly (EC 6).</p> <p>E4.3.5 Interprets the comparison incorrectly (EC 3).</p>	<p>Does compare the indication to standard correctly.</p>	<p>Are the inspectors trained in comparing the indication to standard correctly?</p>
<p>5.0 RESPOND TO INSPECTION</p>			
<p><i>5.1 Check Defect Location</i></p>	<p>E5.1.1 Does not know the correct defect location (EC 5).</p> <p>E5.1.2 Checks the defect location incorrectly (EC 6).</p> <p>E5.1.3 Misses the location where the inspector has originally identified the defect (EC 6).</p>	<p>Does check the defect location correctly.</p>	<p>Are the inspectors trained to check the correct location of defect?</p>

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
5.2 <i>Record Defect Location</i>	E5.2.1 Does not know how to record the defect location. (EC 5). E5.2.2 Does not bring the correct equipments to record the defect location. (EC 6). E5.2.3 Records the indication incorrectly (EC 6).	Does record the defect location correctly.	Are the inspectors trained to record the location of defect?
5.3 <i>Record Defect Type, Comments</i>	E5.3.1 Does not know the correct defect type (EC 5). E5.3.2 Records the type of defect incorrectly (EC 6). E5.3.3 Does not know how to record the comments on a particular defect type (EC 5). E5.3.4 Records the comments incorrectly (EC 6).	Does record the defect type and comments correctly.	Are the inspectors trained to record the defect type and comments correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>5.4 Final Decision</i>	E5.4.1 Does not make the correct final decision (EC 6). E5.4.2 Does not know how to make a final decision (EC 5).	Does make the correct final decision.	Are the inspectors trained to make the correct final decision?
5.4.1 Sign off the work card.	E5.4.1.1 Does not know how to sign off the work card (EC 5). E5.4.1.2 Does not bring the correct work card (EC 6). E5.4.1.3 Signs off the work card incorrectly (EC 6).	Does sign off the work card correctly.	Are the inspectors trained on to sign off work card?
6.0 RETURN EQUIPMENT TO STORAGE			
<i>6.1 Remove Equipment, Supplies from Inspection Area</i>	E6.1.1 Does not know to remove the equipments from the inspection area (EC 5). E6.1.2 Does not know to remove supplies from the inspection area (EC 5). E6.1.3 Removes the equipments and supplies from the inspection area incorrectly (EC 6).	Does remove the equipment and supplies from the inspection area correctly.	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?

TASK DESCRIPTION	ERRORS	OUTCOME	TRAINING NEEDS
<i>6.2 Clean Equipment</i>	E6.2.1 Does not know how to clean the equipment correctly (EC 5). E6.2.2 Does not bring the correct cleaning equipment (EC 6).	Does clean the equipment correctly.	Are the inspectors trained on cleaning the equipment correctly?
<i>6.3 Return Support Equipment to Storage</i>	E6.3.1 Does not know where to return the support equipment (EC 5). E6.3.2 Does not know the correct procedure to return support equipment (EC 5). E6.3.3 Does not return the support equipment to storage (EC 6).	Does return the support equipment to storage.	Are the inspectors trained on returning the support equipment to the storage?

Appendix D3

EC 1 TYPE ERROR	TRAINING NEEDS
<p>E1.1.1.1 Does not have the correct documentation (EC1).</p> <p>E1.1.1.2 Does not have the documentation (EC 1).</p>	<p>Are the inspectors trained to locate the correct documentation?</p>
<p>E1.1.3.1 Does not know about the different types of defects (EC 1).</p> <p>E1.1.3.2 Does not know all the defects (EC 1).</p> <p>E1.1.3.3 Does not know about the criticality of defects (EC 1).</p> <p>E1.1.3.4 Does map the defects with criticality incorrectly (EC 1).</p> <p>E1.1.3.5 Does not know how often the defects occur (EC 1).</p> <p>E1.1.3.6 Does not know about the location of the defects (EC 1).</p> <p>E1.1.3.7 Does map the defects with location incorrectly (EC 1).</p>	<p>Are the inspectors trained to detect the different types of defects?</p> <p>Are the inspectors trained to map the defects with criticality?</p> <p>Are the inspectors trained to determine the probability of the occurring defects?</p> <p>Are the inspectors trained to locate the defects correctly?</p>

EC 1 TYPE ERROR	TRAINING NEEDS
E1.1.4.1 Does not know how to select the starting point for search (EC 1). E1.1.4.2 Does not know the starting point for the search (EC 1).	Are the inspectors well versed with how to start a search?
E1.1.5.1 Does not know what a search strategy is (EC 1). E1.1.5.2 Does not how to select a search strategy (EC 1).	Are the inspectors trained to form the correct search strategy?
E1.2.1.1.1 Does not collect the mirror (EC 1). E1.2.1.2.1 Does not collect the magnifying loupe (EC 1). E1.2.1.3.1 Does not collect the cleaning cloth at the required time (EC 1). E1.2.1.4.1 Does not collect the measuring equipment (EC 1).	Are the inspectors trained on collecting the appropriate equipment?

EC 1 TYPE ERROR	TRAINING NEEDS
E1.2.1.5.1 Does not collect the support equipment (EC 1).	Are the inspectors trained on collecting the appropriate equipment?
E1.2.1.6.1 Does not know how to move the workbench closer to the aircraft (EC 1).	Are the inspectors trained on moving the support equipment closer to the aircraft?
E1.3.1.1 Does not check the mirror (EC 1). E1.3.1.3 Does not check the loupe (EC 1). E1.3.1.5 Does not check the cleaning cloth (EC 1).	Are the inspectors trained to check the mirror correctly? Are the inspectors trained to check the loupe correctly? Are the inspectors trained to check the cleaning cloth correctly?
E1.3.2.1 Does not know how to check support equipment (EC 1). E1.3.2.2 Does not check the support equipment (EC 1).	Are the inspectors trained to check the support equipment correctly?

EC 3 TYPE ERROR	TRAINING NEEDS
E1.1.1.5 Does not interpret the document correctly (EC 3).	Are the inspectors trained to read and interpret the correct documentation?
E4.1.4 Interprets the indication type incorrectly (EC 3).	Are the inspectors trained in identifying the correct indication type?
E4.2.4 Interprets the measurement of indication size incorrectly (EC 3).	Are the inspectors trained in measuring the indication size correctly?
E4.3.5 Interprets the comparison incorrectly (EC 3).	Are the inspectors trained in comparing the indication to standard correctly?

EC 2 TYPE ERROR	TRAINING NEEDS
E1.1.2.7 Does not create a mental model (EC 2). E1.1.2.8 Created an incorrect mental model (EC 2). E1.1.2.9 Created a mental model irrelevant to task and strategy (EC 2). E1.1.2.10 Does not know how to create a mental model (EC 2).	Are the inspectors trained to form the correct mental model? Are the inspectors trained to plan the correct strategy?

EC 4 TYPE ERROR	TRAINING NEEDS
E1.1.2.1 Does not plan the task (EC 4). E1.1.2.2 Does plan the task incorrectly (EC 4). E1.1.2.3 Does not plan the correct task (EC 4). E1.1.2.4 Does not plan the strategy (EC 4). E1.1.2.5 Does plan the strategy incorrectly (EC 4). E1.1.2.6 Does not plan the correct strategy (EC 4).	Are the inspectors trained to form the correct task? Are the inspectors trained to form the correct mental model? Are the inspectors trained to plan the correct strategy?

EC 5 TYPE ERROR	TRAINING NEEDS
E1.1.1.4 Does not know how to read the document (EC 5).	Are the inspectors trained to read and interpret the correct documentation?
E2.1.1.1 Does not know how to locate task area near the elevator (EC 5).	Are the inspectors trained on locating the task area near the elevator?
E2.2.1.1 Does not know how to move support equipment into place (EC 5).	Are the inspectors trained on handling the support equipment correctly?
E2.2.2.1 Does not know how to remove stinger, horizontal stabilizer fairings and trailing edge assembly (EC 5).	Are the inspectors trained on how to expose torque tubes by removing stinger, horizontal stabilizer fairings and trailing edge assembly?
E2.2.3.1 Does not know how to remove cotter pins, nuts, washers and bolts attaching push-pull tubes (EC 5).	Are the inspectors trained on removing cotter pins, nuts, washers and bolts attaching push-pull types at trim lab actuator?
E2.2.4.1 Does not know how to mark bolts for re-installation in the same push-pull tubes (EC 5).	Are the inspectors trained on marking the bolts for re-installation in the same push-pull tubes?
E2.2.5.1 Does not know how to disconnect torque tube from elevator hom (EC 5).	Are the inspectors trained on disconnecting torque tube from elevator hom by removing nuts, washers and bolts?

EC 5 TYPE ERROR	TRAINING NEEDS
E2.2.6.1 Does not know how to disconnect bonding jumper from horizontal stabilizer (EC 5).	Are the inspectors trained on disconnecting bonding jumper from horizontal stabilizer by removing screw?
E2.2.7.1 Does not know how to support the elevator and remove cotter pins, nuts, washers and bolts securing elevator to horizontal stabilizer (EC 5).	Are the inspectors trained on supporting torque tube from elevator hom by removing nuts, washers and bolts?
E2.2.8.1 Does not know how to remove the elevator by pulling aft (EC 5)	Are the inspectors trained on removing the elevator by pulling aft?
E4.1.1 Does not know the correct indication type (EC 5).	Are the inspectors trained in identifying the correct indication type?
E4.2.1 Does not know how to measure the indication size (EC 5).	Are the inspectors trained in measuring the indication size correctly?
E 4.3.1 Does not know the correct standards (EC 5). E4.3.3 Does not know how to compare the indication to standard (EC 5).	Are the inspectors trained in comparing the indication to standard correctly?

EC 5 TYPE ERROR	TRAINING NEEDS
E5.1.1 Does not know the correct defect location (EC 5).	Are the inspectors trained to check the correct location of defect?
E5.2.1 Does not know how to record the defect location (EC 5).	Are the inspectors trained to record the location of defect?
E5.3.1 Does not know the correct defect type (EC 5). E5.3.3 Does not know how to record the comments on a particular defect type (EC 5).	Are the inspectors trained to record the defect type and comments correctly?

EC 5 TYPE ERROR	TRAINING NEEDS
E5.4.2 Does not know how to make a final decision (EC 5).	Are the inspectors trained to make the correct final decision?
E5.4.1.1 Does not know how to sign off the work card (EC 5).	Are the inspectors trained on to sign off work card?
E6.1.1 Does not know to remove the equipments from the inspection area (EC 5). E6.1.2 Does not know to remove supplies from the inspection area (EC 5).	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?
E6.2.1 Does not know how to clean the equipment correctly (EC 5).	Are the inspectors trained on cleaning the equipment correctly?
E6.3.1 Does not know where to return the support equipment (EC 5). E6.3.2 Does not know the correct procedure to return support equipment (EC 5).	Are the inspectors trained on returning the support equipment to the storage?

EC 6 TYPE ERROR	TRAINING NEEDS
E1.1.1.3 Does read the document incorrectly (EC 6).	Are the inspectors trained to read and interpret the correct documentation?
	Are the inspectors well versed with how to start a search?
E1.1.4.3 Select the wrong starting point for search (EC 6).	
E1.1.5.3 Select the wrong search strategy (EC 6).	Are the inspectors trained to form the correct search strategy?
E1.2.1.1.2 Does collect the faulty mirror (EC 6).	Are the inspectors trained to collect the mirror?
E1.2.1.2.2 Does collect the faulty magnifying loupe (EC 6).	Are the inspectors trained to collect the magnifying loupe?
E1.2.1.4.2 Does collect the faulty measuring equipment (EC 6).	Are the inspectors trained to collect the measuring equipment?
E1.2.1.5.2 Does collect the faulty support equipment (EC 6).	Are the inspectors trained to collect the support equipment?
E1.2.1.6.2 Does not move the workbench closer to the aircraft. (EC 6)	Are the inspectors trained on moving the support equipment closer to the aircraft?
E1.3.1.3 Does check the mirror incorrectly (EC 6).	Are the inspectors trained to check the mirror correctly?
E1.3.1.6 Does check the loupe incorrectly (EC 6).	Are the inspectors trained to check the loupe correctly?
E1.3.1.9 Does check the cleaning cloth incorrectly (EC 6).	Are the inspectors trained to check the cleaning cloth correctly?
E1.3.2.3 Does check the support equipment incorrectly (EC 6).	Are the inspectors trained to check the support equipment correctly?

EC 6 TYPE ERROR	TRAINING NEEDS
E2.1.1.2 Does not locate the task area near the elevator (EC 6). E2.1.1.3 Locates the wrong task near the elevator (EC 6).	Are the inspectors trained on locating the task area near the elevator?
E2.2.1.2 Does not move support equipment into place (EC 6). E2.2.1.3 Does move the support equipment into inappropriate place (EC 6).	Are the inspectors trained on handling the support equipment correctly?
E2.2.2.2 Does not remove stinger, horizontal stabilizer fairings and trailing edge assembly (EC 6).	Are the inspectors trained on how to expose torque tubes by removing stinger, horizontal stabilizer fairings and trailing edge assembly?
E2.2.3.2 Does not remove cotter pins, nuts, washers and bolts attaching push-pull tubes (EC 6).	Are the inspectors trained on removing cotter pins, nuts, washers and bolts attaching push-pull types at trim lab actuator?
E2.2.4.2 Does not mark bolts for re-installation in the same push-pull tubes (EC 6). E2.2.4.3 Marks the bolts incorrectly (EC 6).	Are the inspectors trained on marking the bolts for re-installation in the same push-pull tubes?
E2.2.5.2 Does not disconnect torque tube from elevator hom (EC 6). E2.2.5.3 Disconnects the torque tube from elevator hom incorrectly (EC 6).	Are the inspectors trained on disconnecting torque tube from elevator hom by removing nuts, washers and bolts?

EC 6 TYPE ERROR	TRAINING NEEDS
E2.2.6.2 Does not disconnect bonding jumper from horizontal stabilizer (EC 6). E2.2.6.3 Disconnects bonding jumper from horizontal stabilizer incorrectly (EC 6).	Are the inspectors trained on disconnecting bonding jumper from horizontal stabilizer by removing screw?
E2.2.7.2 Does not support the elevator and remove cotter pins, nuts, washers and bolts securing elevator to horizontal stabilizer (EC 6). E2.2.7.3 Supports the elevator and remove cotter pins, nuts, washers and bolts securing elevator to horizontal stabilizer incorrectly (EC 6).	Are the inspectors trained on supporting torque tube from elevator hom by removing nuts, washers and bolts?
E2.2.8.2 Does not remove the elevator by pulling aft (EC 6). E2.2.8.3 Does remove the elevator by pulling aft incorrectly (EC 6).	Are the inspectors trained on removing the elevator by pulling aft?

EC 6 TYPE ERROR	TRAINING NEEDS
E4.1.2 Identifies the type of defect incorrectly (EC 6). E4.1.3 Forgets the area where the inspector has originally identified the indication (EC 6).	Are the inspectors trained in identifying the correct indication type?
E 4.2.2 Does not bring the correct equipment to measure the indication size (EC 6). E4.2.3 Measures the indication incorrectly (EC 6).	Are the inspectors trained in measuring the indication size correctly?
E4.3.2 Does not bring the correct standards documentation (EC 6). E4.3.4 Compares the indication to standard incorrectly (EC 6).	Are the inspectors trained in comparing the indication to standard correctly?
E5.1.2 Checks the defect location incorrectly (EC 6). E5.1.3 Misses the location where the inspector has originally identified the defect (EC 6).	Are the inspectors trained to check the correct location of defect?
E5.2.2 Does not bring the correct equipments to record the defect location (EC 6). E5.2.3 Records the indication incorrectly (EC 6).	Are the inspectors trained to record the location of defect?

EC 6 TYPE ERROR	TRAINING NEEDS
E5.3.2 Records the type of defect incorrectly (EC 6). E5.3.4 Records the comments incorrectly (EC 6).	Are the inspectors trained to record the defect type and comments correctly?
E5.4.1 Does not make the correct final decision (EC 6).	Are the inspectors trained to make the correct final decision?
E5.4.1.2 Does not bring the correct work card (EC 6). E5.4.1.3 Signs off the work card incorrectly (EC 6).	Are the inspectors trained on to sign off work card?
E6.1.3 Removes the equipments and supplies from the inspection area incorrectly (EC 6).	Are the inspectors trained to remove the equipment and supplies from the inspection area correctly?
E6.2.2 Does not bring the correct cleaning equipment (EC 6).	Are the inspectors trained on cleaning the equipment correctly?
E6.3.3 Does not return the support equipment to storage (EC 6).	Are the inspectors trained on returning the support equipment to the storage?

Appendix D4

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.1.1 Consists information on: <ul style="list-style-type: none"> • Identifying the correct document. • Reading the correct information. 	6.1.5 Documented procedures 6.4 Reports and documentation				
1.1.2 Consists information on: <ul style="list-style-type: none"> • tasks • strategies • mental models • planning the appropriate task • planning the appropriate strategy • creating appropriate mental models 	6.1 Selection of Parameters				
1.1.3 Consists information on: <ul style="list-style-type: none"> • different types of defects • criticality of the defects • probability of the defects • location of the defects • correctly mapping the defects with criticality. • correctly mapping the defects with location. 	5.0 Employer defined applications 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria			

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.1.4 <ul style="list-style-type: none"> • Consists information on starting point for search. • Consists of steps on correctly choosing the starting point for search. 	6.1 Selection of Parameters				
1.1.5 <ul style="list-style-type: none"> • Consists information about various search strategies. • Consists information on how to choose the appropriate strategy. 	6.1 Selection of Parameters				
1.2.1, 1.2.2 <ul style="list-style-type: none"> • Consists information on tools required for a particular task. • Consists information on using the tools and support equipment. • Consists information about the mirror, magnifying loupe and cleaning cloth. • Consists information on how to collect an appropriate mirror. • Consists information on how to collect an appropriate magnifying loupe. • Consists information on how to collect a cleaning cloth. • Consists information about the support equipment required for a particular task. • Consists information on substitute equipment if correct equipment is not available. 	4.0 Equipment		2.0 Equipment Accessories		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
1.3.1 <ul style="list-style-type: none"> Consists information on how to check the mirror. Consists information on how to check the loupe. Consists information on how to check the cleaning cloth. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
1.3.2 <ul style="list-style-type: none"> Consists information about the support equipment (Boroscope). Consists information on how to check the support equipment (Boroscope). Consists information on how to handle the support equipment. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.1.1 <ul style="list-style-type: none"> Consists information on task area. Consists information on locating the correct task area. Consists information on aircraft numerical locations. Consists information on clear landmarks to help define boundaries of an inspection task. 	6.1 Selection of parameters	6.0 Visual perception			
2.2.1 <ul style="list-style-type: none"> Consists information on adequate access equipment required for performing the task. Consists information on how to move the support equipment to an appropriate place. 	3.3 Material Attributes 4.0 Equipment	4.0 Material Attributes			
2.2.2 <ul style="list-style-type: none"> Consists information on how to remove the stinger, horizontal stabilizer fairings and trailing edge assembly exposing the torque tube. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
2.2.3 <ul style="list-style-type: none"> Consists information on how to remove cotter pins, nuts, washers and bolts attaching push-pull tubes at trim tab actuator. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
2.2.4 <ul style="list-style-type: none"> Consists information on how to mark the bolts for re-installation in the same push-pull tubes. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
2.2.5 <ul style="list-style-type: none"> Consists information on how to disconnect the torque tube from elevator horn by removing nuts, washers and bolts. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
2.2.6 <ul style="list-style-type: none"> Consists information on how to disconnect bonding jumper from horizontal stabilizer by removing the screw. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
2.2.7 <ul style="list-style-type: none"> Consists information on how to support the elevator and removal of cotter pins, nuts, washers and bolts securing the elevator to horizontal stabilizer. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		
2.2.8 <ul style="list-style-type: none"> Consists information on how to remove the elevator by pulling the aft. 	4.0 Equipment 6.0 Visual testing to specific procedures	5.10 Position	1.3 Test object characteristics 4.0 Interpretation/Evaluation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
4.1 <ul style="list-style-type: none"> Consists information on identifying the various types of indications. Consists information on correctly mapping the defect with area. Consists information on indications under special scrutiny. Consists information on experience required to be familiar with all indication types. Consists information on prototypical information with work cards. Consists information on correct quality and quantity of lighting required to ensure adequate recognition of indication. Consists information on correct terminologies used for each indication types listed in work card. Consists information on size or severity or severity level rejectable for a particular class of indication. 	2.0 Definitions 3.2 Lighting 3.5 Visual perception 6.1 Selection of parameters 6.3 Classification of indications per acceptance criteria 6.4 Reports and documentation	3.0 Lighting 6.0 Visual perception 9.0 Acceptance/ Rejection criteria 10.0 Recording and reports	1.1 Vision and light 1.3 Test object characteristics 4.3 Discontinuity variables affecting test results 4.6 Process for reporting visual discontinuities		
4.2 <ul style="list-style-type: none"> Consists information on equipments required to measure indication area. Consists information on how to measure the indication area. Consists information on landmarks and work card. Consists information on locating and recognizing correct landmarks. Consists information on measuring graticule. Consists information on units on graticule and those specified in work card. 	4.0 Equipment 6.1.5 Documented procedures 6.3 Classification of indications per acceptance criteria 6.4 Reports and documentation	7.0 Equipment 9.0 Acceptance/ Rejection criteria 10.0 Recording and reports	2.0 Equipment accessories 2.3 Linear measurement 4.4 Determination of dimensions 4.6 Process for reporting visual discontinuities 5.0 Procedures and documentation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
4.3 <ul style="list-style-type: none"> Consists information about correct standards. Consists information on how to compare the indication with the standards. Consists information on physical comparison to standards. 	6.2 Test standards/ calibration	9.0 Acceptance/ Rejection criteria	3.9 Requirements		
5.1 <ul style="list-style-type: none"> Consists information on correctly mapping the location with the defect. Consists information on how to check the defect location appropriately. Consists information on numerical location of data on work card. 	5.0 Employer defined applications 6.0 Visual testing to specific procedures 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria	5.0 Procedures and documentation		
5.2 <ul style="list-style-type: none"> Consists information on equipments required to record defect location. Consists information on how to record the defect location appropriately. 	4.0 Equipment	7.0 Equipment	2.0 Equipment accessories		
5.3 <ul style="list-style-type: none"> Consists information about various defect types. Consists information about how to record the defect type. Consists information on how to comment about defect type. 	4.0 Equipment 6.0 Visual testing to specific procedures 6.4 Reports and documentation	10.0 Recording and reports	1.3 Test object characteristics 4.0 Interpretation/ Evaluation 5.0 Procedures and documentation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
5.4 <ul style="list-style-type: none"> Consists information on how to make a final decision. Consists information about various types of final decisions made for various types of indications. Consists information on the difference between an indication and a standard clearly beyond acceptance limit. 	6.2 Test standards and calibration 6.3 Classification of indications per acceptance criteria	9.0 Acceptance / Rejection criteria	5.0 Procedures and documentation		
5.4.1 <ul style="list-style-type: none"> Consists information on how to sign off a work card. 	6.4 Reports and documentation	10.0 Recording and reports	5.0 Procedures and documentation		
6.1 <ul style="list-style-type: none"> Consists information about how to remove equipments and supplies from inspection area. Consists information on checklist of equipment and supplies to ensure nothing is left in the inspection area. 	4.0 Equipment	7.0 Equipment	2.0 Equipment accessories		
6.2 <ul style="list-style-type: none"> Consists information on cleaning the equipment correctly. Consists information on correct cleaning material required. Consists information on training inspectors on correct cleaning procedures. 	3.4 Environmental factors	5.2 Cleanliness	1.2.2 Cleanliness 5.0 Procedures and documentation		

Training Content	ASNT Specifications			Training Methods	Training Delivery Systems
	Level 1	Level 2	Level 3		
6.3 <ul style="list-style-type: none"> • Consists information on the correct procedure to return the equipment. • Consists information on the correct place to return the equipment. • Consists information on how to safely move the support equipment. • Consists information on the procedure for safety check of equipment prior to storage. • Consists information on signing in and out the equipment correctly. 	3.3 Material attributes	4.0 Material attributes	5.0 Procedures and documentation		