

Occupational Analyses Series

Electronics Technician - Consumer Products

1997

Standards, Planning
and Analysis

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et analyse

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Technicien/technicienne en
électronique - Produits du
consommateur et de la consommatrice

The Canadian Council of Directors of Apprenticeship (CCDA) recognizes this occupational analysis as the national standard for the occupation of electronics technician - consumer products.

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OTHER RELATED OCCUPATIONAL TITLES

This analysis covers tasks found in the occupation having the following names, as identified by the different provinces and territories of Canada:

Radio and TV Service Technician
Electronic Technician

LIST OF PUBLISHED OCCUPATIONAL ANALYSES *

TITLE	NOC** Code
Appliance Service Technician (1997)	7332
Aquaculture Technician (1977)	2221
Arts Administrator (1989)	0114
Automotive Painter (1995)	7322
Automotive Service Technician (1995)	7321
Automotive Technician - Automatic Transmission (1990)	7321
Automotive Technician - Electrical/Electronics (1992)	7321
Automotive Technician - Engine Repair and Fuel Systems (1989)	7321
Automotive Technician - Front-End (1989)	7321
Automotive Technician - Manual Transmission, Driveline and Brakes (1990)	7321
Aviation Machinist (1994)	7231
Baker (1997)	6252
Blaster (Surface) (1987)	7372
Boilermaker (1994)	7262
Bricklayer (1993)	7281
Cabinetmaker (1992)	7272
Carpenter (1993)	7271
Cement Finisher (1995)	7282
Construction Electrician (1994)	7241
Cook (1997)	6242
Electrical Mechanic (1981)	7333
Electronics Technician - Consumer Products (1997)	2242
Electronics Technician Vol. I (1986) (Video Equipment)	2242

* Red Seal analyses are indicated in bold

** National Occupational Classification

Electronics Technician Vol. II (1986) (Audio Equipment)	2242
Electronics Technician Vol. III (1986) (Computer Equipment)	2242
Electronics Technician Vol. IV (1986) (Office Equipment)	2242
Electronics Technician Vol. VI (1986) (Communication Equipment)	2242
Electronics Technician Vol. VII (1986) (Signaling Equipment)	2242
Electronics Technician Vol. VIII (1986) (Navigation Equipment)	2242
Electronics Technician Vol. IX (1986) (Video Game Equipment)	2242
Electronics Technician Vol. X (1987) (CADD Equipment)	2242
Electronics Technician Vol. XI (1987) (CAM Equipment)	2242
Electronics Technician Vol. XII (1987) (Robotics Equipment)	2242
Electronics Technician Vol. XIII (1987) (Biomedical and Laboratory Equipment)	2242
Electronics Technician Vol. XIV (1987) (Industrial Process-Control Equipment)	2243
Farm Equipment Mechanic (1994)	7312
Floorcovering Installer (1997)	7295
Glazier (1994)	7292
Hairstylist (1997)	6271
Heating (Gas and Oil) Servicer - Commercial and Industrial (1978)	7331
Heavy Equipment Mechanic (1987)	7312
Heavy Equipment Operator (1983)	7421
Industrial Electrician (1997)	7242
Industrial Instrument Mechanic (1988)	2243
Industrial Mechanic (Millwright) (1996)	7311
Insulator (Heat and Frost) (1993)	7293
Ironworker (Generalist) (1993)	7264

Lather (Interior Systems Mechanic) (1994)	7284
Logistics (1992)	0713
Machinist (1992)	7231
Major Electrical Appliance Repairer (1984)	7332
Mobile Crane Operator (1997)	7371
Motorcycle Mechanic (1995)	7334
Motor Vehicle Body Repairer (Metal and Paint) (1997)	7322
Motor Vehicle Repairer (Truck and Transport) (1983)	7321
New Home Builder and Residential Renovation Contractor (1992)	0712
Oil Burner Mechanic (1997)	7331
Painter and Decorator (1993)	7294
Partsperson (1995)	1472
Plumber (1996)	7251
Power Engineer (1997)	7351
Powerline Technician (1996)	7244
Refrigeration and Air Conditioning Mechanic (1997)	7313
Roofer (1997)	7291
Sheet Metal Worker (1997)	7261
Sprinkler System Installer (1995)	7252
Steamfitter-Pipefitter (1996)	7252
Steel Fabricator (Fitter) (1994)	7263
Tool and Die Maker (1997)	7232
Truck-Trailer Repairer (1994)	7321
Welder (1996)	7265

REQUESTS FOR THESE PUBLICATIONS SHOULD BE FORWARDED TO:

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FOREWORD

The first National Conference on Apprenticeship in Trades and Industries, held in Ottawa in 1952, recommended that the federal government be requested to co-operate with provincial apprenticeship committees and officials in preparing analyses of a number of skilled occupations. To this end, Human Resources Development Canada sponsors a program, under the guidance of the Canadian Council of Directors of Apprenticeship (CCDA), to develop a series of occupational analyses.

The Occupational Analysis Program has the following objectives:

- to identify and group the tasks performed by skilled workers in particular occupations;
- to identify those tasks that are performed by skilled workers in every province and territory;
- to develop instruments for use in the preparation of interprovincial standards "Red Seal" examinations and curricula for training leading to the certification of skilled workers;
- to facilitate the mobility, in Canada, of trainees and skilled workers; and
- to supply employers and employees, and their associations, industries, training institutions and governments with analyses of the tasks performed in particular occupations.

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GUIDE TO ANALYSIS

DEVELOPMENT OF ANALYSIS

A draft analysis is developed by a knowledgeable consultant who, with the assistance of a committee of industry experts in the field, identifies all the tasks performed in the occupation.

The draft is then assigned to occupational analysts at Human Resources Development Canada for review, translation and edit to ensure conformity with the nationally approved format.

The analysis is forwarded to provincial/territorial authorities for validation by specialists in the field. Their recommendations are assessed and incorporated into the final draft which also includes the identification of the common core tasks performed in the occupation.

The occupational analysis is published in both official languages.

STRUCTURE OF ANALYSIS

To facilitate the understanding of the nature of the occupation, the work performed is divided into the following divisions:

- A. **BLOCK** - is the largest division within the analysis and reflects a distinct operation relevant to the occupation.
- B. **TASK** - is the distinct activity that, combined with others, makes up the logical and necessary steps the worker is required to perform to complete a specific assignment within a "BLOCK".
- C. **SUB-TASK** - is the smallest division into which it is practical to sub-divide any work activity and, combined with others, fully describes all duties constituting a "TASK".

Supporting Knowledge & Abilities

The element of skill and knowledge that an individual must acquire to perform the task adequately.

Trend

Any shifts or changes in technology that affect the sub-tasks are identified under this heading.

VALIDATION METHOD

At the request of the Canadian Council of Directors of Apprenticeship (CCDA), the Standardization Sub-Committee developed a method for the validation of the national Red Seal occupational analyses.

A draft of the analysis is sent to all provinces/territories for validation. Each jurisdiction rates the sub-tasks and applies percentage ratings to blocks and tasks. This method for the validation of the national occupational analyses identifies common core tasks across Canada for a specific occupation. This feature facilitates the weighting of the Interprovincial Red Seal examinations.

DEFINITIONS

YES:	the sub-task is performed.
NO:	the sub-task is not performed.
BLOCK %:	the average time a worker spends performing each block in a given year in relation to other blocks of the analysis, taking into consideration the complexity (importance plus difficulty) of the block. (See Appendices "C" and "D" for numerical and graphical representations of this specific occupation.)
TASK %:	the average time a worker spends performing each task in relation to other tasks within the block, taking into consideration the complexity (importance plus difficulty) of the task. (See Appendix "C" for numerical representation of this specific occupation.)
NV:	<u>Not Validated</u> by the province/territory.
ND:	<u>Not Designated</u> in that province/territory.

COMMON CORE

The criteria for determining common core are dependant on the performance of sub-tasks. If 70% of the responding jurisdictions (excluding NVs and NDs) perform the sub-task, it shall be considered common core.

In the analysis, Block A is reserved for safety practices. Since safety practices are a mandatory feature of all occupations, it is considered common core and ratings are not required.

Interprovincial Red Seal examinations are based on the common core identified through this validation process.

SCOPE OF ANALYSIS

The objective of this occupational analysis is to identify and analyze the tasks performed by Electronics Technicians - Consumer Products (ETCP). In this analysis, Aconsumer products@ means any type of consumer electronic equipment and, without limiting the generality of the foregoing, includes:

- a) audio equipment, components and devices
- b) video equipment, components and devices
- c) telephone answering equipment, components and devices
- d) computer equipment, components and devices
- e) microwave equipment, components, devices and appliances
- f) remote control equipment, components and devices
- g) power supply equipment, components and devices
- h) antenna systems

The practice of the trade consists of the servicing of electronic products.

When practising or otherwise carrying out work in the trade, the following tasks, activities and functions come within the trade:

- § interacting with customers and other workers
- § using hand tools, hand power tools, testing equipment and specialty tools required by the trade
- § applying electronic theory to electronic products
- § terminating and connecting conductors and printed circuit boards contained within electronic products
- § maintaining electronic products
- § troubleshooting and diagnosing problems in electronic products
- § servicing and repairing electronic products

Note: The body of the analysis is limited by the terms of reference to a description of Awork performed@ by an Electronics Technician - Consumer Products and omits identification of other factors, such as aptitudes and capacities, interests and temperaments, and the conditions under which the worker performs this duties. These extra data have been included in the form of appendices, not as a constituent part of the analysis, but as a by-product with the thought that such information may be useful to those agencies responsible for the development of training programs and counselling.

OBSERVATIONS AND TRENDS ARISING FROM ANALYSIS

An individual becoming involved with the electronics industry today, as a technician, must demonstrate a talent for trainability as upgrading to acquire knowledge of newly developed and more highly sophisticated equipment is continually required.

The field of Consumer Electronic Equipment (CEE) is constantly increasing as many types of equipment, formerly deemed as industrial or office related, are now being purchased and used by the average consumer. As a results, the ETCP must now be familiar with equipment that was previously serviced only by specialty repair outlets.

Due to the wide variety of CEE now available, larger shops are turning toward varying degrees of specialization to improve the efficiency of the repair process. This need for specialization is further compounded by the ever-increasing sophistication of and development of new equipment in this field. Another factor is the ver-decreasing cost of purchasing new CEE.

While emphasis is placed on specialization, it is a common occurrence in smaller service shops and rural areas particularly, for a ETCP to be qualified in more than one area due to diversified requirements from local clientele.

The need for retraining on functional and operational procedures, as opposed to matters of theory, is very evident among the senior technicians with more than five years field experience to due to rapid changes within the electronics industry, accompanied by the ever widening usage of electronics and computer applications in numerous, diversified fields. The need for knowledge updating is presently recognized in the following areas as being both extensive and immediate:

- Micro processors
- Digital circuits
- Servo systems
- Video equipment
- Audio equipment
- Telecommunications and data communications
- Microwave consumer device

Today=s Electronics Technician - Consumer Products (ETCP) requires a good functional and operational knowledge of precision mechanisms and fine mechanical adjustments along with the obvious need for strong technical training and a demonstrated ability to adapt quickly when new products and applications are introduced. The industry has also expressed a pronounced necessity for training requirements relevant to customer relations, effective communications and business practice, while further noting that today=s programs generally do not adequately address the skills for soldering and desoldering.

For the aforementioned reasons, the journeyman in this industry may be required to be a highly specialized individual demonstrating expertise involving any one of the functions identified in the Consumer Electronics Technician analysis.

The following major trends were identified:

- More manufacturers joining >the game=
- Increasing stress relating to increasing customer expectations and knowledgeability as well as complexity of repairs
- Environmental requirements
- Changing warranties
- Improved product reliability
- Multi-use equipment
- Reduced service profit margins
- Obsolescence of models and parts
- Heavily increased need for P.R.
- Computerized Technology
- Third world manufacturing
- Frequency and complexity of installations is increasing

ANALYSIS

BLOCK A SAFETY

Task 1 Demonstrates safe working practices and techniques.

Trend: There is a noted increase in safety instructions involving survival first aid, Workplace Hazardous Materials Information System (WHMIS) and safe operation and handling of tools, equipment and materials. Increased importance of St. John=s Ambulance and cardiopulmonary resuscitation (CPR) training.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
1.01	Obtains relevant laws and regulations.	<p>ability to read, understand and interpret information such as Canadian Standards Association (CSA), Workers= Compensation Board (WCB) and WHMIS</p> <p>knowledge of first aid and fire protection equipment location</p> <p>knowledge of local police, fire department, emergency response</p>	
1.02	Evaluates safety.	<p>knowledge of applicable safety acts, WCB Regulations and employer's safety rules</p> <p>knowledge of location of first aid and fire protection equipment</p> <p>knowledge of fire, police and ambulance telephone numbers</p>	first aid kit
1.03	Practises safe work habits.	<p>knowledge of correct methods of lifting and carrying materials</p> <p>knowledge of correct methods of loading and unloading material deliveries</p> <p>knowledge of correct methods for handling and storage of cleaning fluids</p>	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
1.04	Uses personal protective equipment and clothing.	ladder, knee pads, safety belts
	knowledge of safety precautions when lifting and kneeling	
	knowledge of necessity to wear knee pads when kneeling	
	knowledge of necessity to wear ear protection when testing audio	
	knowledge of necessity to wear eye protection during cathode ray tube (CRT) replacement and cutting	
	knowledge of necessity to wear safety shoes in all designated areas	
1.05	Practises good housekeeping.	
	ability to maintain cleanliness and order in work areas	
	knowledge of correct methods for storing tools and loose objects	
	ability to recognize hazardous situations	
	ability to dispose of hazardous materials	
	ability to keep walking aisles clear	
	ability to ensure first aid and fire protection equipment are accessible	
1.06	Practises safe use of hand and power tools.	drills, power drivers, glue gun, heat gun
	ability to demonstrate safe and proper methods of using and carrying tools	
	knowledge of hazards created by using defective tools	
	knowledge of safe use and operation of electrically powered tools	
	ability to ensure power tools and equipment are properly grounded	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
1.07	Works safely in enclosed areas.	fire extinguisher, first aid kit
	knowledge of safe use and operation of equipment	
	knowledge of necessity to regularly check equipment and hand tools for wear and deterioration	
	knowledge of safe use and operation of stretching tools	
	knowledge of proper storage procedures for all tools	
	knowledge of cleaning methods and maintenance of all tools	
	knowledge of safety regulations when working in enclosed areas using toxic or flammable materials	
	knowledge of correct placement of ventilation equipment	
	ability to take all necessary safety precautions when working with toxic or flammable materials	
1.08	Ensures proper fire protection.	fire extinguisher
	knowledge of fire prevention, storage and handling of flammable materials, liquids, gases, adhesives and dust	
	knowledge of hazardous electrical equipment	
	knowledge of fire precautions to be taken when working with flammable materials	
	knowledge of types of fires and operation of extinguishers	
	knowledge of importance to maintain clear exits at all times	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
1.09	Handles hazardous materials correctly and safely.	ability to locate fire extinguishers, fire hoses and sprinkler systems and fire department phone numbers
1.10	Attends safety meetings to obtain information on safety rules and safe work habits and procedures.	<p>knowledge of cleaning fluids</p> <p>ability to communicate effectively</p> <p>knowledge of safe work practices</p> <p>knowledge of safety rules</p> <p>ability to provide constructive suggestions for work procedures</p>
1.11	Reports accidents and applies first aid if necessary.	<p>knowledge of survival first aid, correct procedures for artificial respiration, mouth-to-mouth resuscitation, stopping bleeding and treatment for shock, wounds, burns, broken bones and eye injuries</p> <p>ability to notify proper authorities and complete accident report forms</p>

BLOCK B WORKPLACE PRACTICES AND PROCEDURES

Task 2 Follows company policies and procedures.

Trend: Due to economic climate, it is a necessity to follow company policies and procedures because business's profit margins are shrinking.

Sub-tasks	Supporting Knowledge & Abilities								Tools & Equipment			
2.01	Follows company ethics, policies and procedures.				ability to access company documents							
					knowledge of relevant policies and procedures							
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
2.02	Follows company customer relations policies and procedures.				ability to access company documents							
					knowledge of relevant policies and procedures							
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
2.03	Follows company service policies and procedures.				ability to access company documents							
					ability to organize disassembled components and hardware							
					knowledge of relevant policies and procedures							
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
2.04	Follows company financial policies and procedures.				ability to access company documents							
					knowledge of relevant policies and procedures							
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
2.05	Follows company safety policies and procedures.				ability to access company documents							

Sub-tasks		Supporting Knowledge & Abilities						Tools & Equipment				
2.06	Follows company environmental policies and procedures.											
2.07	Follows company warranty policies and procedures.											

Task 3 Applies written and oral communication skills.

Trend: Since poor communication is a major cause of profit loss, it is recognized that communication skills must improve.

Sub-tasks		Supporting Knowledge & Abilities						Tools & Equipment				
3.01	Identifies internal and external customers.											

Sub-tasks		Supporting Knowledge & Abilities						Tools & Equipment			
		knowledge of company customer relations procedures									
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
3.02	Provides and receives information to/from other employees.	ability to apply interpersonal communication skills									
		ability to analyze personal tasks and identify customer interaction events									
		ability to follow company policies and procedures									
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
3.03	Consults with external customers and responds to their concerns.	ability to analyze personal tasks and identify customer interaction events									
		ability to follow company policies and procedures									
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
3.04	Completes required documentation.	knowledge of company service procedures									
		knowledge of company environmental procedures									
		knowledge of company financial procedures									
		knowledge of government regulations									
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment				
3.05	Trains and coaches other employees.	ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
						knowledge of company service procedures								
						knowledge of company safety procedures								
						knowledge of company environmental procedures								
						knowledge of company financial procedures								
				knowledge of technical subject which is being taught										
		<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
		ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
3.06	Writes technical reports.					ability to construct reports							word processor	
						knowledge of technical terms								
						knowledge of report writing								
						knowledge of company policies and procedures								
		<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
		ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
3.07	Reads technical reports.					ability to read								
						knowledge of technical terms								
						knowledge of schematics, etc.								
		<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
		ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
3.08	Interprets technical terminology.	<p>knowledge of technical terms</p> <p>ability to translate technical terms into non-jargon English</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>	
3.09	Reads and follows instructions.	<p>ability to follow flow charts</p> <p>ability to follow step-by-step written directions</p> <p>knowledge of technical terms</p> <p>knowledge of schematics</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>	
3.10	Follows up with customers to ensure satisfaction.	<p>ability to respond to customer enquiries</p> <p>ability to explain items on work order and customer bill</p> <p>(NOT COMMON CORE)</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes no ND NV yes yes yes no no NV</p>	
3.11	Presents professional and courteous attitude to customers.	<p>ability to respond to customer enquiries</p> <p>knowledge of company work policies</p> <p>knowledge of company dress code</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u></p>	

Sub-tasks	Supporting Knowledge & Abilities								Tools & Equipment			
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
Task 4	Uses and maintains equipment and tools.											

Trend: New technologies demand new equipment and more attention to proper care, use and maintenance.

Sub-tasks	Supporting Knowledge & Abilities								Tools & Equipment						
4.01	Uses and maintains vehicles.			ability to operate cars, vans and light trucks ability to maintain log books ability to recognize need and respond to immediate and long-term service and maintenance requirements knowledge of maintenance requirements (NOT COMMON CORE)								Drivers' license			
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> no	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV			
4.02	Uses and maintains technical documents.			ability to locate, read and apply information in blueprints, mechanical diagrams/drawings, logic diagrams, schematic diagrams, equipment specifications, operating procedures, maintenance procedures, installation procedures, testing procedures, safety procedures/standards, manufacturers= manuals/software											
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV			
4.03	Uses and maintains hand tools.			ability to choose and use appropriate hand tools											

		ability to apply written and oral communication										
		ability to follow company policies and procedures										
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
4.04	Uses and maintains soldering/de-soldering equipment.	ability to apply written and oral communication										
		ability to follow company policies and procedures										
		ability to safely handle soldering/de-soldering chemicals										
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
4.05	Uses and maintains component insertion and extraction tools.	ability to apply written and oral communication										
		ability to follow company policies and procedures										
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
4.06	Uses and maintains cable preparation tools.	ability to apply written and oral communication										
		ability to follow company policies and procedures										

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV	
4.07	Uses and maintains power tools.			<p>ability to apply written and oral communication</p> <p>ability to follow company policies and procedures</p> <p>knowledge of electrical safety procedures</p>								
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV	
4.08	Uses and maintains safety equipment.			<p>ability to apply written and oral communication</p> <p>ability to follow company policies and procedures</p> <p>knowledge of safety equipment location</p>								
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV	
4.09	Cleans tools and equipment.			<p>ability to apply written and oral communication</p> <p>ability to follow company policies and procedures</p> <p>ability to safely handle cleaning materials</p>								
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
4.10	Lubricates tools and			ability to apply written and oral								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
equipment.	communication ability to follow company policies and procedures ability to safely handle lubrication materials	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> no	<u>YK</u> NV
4.11	Uses and maintains test equipment.	ability to apply written and oral communication ability to follow company policies and procedures
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
4.12	Uses and maintains anti static equipment.	ability to apply written and oral communication ability to follow company policies and procedures
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> no	<u>YK</u> NV
4.13	Uses and maintains miscellaneous tools and equipment.	ability to apply written and oral communication ability to follow company policies and procedures
<u>NF</u>	<u>NS</u>	<u>PE</u>
<u>NB</u>	<u>PQ</u>	<u>ON</u>
<u>MA</u>	<u>SK</u>	<u>AB</u>
<u>BC</u>	<u>NT</u>	<u>YK</u>

ND yes yes yes ND NV yes yes yes yes yes NV

Task 5 Disposes of equipment, components or devices.

Trend: Increased social pressure and government regulations mean this will be an increasingly important task.

Sub-tasks		Supporting Knowledge & Abilities								Tools & Equipment			
5.01	Identifies equipment, components, or devices that require disposal.	knowledge of company policies and procedures											
		knowledge of manufacturers= policies and procedures											
		knowledge of government regulations											
		<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
		ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV
5.02	Prepares equipment, components, or devices for disposal.	knowledge of company policies and procedures											
		knowledge of manufacturers= policies and procedures											
		knowledge of government regulations											
		<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
		ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
5.03	Disposes of or arranges for disposal of equipment, components, or devices.	knowledge of company policies and procedures											
		knowledge of manufacturers= policies and procedures											

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of government regulations	
	knowledge of disposal "experts" in community	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Task 6 Upgrades skills and knowledge.

Trend: New technologies and efficiency requirements dictate continual upgrade of education and skills.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
6.01	Upgrades skills and knowledge in theoretical areas.	ability to recognize need and access training ability to apply new knowledge and skills
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
6.02	Upgrades skills and knowledge in technological innovations.	ability to recognize need and access training ability to apply new knowledge and skills
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities								Tools & Equipment			
6.03	Upgrades skills and knowledge in manufacturers= new products and upgrades.				ability to recognize need and access training							
					ability to apply new knowledge and skills							
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
6.04	Upgrades skills and knowledge in relevant government laws, policies and procedures.				ability to recognize need and access training							
					ability to apply new knowledge and skills							
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV
6.05	Upgrades skills and knowledge in relevant business areas.				ability to recognize need and access training							
					ability to apply new knowledge and skills							
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	no	ND	NV	yes	yes	yes	no	yes	NV
6.06	Upgrades skills and knowledge in customer relations areas.				ability to recognize need and access training							
					ability to apply new knowledge and skills							
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

BLOCK C SERVICE AUDIO EQUIPMENT COMPONENTS AND DEVICES

Task 7 Services digital and analog audio recording and playback systems and associated components.

Trend: Digital audio is a trend which will require education for technicians so they will be efficient at servicing.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.01 Greet, interviews clients and verifies unit problems.	<p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no yes NV</p>	
7.02 Processes work orders.	<p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p>	

Sub-tasks		Supporting Knowledge & Abilities							Tools & Equipment				
					knowledge of company documentation procedures								
		<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
7.03	Informs customer of repair time frames and cost responsibilities.				ability to respond to customer enquiries ability to obtain customer signature on work order knowledge of company work volume knowledge of company credit policy								
		<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
7.04	Performs pre-service functional tests.				ability to attach to signal source ability to power up ability to check audio ability to check all special features ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of cleaning chemicals and procedures knowledge of troubleshooting							AF generators, variac, data generators, variable voltage/current supplies, db/dbm meters, wow and flutter, head phones, distortion analyzers, test/alignment, diskettes, tapes/CD/ records, test cables	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
				techniques								
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
7.05	Disassembles units.			<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>						<p>allen keys, hex drivers, electric screw/nut drivers, magnifiers</p>		
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
7.06	Troubleshoots faults.			<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p>						<p>manufacturer's software, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, isolation transformer,</p>		

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
	ability to perform visual inspection	fan, heat gun, cleaning fluids, vacuum brushes, multimeters, continuity testers, oscilloscopes, data generators, white/pink noise generators, circuit testers, component testers, logic probes, frequency counters, distortion analyzers, db/dbm meters, variable voltage/current supplies, degaussing equipment, test monitors, test speakers, microfiche reader, variac, AF generators, transistor checker, tracker, capacitor checker, Z-meter, wow and flutter, head phones, induction meter, hot air equipment, head checker, mats, ground straps, sprays, tension, torque, thickness gauges, test/alignment, diskettes, test stroboscopes, micrometer, video disks, tapes/CD/records, inspection mirrors, temperature probes, diagnostic routines, test cables, magnifiers, electrical tape, calculator									
	ability to recognize malfunctions										
	ability to read schematics										
	ability to recognize mechanical defects										
	ability to isolate receiver fault to sub-assembly/circuit/component										
	ability to select, connect and correctly interpret readings from required test equipment										
	ability to document results										
	ability to communicate results to other personnel										
	ability to recognize warranty and non-warranty situations										
	knowledge of electro static discharge techniques										
	knowledge of flat-pack (surface-mount) servicing techniques										
	knowledge of component identification methods										
	knowledge of replacement part characteristics (physical and electrical)										
	knowledge of troubleshooting techniques										
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
7.07	Replaces or repairs faulty	ability to remove faulty component	manufacturer's software,								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
circuits and components.	<p>ability to verify proper installation ability to verify integrity of board and neighboring components</p> <p>ability to repair mechanical defects</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of mechanics</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals</p> <p>knowledge of cleaning procedures</p>	<p>solder irons, solder suckers, solder wicks, flux removers, head pullers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, isolation transformer, anti-static equipment, fan, cleaning fluids, lubricants, swabs, oilers, mini torch, mats, ground straps, sprays, tension, torque, thickness, test/alignment, test stroboscopes, micrometer, tapes/CD/records, inspection mirrors, magnifiers, electrical tape, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, de-soldering tools</p>

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of lubricating procedures	
		knowledge of troubleshooting techniques	
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
		<u>MA</u> yes	<u>SK</u> yes
		<u>AB</u> yes	<u>BC</u> yes
			<u>NT</u> yes
			<u>YK</u> NV
7.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of mechanics knowledge of application of testing devices knowledge of electro static discharge techniques	data generators, variable voltage/current supplies, variac, AF generators, db/dbm meters, wow and flutter, head phones, distortion analyzers, tension gauges, torque gauges, test/alignment, diskettes, tapes/CD/ records, test cables, ear protection, fire extinguisher
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
		<u>MA</u> yes	<u>SK</u> yes
		<u>AB</u> yes	<u>BC</u> yes
			<u>NT</u> yes
			<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
7.09	<p>Performs routine maintenance.</p> <p>ability to clean controls</p> <p>ability to clean mechanisms</p> <p>ability to fine tune channels</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to align and realign/adjust mechanisms</p> <p>ability to align electronics</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of mechanical operation</p> <p>knowledge of cleaning chemicals</p> <p>knowledge of cleaning procedures</p> <p>knowledge of lubricating procedures</p> <p>knowledge of replacement part</p>	<p>manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, masks, ear protection, isolation transformer, fan, cleaning fluids, airbrushes, vacuum brushes, ultrasonic cleaner, lubricants, swabs, oilers, multimeters, continuity testers, oscilloscopes, data generators, circuit testers, frequency counters, distortion analyzers, db/dbm meters, variable voltage/current supplies, degaussing equipment, test monitors, test speakers, microfiche reader, variac, AF generators, wow and flutter, head phones, inspection mirrors, diagnostic routines, test cables, magnifiers, magnifying glass</p>

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
				characteristics (physical and electrical)								
				knowledge of troubleshooting techniques								
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
7.10	Performs post-service functional tests.			ability to attach to power source						manufacturer's software, testing procedures, safety procedures/ standards, data generators, variable voltage/current supplies, variac, AF generators, db/dbm meters, wow and flutter, head phones, distortion analyzers, tension gauges, torque gauges, test/alignment, diskettes, tapes/CD/ records, test cables, ear protection, fire extinguisher		
				ability to attach to signal source								
				ability to power up								
				ability to check audio								
				ability to check tuner								
				ability to check all features								
				ability to check cosmetics								
				ability to recognize malfunctions								
				ability to document results								
				ability to communicate results to other technicians								
				knowledge of electro static discharge techniques								
				knowledge of component identification methods								
				knowledge of troubleshooting techniques								
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
7.11	Reassembles units and performs final check.			ability to assemble						safety procedures/ standards,		
				ability to prepare unit and work area						manufacturer's software,		

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p> <p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	<p>for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of troubleshooting techniques</p>	<p>allen keys, hex drivers, electric screw/nut drivers, magnifiers</p>	
7.12	<p>Delivers/installs, sets up units, and demonstrates unit operation.</p>	<p>ability to handle units safely</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent repair/defect information</p> <p>ability to respond to customer concerns and customer satisfaction</p>	<p>car, light to medium- sized truck, manufacturer's software, cutters, measuring devices, allen keys, hex drivers, hammers, alignment tools, burnishing tools, chisels, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, ear protection, fire extinguisher, cleaning fluids, cloths, lubricants, swabs, oilers, ladder</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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7.13	Completes documentation.	ability to obtain customer sign-off																										
		ability to obtain payment																										
		knowledge of electro static discharge techniques																										
		<table border="1"> <tr> <td><u>NF</u></td> <td><u>NS</u></td> <td><u>PE</u></td> <td><u>NB</u></td> <td><u>PQ</u></td> <td><u>ON</u></td> <td><u>MA</u></td> <td><u>SK</u></td> <td><u>AB</u></td> <td><u>BC</u></td> <td><u>NT</u></td> <td><u>YK</u></td> </tr> <tr> <td>ND</td> <td>yes</td> <td>yes</td> <td>yes</td> <td>ND</td> <td>NV</td> <td>yes</td> <td>yes</td> <td>yes</td> <td>no</td> <td>no</td> <td>NV</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV	ability to bill customer	calculator
		<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
		ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV															
		ability to complete warranty claim																										
		ability to calculate customer bill																										
		ability to tag warranty parts																										
		ability to document pertinent repair information																										
knowledge of pertinent repair information																												
knowledge of replaced parts																												
<table border="1"> <tr> <td><u>NF</u></td> <td><u>NS</u></td> <td><u>PE</u></td> <td><u>NB</u></td> <td><u>PQ</u></td> <td><u>ON</u></td> <td><u>MA</u></td> <td><u>SK</u></td> <td><u>AB</u></td> <td><u>BC</u></td> <td><u>NT</u></td> <td><u>YK</u></td> </tr> <tr> <td>ND</td> <td>yes</td> <td>yes</td> <td>yes</td> <td>ND</td> <td>NV</td> <td>yes</td> <td>yes</td> <td>yes</td> <td>no</td> <td>yes</td> <td>NV</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV				
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>																	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV																	

Task 8 Services radio receivers and transmitters.

Trend: Technological advancements have caused miniaturization and thus the need for a higher skill level to service product.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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8.01	Greets, interviews clients and verifies unit problems.	<p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific</p>
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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symptoms

ability to reflect back and verify customer's recollection of symptoms

ability to respond to unrealistic customer expectations

knowledge of unit operation and potential problems

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

8.02 Processes work orders.

ability to determine name, address and phone numbers of customer

ability to determine name and model number of unit

ability to write up symptoms

knowledge of company documentation procedures

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

8.03 Informs customer of repair time frames and cost responsibilities.

ability to respond to customer enquiries

ability to obtain customer signature on work order

knowledge of company work volume

knowledge of company credit policy

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment	
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<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

8.04	Performs pre-service functional tests.	ability to apply power	light to medium-sized truck, manufacturer's software, hammers, multimeters, RF generators, RF radiation detectors, AF generators, dummy load, headphones, Canada Department of Communications (DOC)/United States Federal Communications Commission (FCC) rules and regulations, power meter
		ability to attach to signal source	
		ability to power up	
		ability to check audio	
		ability to check all special features	
		ability to check tuner	
		ability to check cosmetics of set	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of cleaning chemicals and procedures	
		knowledge of troubleshooting techniques	

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

8.05	Disassembles units.	ability to prepare unit and work area for disassembly	allen keys, hex drivers, electric screwdrivers
		ability to select and use tools	
		ability to follow manufacturers= disassembly procedures	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p> <p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	<p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>		
8.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to recognize mechanical defects</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p>	<p>alignment tools, solder irons, solder wicks, flux removers, RF generators, frequency counters, RF radiation detectors, mats, AF generators, dummy loads, ground straps, software, cable assemblies</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>ability to select, connect and correctly interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of mechanics</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>		
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>		
8.07	<p>Replaces or repairs faulty circuits and components.</p>	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p>	<p>alignment tools, solder suckers, solder wicks, flux removers, cutters, strippers, crimpers, rubber gloves, isolation transformer, anti-static equipment, de-soldering</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to select and replace component	tools
	ability to recognize mechanical defects	
	ability to order parts	
	ability to repair faulty circuits or components	
	ability to clean circuits and components ability to recognize warranty and non-warranty situations	
	ability to obtain exact replacement or suitable substitute parts	
	knowledge of mechanics	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals	
	knowledge of cleaning procedures	
	knowledge of lubricating procedures	
	knowledge of troubleshooting techniques	
<u>NE</u>	<u>NS</u>	<u>PE</u>
<u>NB</u>	<u>PQ</u>	<u>ON</u>
<u>MA</u>	<u>SK</u>	<u>AB</u>
<u>BC</u>	<u>NT</u>	<u>YK</u>

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
8.08	Sets up and tests units.			<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check tuner</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>						<p>multimeters, RF generators, RF power meters, db/dbm meters, ground straps, spectrum analyzer, vacuum tube tester</p>	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
8.09	Performs routine maintenance.			ability to clean controls ability to clean mechanisms ability to fine tune channels ability to verify operation of controls ability to clean cosmetics of item ability to align and realign/adjust mechanisms ability to align electronics ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/alignments ability to identify/document weaknesses or potential problems knowledge of precision mechanisms and fine mechanical adjustments knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals knowledge of cleaning procedures						hex drivers, cleaning fluids, multimeters, oscilloscopes, RF generators, frequency counters, RF power meters, RF radiation detectors, variable voltage/current supplies, magnifying glass		

Sub-tasks	Supporting Knowledge & Abilities										Tools & Equipment						
8.10	Performs post-service functional tests.																

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
8.11 Reassembles units and performs final check.	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test knowledge of troubleshooting techniques</p>	hex drivers
<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u></p> <p>ND NV yes yes yes yes</p>	<p><u>NT</u> <u>YK</u></p> <p>yes NV</p>
8.12 Delivers/installs, sets up units, and demonstrates unit operation.	<p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent repair/defect information</p> <p>ability to respond to customer concerns and customer satisfaction</p> <p>ability to obtain customer sign-off</p>	light to medium-sized truck, or car

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

8.13 Completes documentation. ability to bill customer manufacturer's software

ability to complete warranty claim

ability to calculate customer bill

ability to tag warranty parts

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 9 Services musical systems and instruments.

Trend: Integration with computers is causing an increase in the difficulty of repairs to musical systems and instruments.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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9.01 Greets, interviews clients and verifies unit problems. ability to listen attentively to customer=s description of problem ability to probe for specific symptoms

		ability to reflect back and verify customer=s recollection of symptoms										
		ability to respond to unrealistic customer expectations										
		knowledge of unit operation and potential problems										
		ability to determine name, address and phone numbers of customer										
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
9.02	Processes work orders.	ability to determine name and model number of unit										
		ability to write up symptoms										
		knowledge of company documentation procedures										
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
9.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries										
		ability to obtain customer signature on work order										
		knowledge of company work volume										
		knowledge of company credit policy										
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
9.04 Performs pre-service functional tests.	<p>ability to apply power</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check all special features</p> <p>ability to check cosmetics of set</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	isolation transformer, test speakers
<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u></p> <p>ND NV yes yes yes yes</p>	<p><u>NT</u> <u>YK</u></p> <p>yes NV</p>
9.05 Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p>	allen keys, hex drivers, vacuum brushes

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of electro static discharge techniques	
		knowledge of component identification methods	
		knowledge of cleaning chemicals and procedures	
		knowledge of replacement part characteristics (physical and electrical)	
		knowledge of troubleshooting techniques	
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND yes yes yes	<u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> ND NV yes yes yes	<u>BC</u> <u>NT</u> <u>YK</u> yes yes NV
9.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to recognize mechanical defects ability to read schematics ability to select, connect and correctly interpret readings from required test equipment ability to document results ability to communicate results to other personnel	manufacturer's software, cutters, allen keys, hex drivers, solder irons, solder suckers, solder wicks, flux removers, multimeters, distortion analyzers, test speakers, AF generators, vacuum tube tester

ability to recognize warranty and non-warranty situations

ability to recognize software and hardware faults

knowledge of mechanics

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

9.07 Replaces or repairs faulty circuits and components.

ability to remove faulty component

ability to verify proper installation

ability to verify integrity of board and neighboring components

ability to select and replace component

ability to recognize mechanical defects

solder irons, solder suckers, solder wicks, flux removers, de-soldering tools

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to order parts	
	ability to repair faulty circuits or components	
	ability to clean circuits and components	
	ability to recognize warranty and non-warranty situations	
	ability to obtain exact replacement or suitable substitute parts	
	knowledge of mechanics	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals	
	knowledge of cleaning procedures	
	knowledge of lubricating procedures	
	knowledge of troubleshooting techniques	
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV	

9.08 Sets up and tests units. ability to ensure unit complies with test speakers

government regulations

ability to attach to power source

ability to attach to signal source

ability to power up

ability to check audio

ability to check tuner

ability to check all features

ability to check cosmetics

ability to recognize malfunctions and troubleshoot

ability to document results

ability to communicate results to other technicians

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
9.09 Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to clean mechanisms</p> <p>ability to align</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to align and realign/adjust mechanisms</p> <p>ability to align electronics</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals</p> <p>knowledge of cleaning procedures</p> <p>knowledge of lubricating procedures</p> <p>knowledge of mechanics</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting</p>	<p>testing procedures, allen keys, hex drivers, magnifying glass</p>

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment			
				techniques									
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV	
9.10	Performs post-service functional tests.			ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of electro static discharge techniques knowledge of component identification methods knowledge of troubleshooting techniques						test speakers, AF generators			
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV	
9.11	Reassembles units and performs final check.			ability to assemble						allen keys, hex drivers			

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of troubleshooting techniques</p>	<p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>
<p>9.12 Delivers/installs, sets up units, and demonstrates unit operation.</p>	<p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent repair/defect information</p> <p>ability to respond to customer concerns and customer satisfaction</p> <p>ability to obtain customer sign-off</p>	<p>light to medium-sized truck or car</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to obtain payment

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

9.13 Completes documentation.

ability to bill customer

ability to complete warranty claim

ability to calculate customer bill

ability to tag warranty parts

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Task 10 Services audio amplification systems.

Trend: More miniaturization will result in more items becoming disposable.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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10.01	Greets, interviews clients and verifies unit problems.	<p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u></p> <p>ND NV yes yes yes no no NV</p>	

10.02	Processes work orders.	<p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p> <p>knowledge of company documentation procedures</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u></p> <p>ND NV yes yes yes no yes NV</p>	

10.03	Informs customer of repair time frames and cost responsibilities.	<p>ability to respond to customer enquiries</p> <p>ability to obtain customer signature on work order</p>	
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Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		knowledge of company work volume	
		knowledge of company credit policy	
		<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no yes NV	
10.04	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check audio ability to check all special features ability to check tuner ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques	manufacturer's software, test speakers, AF generators
		<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV	
10.05	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers=	hex drivers, electric screw/nut drivers

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>disassembly procedures</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>		
10.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to recognize mechanical defects</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p> <p>ability to select, connect and correctly</p>	<p>manufacturer's software, isolation transformer, multimeters, cutters, oscilloscopes, function generators, white/pink noise generators, circuit testers, component testers, db/dbm meters, distortion analyzers, variable voltage/current supplies, power factor meters, test speakers, variac, AF generators, transistor checker, tracker, capacitor checker, dummy loads, head phones, Z-meter</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
	<p>interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>										
<p><u>NF</u> ND</p>	<p><u>NS</u> yes</p>	<p><u>PE</u> yes</p>	<p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p>	<p><u>ON</u> NV</p>	<p><u>MA</u> yes</p>	<p><u>SK</u> yes</p>	<p><u>AB</u> yes</p>	<p><u>BC</u> yes</p>	<p><u>NT</u> yes</p>	<p><u>YK</u> NV</p>
10.07	Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to recognize mechanical defects</p>	<p>cutters, solder suckers, solder wicks, flux removers, cleaning fluids, magnifiers, de-soldering tools</p>								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to order parts

ability to repair faulty circuits or components

ability to clean circuits and components

ability to recognize warranty and non-warranty situations

ability to obtain exact replacement or suitable substitute parts

knowledge of mechanics

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of cleaning chemicals

knowledge of cleaning procedures

knowledge of lubricating procedures

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
10.08 Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check tuner</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<p>isolation transformer, white/pink noise generators, alignment tools, test speakers, AF generators, power factor meters, dummy loads, db/dbm meters, distortion analyzers</p>									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
10.09 Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to clean mechanisms</p> <p>ability to align</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to align and realign/adjust mechanisms</p> <p>ability to align electronics</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals</p> <p>knowledge of cleaning procedures</p> <p>knowledge of lubricating procedures</p> <p>knowledge of mechanics</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<p>isolation transformer, cleaning fluids, manufacturer's software, lubricants, swabs, oilers, power factor meters, test speakers, dummy loads, white/pink noise generators, db/dbm meters, distortion analyzers, magnifying glass</p>

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
10.10	Performs post-service functional tests.			ability to attach to power source						isolation transformer,		
				ability to attach to signal source						white/pink noise		
				ability to power up						generators, db/dbm		
				ability to check audio						meters, distortion		
				ability to check all features						analyzers, power factor		
				ability to check cosmetics						meters, test speakers,		
				ability to recognize malfunctions						AF generators, dummy		
				ability to document results						loads		
				ability to communicate results to other technicians								
				knowledge of electro static discharge techniques								
				knowledge of component identification methods								
				knowledge of troubleshooting techniques								
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
10.11	Reassembles units and performs final check.			ability to assemble						manufacturer's software,		
				ability to prepare unit and work area for assembly						electric screw/nut		
				ability to select and use tools						drivers, cleaning fluids		

ability to follow manufacturers=
assembly procedures

ability to perform final functional test

knowledge of application of testing
devices

knowledge of electro static discharge
techniques

knowledge of troubleshooting
techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

10.12 Delivers/installs, sets up
units, and demonstrates
unit operation.

ability to handle units

light to medium-sized
truck, or car

ability to store units
ability to drive to job location when
applicable

ability to deliver units

ability to install and set up units

ability to demonstrate unit to
customer

ability to advise customer of
company policies and warranty
policies

ability to communicate pertinent
repair/defect information

ability to respond to customer
concerns and customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

10.13 Completes documentation.

ability to bill customer

computer, microfiche reader, calculator

ability to complete warranty claim

ability to calculate customer bill
ability to tag warranty parts

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

BLOCK D SERVICE VIDEO EQUIPMENT COMPONENTS AND DEVICES

Task 11 Services televisions.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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Trend: Larger screens result in increase of in-home service requests.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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11.01 Greets, interviews clients and verifies unit problems.

ability to listen attentively to customer's description of problem

ability to probe for specific symptoms

ability to reflect back and verify customer's recollection of symptoms

ability to respond to unrealistic customer expectations

knowledge of unit operation and potential problems

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

11.02 Processes work orders.

ability to determine name, address and phone numbers of customer

ability to determine name and model number of unit

ability to write up symptoms

knowledge of company documentation procedures

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

11.03 Informs customer of repair time frames and

ability to respond to customer enquiries

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
cost responsibilities.		ability to obtain customer signature on work order	
		knowledge of company work volume	
		knowledge of company credit policy	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes
		<u>PQ</u> ND	<u>ON</u> NV
		<u>MA</u> yes	<u>SK</u> yes
		<u>AB</u> yes	<u>BC</u> no
			<u>NT</u> yes
			<u>YK</u> NV
11.04	Performs pre-service functional tests.	ability to apply power	light to medium-sized truck, inspection mirrors, RF generators
		ability to attach to signal source	
		ability to power up	
		ability to check video	
		ability to check audio	
		ability to check all special features	
		ability to check tuner	
		ability to check cosmetics of set	
		ability to recognize malfunctions	
		ability to document results	
		ability to communicate results to other technicians	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		<p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes
		<u>PQ</u> ND	<u>ON</u> NV
		<u>MA</u> yes	<u>SK</u> yes
		<u>AB</u> yes	<u>BC</u> yes
			<u>NT</u> yes
			<u>YK</u> NV
11.05	Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p>	<p>hex drivers, electric screw/nut drivers, cleaning fluids, cloths, air brushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, mats, ground straps, sprays, solder irons, solder suckers, solder wicks, flux removers</p>

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment								
		<p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>									
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
11.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspections</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p> <p>ability to select, connect and correctly interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of electro static discharge techniques</p>	<p>multimeters,</p> <p>oscilloscopes, dot/bar generators, RF generators, variable voltage/current supplies, degaussing equipment, microfiche reader, high voltage probe, NTSC generators, transistor checker, capacitor checker, CRT checker, manufacturer's software, logic diagrams, equipment specifications, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, mats, ground straps, sprays, solder irons, solder suckers, solder wicks, flux removers, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RF radiation detectors, X-ray and particle detectors, AC line testers/monitors, test speakers, variac, decade boxes, jumper wire, AF</p>								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<p>generators, tracker, Z-meter, inspection mirrors, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, freeze spray, maintenance procedures, testing procedures, safety procedures /standards, electric screw/nut drivers, heat gun, function generators, feeler gauges, hex drivers, alignment tools, vacuum tube tester, vector scope, hot air equipment, infrared tester</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>	
11.07	<p>Replaces or repairs faulty circuits and components.</p> <p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and</p>	<p>microfiche reader, solder irons, solder suckers, solder wicks, flux removers, de-soldering tools</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>		
11.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check tuner</p> <p>ability to check all features</p>	<p>multimeters, oscilloscopes, dot/bar generators, RF generators, variable voltage/current supplies, degaussing equipment, microfiche reader, high voltage probe, NTSC generators, transistor checker, capacitor checker, CRT checker, manufacturer's software, logic diagrams, equipment specifications, cleaning fluids, cloths,</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to check cosmetics	airbrushes, vacuum brushes, swabs, ultrasonic cleaner,
	ability to recognize malfunctions and troubleshoot	lubricants, oilers, mats, ground straps, sprays, solder irons, solder suckers, solder wicks, flux removers, circuit testers, component testers, logic probes, logic analyzers,
	ability to document results	frequency counters, RF radiation detectors, X-ray and particle detectors, AC line testers/monitors, test speakers, variac, decade boxes, jumper wire, AF generators, tracker, Z-meter, inspection mirrors, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, freeze spray, maintenance procedures, testing procedures, safety procedures/ standards, electric screw/nut drivers, heat gun, function generators, feeler gauges, hex drivers, alignment tools, vacuum tube tester, vector scope, hot air equipment, infrared tester
	ability to communicate results to other technicians	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

NF NS PE NB PQ ON MA SK AB BC NT YK
 ND yes yes yes ND NV yes yes yes yes yes NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
11.09 Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to align</p> <p>ability to fine tune channels</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<p>cleaning fluids, cloths, lubricants, swabs, magnifying glass</p>

NF NS PE NB PQ ON MA SK AB BC NT YK
 ND yes yes yes ND NV yes yes yes yes yes NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
11.10	Performs post-service functional tests. ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical)	multimeters, oscilloscopes, dot/bar generators, RF generators, variable voltage/current supplies, degaussing equipment, microfiche reader, high voltage probe, NTSC generators, transistor checker, capacitor checker, CRT checker, safety procedures/ standards, manufacturer's software, frequency counters

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND yes yes yes</p>	<p>knowledge of troubleshooting techniques</p> <p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> ND NV yes yes yes yes</p>	<p><u>NT</u> <u>YK</u> yes NV</p>
<p>11.11 Reassembles units and performs final check.</p>	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	
<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> ND NV yes yes yes yes</p>	<p><u>NT</u> <u>YK</u> yes NV</p>
<p>11.12 Delivers/installs, sets up units, and demonstrates unit operation.</p>	<p>ability to handle units</p> <p>ability to store units</p>	<p>light to medium-sized truck, computer, equipment dollies/carts, lifting/leveling devices,</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to drive to job location when applicable	installation procedures
	ability to deliver units	
	ability to install and set up units	
	ability to demonstrate unit to customer	
	ability to advise customer of company policies and warranty policies	
	ability to communicate pertinent repair/defect information	
	ability to respond to customer concerns and customer satisfaction	
	ability to obtain customer sign-off	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting	

Sub-tasks		Supporting Knowledge & Abilities							Tools & Equipment			
		techniques										
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
11.13	Completes documentation.	ability to bill customer							calculator, computer, microfiche reader			
		ability to complete warranty claim										
		ability to calculate customer bill										
		ability to tag warranty parts										
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	

Task 12 Services video players/recorders.

Trend: Due to competitive pricing, pressure to perform cost-efficient repairs is increasing.

Sub-tasks		Supporting Knowledge & Abilities							Tools & Equipment		
12.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem									
		ability to probe for specific symptoms									
		ability to reflect back and verify customer's recollection of symptoms									
		ability to respond to unrealistic customer expectations									
		knowledge of unit operation and potential problems									

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV	
12.02	Processes work orders.			ability to determine name, address and phone numbers of customer								
				ability to determine name and model number of unit								
				ability to write up symptoms								
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV	
12.03	Informs customer of repair time frames and cost responsibilities.			ability to respond to customer enquiries								
				ability to obtain customer signature on work order								
				knowledge of company work volume								
				knowledge of company credit policy								
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV	
12.04	Performs pre-service functional tests.			ability to apply power						manufacturer's software, test monitors, video disks, tapes/CD/records		
				ability to attach to signal source								
				ability to power up								
				ability to check video								
				ability to check audio								
				ability to check all special features								

		<p>ability to check tuner</p> <p>ability to check cosmetics of set</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	
12.05	Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p>	<p>hex drivers, electric screw/nut drivers</p>
	<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	
12.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p>	<p>manufacturer's software, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, head pullers, isolation transformer, anti-static</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to perform visual inspection	equipment, multimeters, continuity testers,
	ability to recognize malfunctions	oscilloscopes, circuit testers, component
	ability to read schematics	testers, frequency counters, test monitors,
	ability to isolate unit fault to sub-assembly/circuit/component	tension gauges, torque gauges, thickness, test/alignment,
	ability to select, connect and correctly interpret readings from required test equipment	diskettes, test strobes, video disks, tapes/CD/records, microfiche reader,
	ability to document results	NTSC generators, AF generators, transistor checker, capacitor checker, wow and flutter, spectrum analyzer, light box, vector scope, hot air equipment, mats, ground straps, inspection mirrors, reference charts, test charts, diagnostic routines, test cables, magnifiers, electrical tape, heat gun, i.c. pullers, head checker
	ability to communicate results to other personnel	
	ability to recognize warranty and non-warranty situations	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
12.07	Replaces or repairs faulty	ability to remove faulty component
		cutters, measuring

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
circuits and components.	ability to verify proper installation	devices, allen keys, feeler gauges, hex drivers, hammers,
	ability to verify integrity of board and neighboring components	alignment tools, burnishing tools, allen keys, feeler gauges,
	ability to select and replace component	solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers,
	ability to order parts	electric screw/nut drivers, glue gun, heat gun, anti-static equipment, cleaning fluids, lubricants, swabs, oilers, de-soldering tools
	ability to repair faulty circuits or components	
	ability to clean circuits and components	
	ability to recognize warranty and non-warranty situations	
	ability to obtain exact replacement or suitable substitute parts	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
knowledge of troubleshooting techniques		
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
12.08 Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check tuner</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p>	<p>cleaning fluids, distortion analyzers, test monitors, AF generators, wow and flutter, diskettes, video disks, tapes/CD/records</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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		knowledge of troubleshooting techniques										
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV	
12.09	Performs routine maintenance.					ability to clean controls						manufacturer's software, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, electric screw/nut drivers, isolation transformer, cleaning fluids, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, multimeters, oscilloscopes, circuit testers, component testers, distortion analyzers, test monitors, tension gauges, torque gauges, thickness gauges, test/alignment gauges, diskettes, test strobos, micrometer, video disks, tapes/CD/ records, wow and flutter, test charts, test cables, magnifying glass
						ability to align						
						ability to fine tune channels						
						ability to verify operation of controls						
						ability to clean cosmetics of item						
						ability to verify all safety devices are in place and functioning properly						
						ability to perform routine mechanical and electronic adjustments/alignments						
						ability to identify/document weaknesses or potential problems						
						knowledge of application of testing devices						
						knowledge of electro static discharge techniques						
						knowledge of component identification methods						
						knowledge of cleaning chemicals and procedures						
						knowledge of troubleshooting techniques						
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
12.10	Performs post-service functional tests.			ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check tuner ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques						manufacturer's software, cleaning fluids, cloths, dot/bar generators, video disks, tapes/CD/records, test charts		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
12.11	Reassembles units and performs final check.	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of cleaning chemicals and procedures</p>	<p>manufacturer's software, hex drivers, electric screw/nut drivers</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u></p> <p>ND NV yes yes yes yes</p>	<p><u>NT</u> <u>YK</u></p> <p>yes NV</p>
12.12	Delivers/installs, sets up units, and demonstrates unit operation.	<p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent repair/defect information</p> <p>ability to respond to customer concerns and customer satisfaction</p> <p>ability to obtain customer sign-off</p>	<p>car or light to medium-sized truck, manufacturer's software, video disks, tapes/CD/records</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to obtain payment

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

12.13 Completes documentation.

ability to bill customer

ability to complete warranty claim

ability to calculate customer bill

ability to tag warranty parts

knowledge of warranty rules and regulations

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 13 Services monitors.

Trend: No apparent change.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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13.01 Greets, interviews clients and verifies unit problems.

ability to listen attentively to customer's description of problem
ability to probe for specific symptoms

ability to reflect back and verify customer's recollection of symptoms

ability to respond to unrealistic customer expectations

knowledge of unit operation and potential problems

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV	
13.02	Processes work orders.			ability to determine name, address and phone numbers of customer								
				ability to determine name and model number of unit								
				ability to write up symptoms								
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
13.03	Informs customer of repair time frames and cost responsibilities.			ability to respond to customer enquiries								
				ability to obtain customer signature on work order								
				knowledge of company work volume								
				knowledge of company credit policy								
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
13.04	Performs pre-service functional tests.			ability to attach to signal source						variable voltage/current supplies, RF generators, test speakers, head phones, test cables, operating procedures		
				ability to power up								
				ability to check video								
				ability to check all special features								
				ability to check cosmetics of set								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

13.05 Disassembles units.

ability to prepare unit and work area for disassembly

electric screw/nut drivers, temperature probes

ability to select and use tools

ability to follow manufacturers= disassembly procedures

knowledge of electro static discharge techniques

knowledge of component identification methods

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

13.06 Troubleshoots faults.

ability to prepare unit for

manufacturer's software,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	troubleshooting	allen keys, hex drivers, alignment tools,
	ability to perform non-technical inspections	burnishing tools, solder irons, solder suckers, solder wicks, flux
	ability to recognize need to consult with another technician or manufacturer	removers, i.c. pullers, cutters, strippers, heat gun, isolation transformer, anti-static equipment, fan,
	ability to perform visual inspection	cleaning fluids,
	ability to recognize malfunctions	airbrushes, vacuum brushes, swabs,
	ability to read schematics	multimeters, continuity testers, oscilloscopes,
	ability to isolate receiver fault to sub-assembly/circuit/component	function generators, dot/bar generators, circuit testers,
	ability to select, connect and correctly interpret readings from required test equipment	component testers, logic probes, frequency counters, db/dbm meters, degaussing equipment, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, CRT checker, vacuum tube tester, dummy loads, hot air equipment,
	ability to document results	inspection mirrors, reference charts, diagnostic routines, test cables, equipment dollies/carts, magnifiers, electrical tape
	ability to communicate results to other personnel	
	ability to recognize warranty and non-warranty situations	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical)	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment			
				knowledge of troubleshooting techniques									
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>		
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV		
13.07	Replaces or repairs faulty circuits and components.			ability to remove faulty component				manufacturer's software, cutters, allen keys, hex drivers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, i.c. pullers, cutters, strippers, heat gun, isolation transformer, anti-static equipment, fan, cleaning fluids, airbrushes, vacuum brushes, swabs, multimeters, continuity testers, oscilloscopes, function generators, dot/bar generators, circuit testers, component testers, logic probes, frequency counters, db/dbm meters, degaussing equipment, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, CRT checker, vacuum tube tester, dummy loads, hot air equipment,					
				ability to verify proper installation									
				ability to verify integrity of board and neighboring components									
				ability to select and replace component									
				ability to order parts									
				ability to repair faulty circuits or components									
				ability to clean circuits and components									
				ability to recognize warranty and non-warranty situations									
				ability to obtain exact replacement or suitable substitute parts									
				knowledge of application of testing devices									
				knowledge of de-soldering and soldering techniques									
				knowledge of electro static discharge techniques									
				knowledge of flat-pack (surface-mount) techniques									
				knowledge of component									

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	<p>inspection mirrors, reference charts, diagnostic routines, test cables, equipment dollies/carts, magnifiers, electrical tape, hammers, crimpers, glue gun, de-soldering tools</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>		
13.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check video</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of troubleshooting techniques</p>	<p>RF generators, variable voltage/current supplies, test speakers, head phones, test cables, dot/bar generators</p>

Sub-tasks		Supporting Knowledge & Abilities								Tools & Equipment	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
13.09	Performs routine maintenance.										
				ability to clean controls						multimeters,	
				ability to align						oscilloscopes, function	
				ability to verify operation of controls						generators, dot/bar	
				ability to clean cosmetics of item						generators, frequency	
				ability to verify all safety devices are in place and functioning properly						counters, distortion	
				ability to perform routine mechanical and electronic adjustments/alignments						analyzers, db/dbm	
				ability to identify/document weaknesses or potential problems						meters, variable	
				knowledge of precision mechanisms and fine mechanical adjustments						voltage/current supplies,	
				knowledge of application of testing devices						degaussing equipment,	
				knowledge of electro static discharge techniques						microfiche reader,	
				knowledge of component identification methods						variac, jumper wire,	
				knowledge of cleaning chemicals and procedures						NTSC generators,	
				knowledge of replacement part characteristics (physical and electrical)						cleaning fluids,	
				knowledge of troubleshooting						airbrushes, vacuum	
										brushes, swabs, test	
										cables, manufacturer=s	
										software, alignment	
										tools, solder irons,	
										solder suckers, solder	
										wicks, magnifying glass	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment			
				techniques									
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV	
13.10	Performs post-service functional tests.			ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of electro static discharge techniques						RF generators, variable voltage/current supplies, test speakers, head phones, test cables, operating procedures			
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV	
13.11	Reassembles units and performs final check.			ability to assemble ability to prepare unit and work area for assembly ability to select and use tools ability to follow manufacturers=						electric screw/nut drivers, temperature probes, operating procedures			

13.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	manufacturer's software, microfiche reader
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND yes yes yes	<u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> ND NV yes yes yes	<u>BC</u> <u>NT</u> <u>YK</u> no yes NV

Task 14 Services video entertainment equipment.

Trend: Expanding sales and lower prices will require more service and additional training.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
14.01	Greets, interviews clients and verifies unit problems. ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems	
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND yes yes yes	<u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND NV yes yes yes no no NV
14.02	Processes work orders. ability to determine name, address and phone numbers of customer ability to determine name and model number of unit	

Sub-tasks		Supporting Knowledge & Abilities								Tools & Equipment			
14.03	Informs customer of repair time frames and cost responsibilities.												
14.04	Performs pre-service functional tests.												

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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		knowledge of electro static discharge techniques	
		knowledge of troubleshooting techniques	
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
		<u>MA</u> yes	<u>SK</u> yes
		<u>AB</u> yes	<u>BC</u> yes
		<u>NT</u> yes	<u>YK</u> NV
14.05	Disassembles units.	ability to prepare unit and work area for disassembly	cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, anti-static equipment
		ability to select and use tools	
		ability to follow manufacturers= disassembly procedures	
		knowledge of electro static discharge techniques	
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
		<u>MA</u> yes	<u>SK</u> yes
		<u>AB</u> yes	<u>BC</u> yes
		<u>NT</u> yes	<u>YK</u> NV
14.06	Troubleshoots faults.	ability to prepare unit for troubleshooting	manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, isolation transformer, anti-static
		ability to perform non-technical inspections	
		ability to recognize need to consult with another technician or manufacturer	
		ability to perform visual inspection	
		ability to recognize malfunctions	
		ability to read schematics	
		ability to isolate receiver fault to sub-assembly/circuit/component	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to select, connect and correctly interpret readings from required test equipment	equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs,
	ability to document results	ultrasonic cleaner, lubricants, oilers,
	ability to communicate results to other personnel	multimeters, continuity testers, oscilloscopes, function generators,
	ability to recognize warranty and non-warranty situations	dot/bar generators, RF generators, circuit testers, component
	knowledge of application of testing devices	testers, logic probes, logic analyzers,
	knowledge of electro static discharge techniques	frequency counters, RAM/ROM testers, X-ray and particle detectors, variable
	knowledge of flat-pack (surface-mount) techniques	voltage/current supplies, AC line testers/monitors, degaussing
	knowledge of component identification methods	equipment, test monitors, test speakers, microfiche reader, high
	knowledge of replacement part characteristics (physical and electrical)	voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators,
	knowledge of troubleshooting techniques	transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, computer, hot air equipment, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video disks, tapes/CD/records,

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment	
											CRT checker
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
14.07	Replaces or repairs faulty circuits and components.			ability to remove faulty component							manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, multimeters, continuity testers, oscilloscopes, function generators, dot/bar generators, RF generators, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RAM/ROM testers, X-ray and particle detectors, variable voltage/current supplies, AC line testers/monitors, degaussing
				ability to verify proper installation							
				ability to verify integrity of board and neighboring components							
				ability to select and replace component							
				ability to order parts							
				ability to repair faulty circuits or components							
				ability to clean circuits and components							
				ability to recognize warranty and non-warranty situations							
				ability to obtain exact replacement or suitable substitute parts							
				knowledge of application of testing devices							
				knowledge of de-soldering and soldering techniques							
				knowledge of electro static discharge techniques							
				knowledge of flat-pack (surface-mount) techniques							
				knowledge of component identification methods							

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	<p>equipment, test monitors, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, computer, hot air equipment, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video disks, tapes/CD/records, de-soldering tools, CRT checker</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>	
14.08	<p>Sets up and tests units.</p> <p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p>	<p>variac, data generators, test monitors, dot/bar generators, RF generators, test speakers, NTSC generators, AF generators, head phones, computer, inspection mirrors, diagnostic routines, equipment dollies/carts, lifting/leveling devices, magnifiers, isolation</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of troubleshooting techniques</p>	<p>transformer, manufacturer's software, anti-static equipment, fire extinguisher, fan</p>	
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p> <p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>			
14.09	Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to align</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p>	<p>manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs,</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of application of testing devices	ultrasonic cleaner, lubricants, oilers, multimeters, continuity
	knowledge of electro static discharge techniques	testers, oscilloscopes, function generators, dot/bar generators, RF
	knowledge of component identification methods	generators, circuit testers, component testers, logic probes,
	knowledge of cleaning chemicals and procedures	logic analyzers, frequency counters, RAM/ROM testers,
	knowledge of replacement part characteristics (physical and electrical)	X-ray and particle detectors, variable voltage/current supplies, AC line testers/
	knowledge of troubleshooting techniques	monitors, degaussing equipment, test monitors, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, computer, hot air equipment, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video disks, tapes/CD/records, magnifying glass, CRT checker
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
14.10	Performs post-service functional tests.	<p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of cleaning chemicals and procedures</p>	<p>variac, data generators, test monitors, dot/bar generators, RF generators, test speakers, NTSC generators, AF generators, head phones, computer, inspection mirrors, diagnostic routines, equipment dollies/carts, lifting/leveling devices, magnifiers, isolation transformer, manufacturer's software, anti-static equipment, fire extinguisher, fan</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u></p> <p>ND NV yes yes yes yes yes NV</p>	
14.11	Reassembles units and performs final check.	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p>	<p>cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, anti-static equipment</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to perform final functional test

knowledge of electro static discharge techniques

knowledge of cleaning chemicals and procedures

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

14.12 Delivers/installs, sets up units, and demonstrates unit operation.

ability to handle units

ability to store units

ability to drive to job location when applicable

ability to deliver units

ability to install and set up units

ability to demonstrate unit to customer

ability to advise customer of company policies and warranty policies

ability to communicate pertinent repair/defect information

ability to respond to customer concerns and customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

car, light to medium-sized truck, manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, alignment tools, burnishing tools, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, anti- static equipment, degaussing equipment, sprays, diskettes, video disks, tapes/CD/records, equipment dollies/carts, lifting/leveling devices

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
14.13	<p>Completes documentation.</p> <p>ability to bill customer</p> <p>ability to complete warranty claim</p> <p>ability to calculate customer bill</p> <p>ability to tag warranty parts</p>	calculator									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV

Task 15 Services satellite receiver systems.

Trend: Because of the introduction of direct satellite systems (DSS) at a low start up cost, the use of these systems will become more widely spread and consequently some technicians feel they will generate more opportunities for service.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
15.01	<p>Greets, interviews clients and verifies unit problems.</p> <p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p> <p>(NOT COMMON CORE)</p>	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV	
15.02	Processes work orders.			ability to determine name, address and phone numbers of customer								
				ability to determine name and model number of unit								
				ability to write up symptoms								
				knowledge of company documentation procedures								
	<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
15.03	Informs customer of repair time frames and cost responsibilities.			ability to respond to customer enquiries								
				ability to obtain customer signature on work order								
				knowledge of company work volume								
				knowledge of company credit policy								
	<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
15.04	Performs pre-service functional tests.			ability to apply power						RF generators, RF power meters, satellite feed		
				ability to attach to signal source								
				ability to power up								
				ability to check video								
				ability to check audio								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>ability to check all special features</p> <p>ability to check tuner</p> <p>ability to check cosmetics of set</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV</p>		
15.05	Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of electro static discharge techniques</p>	<p>hex drivers, solder irons solder wicks</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV</p>		
15.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p>	<p>multimeters, oscilloscopes, RF generators transistor</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to perform non-technical inspections	checker, diagnostic software, monitor, satellite feed
	ability to recognize need to consult with another technician or manufacturer	
	ability to perform visual inspection	
	ability to recognize malfunctions	
	ability to read schematics	
	ability to isolate receiver fault to sub-assembly/circuit/component	
	ability to select, connect and correctly interpret readings from required test equipment	
	ability to document results	
	ability to communicate results to other personnel	
	ability to recognize warranty and non-warranty situations	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
15.07	Replaces or repairs faulty circuits and components.			ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components ability to select and replace component ability to order parts ability to repair faulty circuits or components ability to clean circuits and components ability to recognize warranty and non-warranty situations ability to obtain exact replacement or suitable substitute parts knowledge of application of testing devices knowledge of de-soldering and soldering techniques knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods						solder irons, solder wicks, flux removers, hot air equipment, ground straps, de-soldering tools		

Sub-tasks		Supporting Knowledge & Abilities								Tools & Equipment			
		knowledge of cleaning chemicals and procedures											
		knowledge of troubleshooting techniques											
		<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
		ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV
15.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check tuner</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p>								<p>RF generators, diagnostic software, monitor, satellite feed, compass, inclinometer</p>			

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
15.09	Performs routine maintenance.			ability to clean controls ability to fine tune channels ability to verify operation of controls ability to clean cosmetics of item ability to verify all safety devices are in place and functioning properly ability to perform routine mechanical and electronic adjustments/alignments ability to identify/document weaknesses or potential problems knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of component identification methods knowledge of cleaning chemicals and procedures knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting techniques						lubricants, cleaning fluids, swabs, multimeters, magnifying glass		
15.10	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV
	Performs post-service functional tests.			ability to attach to power source ability to attach to signal source						RF generators, safety procedures/standards		

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to power up

ability to check audio

ability to check video

ability to check tuner

ability to check all features

ability to check cosmetics

ability to recognize malfunctions

ability to document results

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of cleaning chemicals and procedures

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

15.11 Reassembles units and performs final check.

ability to assemble

hex drivers, solder irons

ability to prepare unit and work area for assembly

ability to select and use tools

ability to follow manufacturers= assembly procedures

ability to perform final functional test

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
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Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
15.12	Delivers/installs, sets up units, and demonstrates unit operation.			ability to handle units ability to store units ability to drive to job location when applicable ability to deliver units ability to install and set up units ability to demonstrate unit to customer ability to advise customer of company policies and warranty policies ability to communicate pertinent repair/defect information ability to respond to customer concerns and customer satisfaction ability to obtain customer sign-off ability to obtain payment ability to reauthorize customers= programming package (NOT COMMON CORE)						light to medium-sized truck, cutters, hex drivers, hammers, alignment tools, compass, inclinometer		
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV
15.13	Completes documentation.			ability to bill customer ability to complete warranty claim						calculator		

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to calculate customer bill	
	ability to tag warranty parts	
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV

Task 16 Services video cameras.

Trend: Shrinking size, greater complexity, more specialized test equipment, and lower prices mean fewer shop repairs and more units shipped to factory for service.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
16.01 Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem	
	ability to probe for specific symptoms	
	ability to reflect back and verify customer's recollection of symptoms	
	ability to respond to unrealistic customer expectations	
	knowledge of unit operation and potential problems	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV
16.02 Processes work orders.	ability to determine name, address and phone numbers of customer	

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		ability to determine name and model number of unit	
		ability to write up symptoms	
		knowledge of company documentation procedures	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes
<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes
		<u>AB</u> yes	<u>BC</u> no
			<u>NT</u> yes
			<u>YK</u> NV
16.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries	
		ability to obtain customer signature on work order	
		knowledge of company work volume	
		knowledge of company credit policy	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes
<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes
		<u>AB</u> yes	<u>BC</u> no
			<u>NT</u> yes
			<u>YK</u> NV
16.04	Performs pre-service functional tests.	ability to apply power	tapes/CD/records
		ability to attach to signal source	
		ability to power up	
		ability to check video	
		ability to check audio	
		ability to check all special features	
		ability to check cosmetics of set	
		ability to recognize malfunctions	

Sub-tasks		Supporting Knowledge & Abilities							Tools & Equipment			
16.05	Disassembles units.											
16.06	Troubleshoots faults.											

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
				ability to isolate receiver fault to sub-assembly/circuit/component						test/alignment gauges, micrometer, tapes/CD/records, NTSC		
				ability to select, connect and correctly interpret readings from required test equipment						generators, transistor checker, light box, vector scope, computer, hot air equipment, head checker, ND tester, infrared tester,		
				ability to document results						inspection mirrors, reference charts, test charts, diagnostic routines, test cables		
				ability to communicate results to other personnel								
				ability to recognize warranty and non-warranty situations								
				knowledge of application of testing devices								
				knowledge of electro static discharge techniques								
				knowledge of flat-pack (surface-mount) techniques								
				knowledge of component identification methods								
				knowledge of troubleshooting techniques								
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
16.07	Replaces or repairs faulty circuits and components.			ability to remove faulty component						solder irons, solder wicks, flux removers, head pullers, i.c. pullers, anti-static equipment, mats, hot air gun, de-soldering tools		
				ability to verify proper installation								
				ability to verify integrity of board and neighboring components								
				ability to select and replace component								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>		
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>		
16.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p>	<p>test monitors, test/alignment, tapes/CD/records, light meters, light box, vector scope, test charts, test cables</p>

ability to power up

ability to check audio

ability to check video

ability to check all features

ability to check cosmetics

ability to recognize malfunctions and
troubleshoot

ability to document results

ability to communicate results to
other technicians

knowledge of application of testing
devices

knowledge of electro static discharge
techniques

knowledge of flat-pack (surface-
mount) techniques

knowledge of troubleshooting
techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

16.09 Performs routine
maintenance.

ability to clean controls

ability to align

ability to verify operation of controls

ability to clean cosmetics of item

ability to verify all safety devices are

cleaning fluids,
airbrushes, swabs,
lubricants, mats, tension
gauges, torque gauges,
test/alignment gauges,
inspection mirrors,
magnifying glass

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	
16.10	<p>Performs post-service functional tests.</p>	<p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>knowledge of application of testing</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>	
16.11	<p>Reassembles units and performs final check.</p> <p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p>	<p>manufacturer's software, allen keys, solder irons, solder wicks, flux removers</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>	
16.12	<p>Delivers/installs, sets up units, and demonstrates unit operation.</p> <p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to</p>	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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customer

ability to advise customer of company policies and warranty policies

ability to communicate pertinent repair/defect information

ability to respond to customer concerns and customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

knowledge of electro static discharge techniques

knowledge of cleaning chemicals and procedures

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

16.13

Completes documentation.

ability to bill customer

vibration testers, calculator

ability to complete warranty claim

ability to calculate customer bill

ability to tag warranty parts

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 17 Services cable converters and decoders.

Trend: Expanding use and complexity of cable converters and decoders require additional training for servicing these units.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
17.01	<p>Greets, interviews clients and verifies unit problems.</p> <p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p> <p>(NOT COMMON CORE)</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes no yes no no NV</p>	
17.02	<p>Processes work orders.</p> <p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p> <p>knowledge of company documentation procedures</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes no yes no yes NV</p>	
17.03	<p>Informs customer of repair time frames and cost responsibilities.</p> <p>ability to respond to customer enquiries</p> <p>ability to obtain customer signature on work order</p>	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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knowledge of company work volume
 knowledge of company credit policy

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

17.04 Performs pre-service functional tests.

ability to apply power
 ability to attach to signal source
 ability to power up
 ability to check video
 ability to check audio
 ability to check all special features
 ability to check tuner
 ability to check cosmetics of set
 ability to recognize malfunctions
 ability to document results
 ability to communicate results to other technicians
 knowledge of application of testing devices
 knowledge of electro static discharge techniques
 knowledge of troubleshooting techniques

manufacturer's software, test monitors, reference charts, test charts, test cables

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
17.05 Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p>	hex drivers, solder irons, solder suckers, electric screw/nut drivers
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes no yes no yes NV</p>	
17.06 Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p> <p>ability to select, connect and correctly interpret readings from required test equipment</p> <p>ability to document results</p>	<p>manufacturer's software, cutters, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, isolation transformer, multimeters, oscilloscopes, RF generators, component testers, test monitors, transistor checker, capacitor checker, reference charts, test charts, test cables</p>

ability to communicate results to other personnel

ability to recognize warranty and non-warranty situations

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

17.07 Replaces or repairs faulty circuits and components.

ability to remove faulty component

ability to verify proper installation

ability to verify integrity of board and neighboring components

ability to select and replace component

ability to order parts

ability to repair faulty circuits or

cutters, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, electric screw/nut drivers, glue gun, heat gun, isolation transformer, cleaning fluids, cloths, airbrushes, de-soldering tools

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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components

ability to clean circuits and components

ability to recognize warranty and non-warranty situations

ability to obtain exact replacement or suitable substitute parts

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

17.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p>	<p>manufacturer=s software, cleaning fluids, cloths</p>
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
	<p>ability to check audio</p> <p>ability to check video</p> <p>ability to check tuner</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of troubleshooting techniques</p>										
<p><u>NF</u> ND</p>	<p><u>NS</u> yes</p>	<p><u>PE</u> yes</p>	<p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p>	<p><u>ON</u> NV</p>	<p><u>MA</u> yes</p>	<p><u>SK</u> no</p>	<p><u>AB</u> yes</p>	<p><u>BC</u> no</p>	<p><u>NT</u> yes</p>	<p><u>YK</u> NV</p>
17.09	Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to align</p> <p>ability to fine tune channels</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are</p>	<p>cleaning fluids, airbrushes, vacuum brushes, test monitors, reference charts, test charts, magnifying glass</p>								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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in place and functioning properly

ability to perform routine mechanical and electronic adjustments/alignments

ability to identify/document weaknesses or potential problems

knowledge of precision mechanisms and fine mechanical adjustments

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

17.10 Performs post-service functional tests.

ability to attach to power source

ability to attach to signal source

ability to power up

ability to check audio

ability to check video

manufacturer's software, test monitors, reference charts, test cables

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>ability to check tuner</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes no yes no yes NV</p>		
17.11	Reassembles units and performs final check.	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of electro static discharge techniques</p>	<p>manufacturer's software, hex drivers, electric screw/nut drivers</p>

knowledge of cleaning chemicals and procedures

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	no	yes	no	yes	NV

17.12 Delivers/installs, sets up units, and demonstrates unit operation.

ability to handle units

ability to store units

ability to drive to job location when applicable

ability to deliver units

ability to install and set up units

ability to demonstrate unit to customer

ability to advise customer of company policies and warranty policies

ability to communicate pertinent repair/defect information

ability to respond to customer concerns and customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

car or light to medium-sized truck, manufacturer=s software, hex driver

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	no	yes	no	no	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
17.13	<p>Completes documentation.</p> <p>ability to bill customer</p> <p>ability to complete warranty claim</p> <p>ability to calculate customer bill</p> <p>ability to tag warranty parts</p> <p>(NOT COMMON CORE)</p>										
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> no	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV

Task 18 Services video display devices. (Large projection television screens)
(NOT COMMON CORE)

Trend: Expanding sales and lower price per unit will result in more service.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
18.01	<p>Greets, interviews clients and verifies unit problems.</p> <p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p> <p>(NOT COMMON CORE)</p>										
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> no	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV

18.02	Processes work orders.	<p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p> <p>knowledge of company documentation procedures</p>
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(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.03	Informs customer of repair time frames and cost responsibilities.	<p>ability to respond to customer enquiries</p> <p>ability to obtain customer signature on work order</p> <p>knowledge of company work volume</p> <p>knowledge of company credit policy</p>
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(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.04	Performs pre-service functional tests.	<p>ability to apply power</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check video</p> <p>ability to check all special features</p>	<p>variac, isolation transformer, data generators, function generators, dot/bar generators, RF generators, test monitors, test speakers, NTSC generators, AF generators, head</p>
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>ability to check cosmetics of set</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p>	<p>phones, computer, inspection mirrors, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, manufacturer's software, anti-static equipment, fire extinguisher, fan</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes no yes no yes NV</p>	
18.05	Disassembles units.	<p>cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, anti-static equipment</p>
	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>(NOT COMMON CORE)</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes no yes no yes NV</p>	
18.06	Troubleshoots faults.	<p>manufacturer's software,</p>
	<p>ability to prepare unit for</p>	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	troubleshooting	cutters, measuring devices, allen keys,
	ability to perform non-technical inspections	feeler gauges, hex drivers, hammers, alignment tools,
	ability to recognize need to consult with another technician or manufacturer	burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers,
	ability to perform visual inspection	i.c. pullers, chisels, cutters, strippers,
	ability to recognize malfunctions	crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, rubber gloves,
	ability to read schematics	masks, ear protection, isolation transformer, anti-static equipment,
	ability to isolate receiver fault to sub-assembly/circuit/component	fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs,
	ability to select, connect and correctly interpret readings from required test equipment	ultrasonic cleaner, lubricants, oilers,
	ability to document results	multimeters, continuity testers, oscilloscopes, data generators,
	ability to communicate results to other personnel	function generators, dot/bar generators, RF generators, circuit testers, component testers, logic probes, logic analyzers,
	ability to recognize warranty and non-warranty situations	frequency counters, RAM/ROM testers, X-ray and particle detectors, variable voltage/current supplies, AC line testers/
	knowledge of application of testing devices	monitors, degaussing equipment, test monitors, test speakers, microfiche reader, high voltage probe, variac, decade boxes, jumper wire, NTSC generators,
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical)	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of troubleshooting techniques	AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, vacuum tube tester, computer, hot air equipment, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video disks, tapes/CD/records

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.07	Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p>	<p>manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, ear protection, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths,</p>
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to obtain exact replacement or suitable substitute parts	airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers,
	knowledge of application of testing devices	multimeters, continuity testers, oscilloscopes, data generators,
	knowledge of de-soldering and soldering techniques	function generators, dot/bar generators, RF generators, circuit
	knowledge of electro static discharge techniques	testers, component testers, logic probes, logic analyzers,
	knowledge of flat-pack (surface-mount) techniques	frequency counters, RAM/ROM testers, X-ray and particle
	knowledge of component identification methods	detectors, variable voltage/current supplies, AC line testers/
	knowledge of cleaning chemicals and procedures	monitors, degaussing equipment, test monitors, test speakers,
	knowledge of troubleshooting techniques	microfiche reader, high voltage probe, variac, decade boxes, jumper
		wire, NTSC generators, AF generators, transistor checker, tracker, capacitor
		checker, Z-meter, head phones, induction
		meter, vacuum tube tester, computer, hot air
		equipment, mini torch, inspection mirrors, temperature probes,
		reference charts, test charts, diagnostic
		routines, test cables, equipment dollies/carts,
		lifting/leveling devices, magnifiers, electrical
		tape, mats, ground straps, sprays, video
		disks, tapes/CD/records, de-soldering tools

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check video</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of troubleshooting techniques</p>	<p>variac, isolation transformer, data generators, function generators, dot/bar generators, RF generators, test monitors, test speakers, NTSC generators, AF generators, head phones, computer, inspection mirrors, test cables, equipment dollies/carts, lifting/leveling devices, manufacturer's software, anti-static equipment, fire extinguisher, fan</p>
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(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
18.09 Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to align</p> <p>ability to fine tune channels</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<p>manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, head pullers, i.c. pullers, chisels, cutters, strippers, crimpers, electric drills, electric screw/nut, magnifying glass drivers, glue gun, heat gun, ear protection, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, ultrasonic cleaner, lubricants, oilers, multimeters, continuity testers, oscilloscopes, data generators, function generators, dot/bar generators, RF generators, circuit testers, component testers, logic probes, logic analyzers, frequency counters, RAM/ROM testers, X-ray and particle detectors, variable voltage/current supplies, AC line testers/monitors, degaussing equipment, test monitors, test speakers, microfiche reader, high</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
		voltage probe, variac, decade boxes, jumper wire, NTSC generators, AF generators, transistor checker, tracker, capacitor checker, Z-meter, head phones, induction meter, vacuum tube tester, computer, hot air equipment, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, ground straps, sprays, video disks, tapes/CD/records

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

18.10	Performs post-service functional tests.	ability to attach to power source ability to attach to signal source ability to power up ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results	variac, isolation transformer, data generators, function generators, dot/bar generators, RF generators, test monitors, test speakers, NTSC generators, AF generators, head phones, computer, inspection mirrors, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, manufacturer's software,
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p>	<p>anti-static equipment, fire extinguisher, fan</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes no yes no yes NV</p>	
18.11	<p>Reassembles units and performs final check.</p> <p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of cleaning chemicals and procedures</p> <p>(NOT COMMON CORE)</p>	<p>cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, anti-static equipment</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes no yes no yes NV</p>	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment																									
18.12 Delivers/installs, sets up units, and demonstrates unit operation.	<p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent repair/defect information</p> <p>ability to respond to customer concerns and customer satisfaction</p> <p>ability to obtain customer sign-off</p>	<p>car, light to medium-sized truck, equipment manufacturer's software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, anti-static equipment, degaussing equipment, sprays, diskettes, video disks, tapes/CD/records, equipment dollies/carts, lifting/leveling devices</p>																									
	(NOT COMMON CORE)																										
	<table border="0"> <tr> <td><u>NF</u></td> <td><u>NS</u></td> <td><u>PE</u></td> <td><u>NB</u></td> </tr> <tr> <td>ND</td> <td>no</td> <td>yes</td> <td>yes</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	ND	no	yes	yes	<table border="0"> <tr> <td><u>PQ</u></td> <td><u>ON</u></td> <td><u>MA</u></td> <td><u>SK</u></td> <td><u>AB</u></td> <td><u>BC</u></td> <td><u>NT</u></td> <td><u>YK</u></td> </tr> <tr> <td>ND</td> <td>NV</td> <td>yes</td> <td>no</td> <td>yes</td> <td>no</td> <td>no</td> <td>NV</td> </tr> </table>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	NV	yes	no	yes	no	no	NV	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>																								
ND	no	yes	yes																								
<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>																				
ND	NV	yes	no	yes	no	no	NV																				
18.13 Completes documentation.	<p>ability to bill customer</p> <p>ability to complete warranty claim</p> <p>ability to calculate customer bill</p> <p>ability to tag warranty parts</p>	calculator																									
	(NOT COMMON CORE)																										

Sub-tasks				Supporting Knowledge & Abilities					Tools & Equipment			
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV	

BLOCK E SERVICE TELEPHONE ANSWERING EQUIPMENT COMPONENTS AND DEVICES

Task 19 Services cellular phones. (NOT COMMON CORE)

Trend: Because of the increasing popularity of voice synthesizers, servicing opportunities are expanding.

Sub-tasks		Supporting Knowledge & Abilities					Tools & Equipment				
19.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems (NOT COMMON CORE)									
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
19.02	Processes work orders.	
	ability to determine name, address and phone numbers of customer	
	ability to determine name and model number of unit	
	ability to write up symptoms	
	knowledge of company documentation procedures	
	(NOT COMMON CORE)	
	<u>NF</u> ND	<u>YK</u> NV
	<u>NS</u> no	<u>NT</u> yes
	<u>PE</u> yes	<u>BC</u> no
	<u>NB</u> yes	<u>AB</u> yes
	<u>PQ</u> ND	<u>SK</u> no
	<u>ON</u> NV	<u>MA</u> yes
		<u>AB</u> yes
		<u>BC</u> no
		<u>NT</u> yes
		<u>YK</u> NV
19.03	Informs customer of repair time frames and cost responsibilities.	
	ability to respond to customer enquiries	
	ability to obtain customer signature on work order	
	knowledge of company work volume	
	knowledge of company credit policy	
	(NOT COMMON CORE)	
	<u>NF</u> ND	<u>YK</u> NV
	<u>NS</u> no	<u>NT</u> yes
	<u>PE</u> yes	<u>BC</u> no
	<u>NB</u> yes	<u>AB</u> yes
	<u>PQ</u> ND	<u>SK</u> no
	<u>ON</u> NV	<u>MA</u> yes
		<u>AB</u> yes
		<u>BC</u> no
		<u>NT</u> yes
		<u>YK</u> NV
19.04	Performs pre-service functional tests.	
	ability to apply power	spectrum analyzer, cell site simulator,
	ability to attach to signal source	wattmeter
	ability to power up	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to check audio

ability to check all special features

ability to check transmitter and receiver

ability to check cosmetics of set

ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
19.05 Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of troubleshooting techniques</p>	manufacturer's software									
(NOT COMMON CORE)											
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> no	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
19.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p>	<p>spectrum analyzer, manufacturer's software, logic diagrams, multi meter, variable voltage/current supplies, RF power meters, cell site simulator</p>								

ability to recognize malfunctions

ability to read schematics

ability to isolate receiver fault to sub-assembly/circuit/component

ability to select, connect and correctly interpret readings from required test equipment

ability to document results

ability to communicate results to other personnel

ability to recognize warranty and non-warranty situations

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
19.07 Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	<p>spectrum analyzer, manufacturer's software, logic diagrams, solder irons, solder wicks, cutters, microfiche reader, i.c. pullers, de-soldering tools</p>

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check transmitter and receiver</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component</p>	<p>spectrum analyzer, manufacturer's software</p>
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.09 Performs routine maintenance.

ability to clean controls

ability to align

ability to check carrier frequency

ability to verify operation of controls

ability to clean cosmetics of item

ability to verify all safety devices are in place and functioning properly

ability to perform routine mechanical and electronic adjustments/alignments

ability to identify/document weaknesses or potential problems

knowledge of application of testing devices

knowledge of electro static discharge techniques

alignment tools, cleaning fluids, swabs, airbrushes, magnifying glass

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.10 Performs post-service functional tests.

ability to attach to power source

ability to attach to signal source

ability to power up

ability to check audio

ability to check transmitter and receiver

ability to check all features

ability to check cosmetics

ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

knowledge of application of testing devices

spectrum analyzer, logic probe, cell site simulator, wattmeter

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.11 Reassembles units and performs final check.

ability to assemble

manufacturer's software

ability to prepare unit and work area for assembly

ability to select and use tools

ability to follow manufacturers= assembly procedures

ability to perform final functional test

knowledge of electro static discharge techniques

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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knowledge of flat-pack (surface-mount) techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

19.12 Delivers/installs, sets up units, and demonstrates unit operation.

ability to handle units

ability to store units

ability to drive to job location when applicable

ability to deliver units

ability to install and set up units

ability to demonstrate unit to customer

ability to advise customer of company policies and warranty policies

ability to communicate pertinent repair/defect information

ability to respond to customer concerns and customer satisfaction

ability to obtain customer sign-off

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to obtain payment

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

19.13 Completes documentation. ability to bill customer computer, calculator

ability to complete warranty claim

ability to calculate customer bill

ability to tag warranty parts

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

Task 20 Services cordless phones.

Trend: Because of the portability of the units and comparatively low price, more and more of these units fall into an exchange program, limiting the opportunities for service.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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20.01 Greets, interviews clients and verifies unit problems.

ability to listen attentively to customer's description of problem

ability to probe for specific symptoms

ability to reflect back and verify customer's recollection of symptoms

ability to respond to unrealistic

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	customer expectations	
	knowledge of unit operation and potential problems	
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no no NV	
20.02	Processes work orders.	
	ability to determine name, address and phone numbers of customer	
	ability to determine name and model number of unit	
	ability to write up symptoms	
	knowledge of company documentation procedures	
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no yes NV	
20.03	Informs customer of repair time frames and cost responsibilities.	
	ability to respond to customer enquiries	
	ability to obtain customer signature on work order	
	knowledge of company work volume	
	knowledge of company credit policy	
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no yes NV	
20.04	Performs pre-service functional tests.	
	ability to apply power	analyzer
	ability to attach to signal source	

ability to power up

ability to check audio

ability to check all special features

ability to check transmitter and receiver

ability to check cosmetics of set

ability to recognize malfunctions
ability to document results

ability to communicate results to other technicians

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
20.05	Disassembles units.	mats
	ability to prepare unit and work area for disassembly	
	ability to select and use tools	
	ability to follow manufacturers= disassembly procedures	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV	
20.06	Troubleshoots faults.	telephone analyzer, manufacturer's software, solder irons, solder wicks, i.c. pullers, glue gun, frequency counters
	ability to prepare unit for troubleshooting	
	ability to perform non-technical inspections	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
	ability to recognize need to consult with another technician or manufacturer										
	ability to perform visual inspection										
	ability to recognize malfunctions										
	ability to read schematics										
	ability to isolate receiver fault to sub-assembly/circuit/component										
	ability to select, connect and correctly interpret readings from required test equipment										
	ability to document results										
	ability to communicate results to other personnel										
	ability to recognize warranty and non-warranty situations										
	knowledge of application of testing devices										
	knowledge of electro static discharge techniques										
	knowledge of flat-pack (surface-mount) techniques										
	knowledge of component identification methods										
	knowledge of replacement part characteristics (physical and electrical)										
	knowledge of troubleshooting techniques										
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
20.07 Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	<p>frequency counters, telephone analyzer, data generators, function generators, manufacturers= manuals/software, solder irons, solder wicks, i.c. pullers, glue gun, de-soldering tools</p>

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
20.08	Sets up and tests units.			<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check transmitter and receiver</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p>						<p>frequency counters, equipment specifications, telephone analyzer, data generators, function generators, manufacturer's software, solder irons, solder wicks, i.c. pullers, glue gun</p>		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
20.09	Performs routine			ability to clean controls						cleaning fluids, swabs,		

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
maintenance.	<p>ability to align</p> <p>ability to check carrier frequency</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<p>frequency counters, telephone analyzer, data generators, function generators, manufacturers= manuals/software, solder irons, solder wicks, i.c. pullers, glue gun, magnifying glass</p>									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
20.10	Performs post-service functional tests.	<p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check transmitter and receiver</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u></p> <p>ND NV yes yes yes yes</p>	<p><u>NT</u> <u>YK</u></p> <p>yes NV</p>
20.11	Reassembles units and performs final check.	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturer's assembly procedures</p>	<p>frequency counters, equipment specifications, telephone analyzer, data generators, function generators, manufacturer's software, solder irons, solder wicks, i.c.</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
	<p>ability to perform final functional test</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	pullers, glue gun									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
20.12	Delivers/installs, sets up units, and demonstrates unit operation.	<p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p>									

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to advise customer of company policies and warranty policies

ability to communicate pertinent repair/defect information

ability to respond to customer concerns and customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

20.13 Completes documentation.

ability to bill customer

ability to complete warranty claim

ability to calculate customer bill

ability to tag warranty parts

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 21 Services fax machines.

Trend: Because of the integration of equipment and increased home use, the demand for service will increase.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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21.01 Greets, interviews clients and verifies unit

ability to listen attentively to customer's description of problem

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
problems.	<p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p>	
21.02	<p>Processes work orders.</p> <p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p> <p>knowledge of company documentation procedures</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no no NV</p>	
21.03	<p>Informs customer of repair time frames and cost responsibilities.</p> <p>ability to respond to customer enquiries</p> <p>ability to obtain customer signature on work order</p> <p>knowledge of company work volume</p> <p>knowledge of company credit policy</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no yes NV</p>	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
21.04 Performs pre-service functional tests.	<p>ability to apply power</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check mechanical operation</p> <p>ability to check dialer operation</p> <p>ability to check audio</p> <p>ability to check all special features</p> <p>ability to check cosmetics of set</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	telephone analyzer, facsimile machine

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
21.05	Disassembles units.			ability to prepare unit and work area for disassembly						hex drivers, screwdrivers, soldering and de-soldering equipment, freeze spray		
				ability to select and use tools								
				ability to follow manufacturers= disassembly procedures								
				knowledge of application of testing devices								
				knowledge of de-soldering and soldering techniques								
				knowledge of electro static discharge techniques								
				knowledge of flat-pack (surface-mount) techniques								
				knowledge of component identification methods								
				knowledge of cleaning chemicals and procedures								
				knowledge of replacement part characteristics (physical and electrical)								
				knowledge of troubleshooting techniques								
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
21.06	Troubleshoots faults.			ability to prepare unit for						solder irons, solder		

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p> <p>ability to select, connect and correctly interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p>	<p>wicks, multimeters, telephone analyzer, oscilloscopes, screwdrivers, freeze spray, test documents</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>knowledge of troubleshooting techniques</p> <p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no yes NV</p>	
21.07	<p>Replaces or repairs faulty circuits and components.</p> <p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p>	<p>solder irons, solder wicks, multimeters, telephone analyzer, oscilloscopes, i.c. pullers, microfiche reader, schematic tools, testing procedures, de-soldering tools</p>

		<p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> no</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	
21.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check mechanical operation</p> <p>ability to check dialer operation</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-</p>	<p>solder irons, solder wicks, multimeters, telephone analyzer, oscilloscopes</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
<u>NF</u> ND <u>NS</u> yes <u>PE</u> yes <u>NB</u> yes	<p>mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<u>PQ</u> ND <u>ON</u> NV <u>MA</u> yes <u>SK</u> yes <u>AB</u> yes <u>BC</u> no <u>NT</u> yes <u>YK</u> NV
21.09 Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to align</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p>	cleaning fluids, cloths, swabs, magnifying glass

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p> <p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> no</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	<p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	
<p>21.10 Performs post-service functional tests.</p>	<p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check mechanical operation</p> <p>ability to check transmitter and receiver</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p>	<p>test documents</p>

customer

ability to advise customer of company policies and warranty policies

ability to communicate pertinent repair/defect information

ability to respond to customer concerns and customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV
21.13	Completes documentation.				ability to bill customer				calculator, computer			

ability to complete warranty claim

ability to calculate customer bill

ability to tag warranty parts

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 22 Services answering machines.

Trend: Due to competitive pricing, pressure to perform cost-efficient repairs is increasing.

	Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
22.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms	

Sub-tasks		Supporting Knowledge & Abilities							Tools & Equipment			
22.02	Processes work orders.											
22.03	Informs customer of repair time frames and cost responsibilities.											

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment								
22.04	Performs pre-service functional tests.	<p>ability to apply power</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check mechanical operation</p> <p>ability to check audio</p> <p>ability to check all special features</p> <p>ability to check cosmetics of set</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	tapes, telephone analyzer								
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
22.05	Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u></p> <p>ND NV yes yes yes yes yes NV</p>	
22.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-</p>	<p>alignment tools, multimeters, oscilloscopes, tension gauges, torque gauges, test/alignment, telephone analyzer</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>assembly/circuit/component</p> <p>ability to select, connect and correctly interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>		
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>		
22.07	<p>Replaces or repairs faulty circuits and components.</p>	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace</p>	<p>microfiche reader, solder irons, solder suckers, solder wicks, telephone analyzer, de-soldering tools</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>		
22.08	Sets up and tests units.	ability to ensure unit complies with government regulations	alignment tools, tapes/CDs/records

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
	ability to attach to power source										
	ability to attach to signal source										
	ability to power up										
	ability to check audio										
	ability to check mechanical operation										
	ability to check all features										
	ability to check cosmetics										
	ability to recognize malfunctions and troubleshoot										
	ability to document results										
	ability to communicate results to other technicians										
	knowledge of application of testing devices										
	knowledge of electro static discharge techniques										
	knowledge of flat-pack (surface-mount) techniques										
	knowledge of component identification methods										
	knowledge of replacement part characteristics (physical and electrical)										
	knowledge of troubleshooting techniques										
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
22.09	Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to align</p> <p>ability to check mechanical operation</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	<p>cleaning fluids, cloths, lubricants, swabs, oilers, tapes/CD/records, telephone analyzer, magnifying glass</p>
	<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	
22.10	Performs post-service functional tests.	<p>ability to attach to power source</p> <p>ability to attach to signal source</p>	<p>testing procedures, alignment tools, multimeters,</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>ability to power up</p> <p>ability to check audio</p> <p>ability to check mechanical operation</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	<p>oscilloscopes, tension gauges, torque gauges, telephone analyzer</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u></p> <p>ND yes yes yes ND NV yes yes yes yes yes NV</p>	
22.11	Reassembles units and performs final check.	
	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p>	

		ability to follow manufacturers= assembly procedures										
		ability to perform final functional test										
		knowledge of application of testing devices										
		knowledge of electrostatic discharge techniques										
		knowledge of troubleshooting techniques										
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
22.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units										
		ability to store units										
		ability to drive to job location when applicable										
		ability to deliver units										
		ability to install and set up units										
		ability to demonstrate unit to customer										
		ability to advise customer of company policies and warranty policies										
		ability to communicate pertinent repair/defect information										
		ability to respond to customer concerns and customer satisfaction										
		ability to obtain customer sign-off										
		ability to obtain payment										

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV	
22.13	Completes documentation.			ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts						computer, calculator, microfiche reader		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	

Task 23 Services corded phones.

Trend: Because these units are becoming cheaper and cheaper, they are becoming disposable as cost of repair and replacement is too high.

Sub-tasks		Supporting Knowledge & Abilities				Tools & Equipment	
23.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems (NOT COMMON CORE)					

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV	
23.02	Processes work orders.			ability to determine name, address and phone numbers of customer								
				ability to determine name and model number of unit								
				ability to write up symptoms								
				knowledge of company documentation procedures								
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV
23.03	Informs customer of repair time frames and cost responsibilities.			ability to respond to customer enquiries								
				ability to obtain customer signature on work order								
				knowledge of company work volume								
				knowledge of company credit policy								
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV
23.04	Performs pre-service functional tests.			ability to apply power						telephone analyzer		
				ability to attach to signal source								
				ability to power up								
				ability to check audio								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>ability to check all special features</p> <p>ability to check transmitter and receiver</p> <p>ability to check cosmetics of set</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes yes yes NV</p>	
23.05	Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>manufacturer's software, solder irons, solder</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to select and use tools	suckers, solder wicks, i.c. pullers
	ability to follow manufacturers= disassembly procedures	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface- mount) techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	
<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND no yes yes	<u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> ND NV yes yes yes yes	<u>NT</u> <u>YK</u> yes NV
23.06 Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or	manufacturer's software, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, i.c. puller, cutters, strippers, glue gun, heat gun, anti- static equipment,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	manufacturer	cleaning fluids,
	ability to perform visual inspection	airbrushes, vacuum brushes, swabs,
	ability to recognize malfunctions	multimeters, continuity testers, oscilloscopes,
	ability to read schematics	circuit testers, logic probes, frequency counters, variable
	ability to isolate receiver fault to sub-assembly/circuit/component	voltage/current supplies, microfiche reader,
	ability to select, connect and correctly interpret readings from required test equipment	jumper wire, transistor checker, tracker, capacitor checker,
	ability to document results	induction meter, telephone analyzer,
	ability to communicate results to other personnel	inspection mirrors, diagnostic routines, test cables, magnifiers, calculator
	ability to recognize warranty and non-warranty situations	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
23.07	<p>Replaces or repairs faulty circuits and components.</p> <p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	<p>manufacturer's software, safety procedures/ standards, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, i.c. puller, cutters, strippers, glue gun, heat gun, anti-static equipment, cleaning fluids, airbrushes, vacuum brushes, swabs, multimeters, continuity testers, oscilloscopes, circuit testers, logic probes, frequency counters, variable voltage/current supplies, microfiche reader, jumper wire, transistor checker, tracker, capacitor checker, induction meter, telephone analyzer, inspection mirrors, diagnostic routines, test cables, magnifiers, calculator, de-soldering tools</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u></p>	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment	
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
23.08	Sets up and tests units.			ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check mechanical operation ability to check all features ability to check cosmetics ability to recognize malfunctions and troubleshoot ability to document results ability to communicate results to other technicians knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) techniques knowledge of component identification methods knowledge of replacement part characteristics (physical and electrical) knowledge of troubleshooting						manufacturer's software, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, i.c. puller, cutters, strippers, glue gun, heat gun, anti-static equipment, cleaning fluids, cloths, airbrushes, vacuum brushes, swabs, multimeters, continuity testers, oscilloscopes, circuit testers, logic probes, frequency counters, variable voltage/current supplies, microfiche reader, jumper wire, transistor checker, tracker, capacitor checker, induction meter, telephone analyzer, inspection mirrors, diagnostic routines, test cables, magnifiers, calculator	

Sub-tasks		Supporting Knowledge & Abilities								Tools & Equipment			
		techniques											
		<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV
23.09	Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to check audio</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>								<p>manufacturer's software, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, i.c. puller, cleaning fluids, airbrushes, vacuum brushes, swabs, telephone analyzer, inspection mirrors, test cables, magnifying glass</p>			

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV	
23.10	Performs post-service functional tests.			ability to attach to power source						variable voltage/current supplies, telephone analyzer		
				ability to attach to signal source								
				ability to power up								
				ability to check audio								
				ability to check mechanical operation								
				ability to check all features								
				ability to check cosmetics								
				ability to recognize malfunctions								
				ability to document results								
				ability to communicate results to other technicians								
				knowledge of application of testing devices								
				knowledge of de-soldering and soldering techniques								
				knowledge of electro static discharge techniques								
				knowledge of flat-pack (surface-mount) techniques								
				knowledge of component identification methods								
				knowledge of cleaning chemicals and procedures								
				knowledge of replacement part characteristics (physical and								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to communicate pertinent repair/defect information

ability to respond to customer concerns and customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

23.13 Completes documentation. ability to bill customer manufacturer's software, microfiche reader

ability to complete warranty claim

ability to calculate customer bill

ability to tag warranty parts

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

BLOCK F SERVICE COMPUTER EQUIPMENT COMPONENTS AND DEVICES

Task 24 Services computer monitors.

Trend: These items show increasing complexity, and there is a trend toward lower radiation limits. Units will become cheaper and parts harder to find.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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24.01	Greets, interviews clients and verifies unit problems.	<p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u></p> <p>ND NV yes yes yes no no NV</p>	

24.02	Processes work orders.	<p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p> <p>knowledge of company documentation procedures</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u></p> <p>ND NV yes yes yes no yes NV</p>	

24.03	Informs customer of repair time frames and cost responsibilities.	<p>ability to respond to customer enquiries</p> <p>ability to obtain customer signature on work order</p>	
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Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment								
		knowledge of company work volume									
		knowledge of company credit policy									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
24.04	Disassembles units.	ability to prepare unit and work area for disassembly	mechanical diagrams/ drawings, safety procedures/standards, hex drivers								
		ability to select and use tools									
		ability to follow manufacturers= disassembly procedures									
		knowledge of product and special features and specifications									
		knowledge of electro static discharge techniques									
		knowledge of component identification methods									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
24.05	Troubleshoots faults.	ability to prepare unit for troubleshooting	schematic diagrams, equipment specifications, testing procedures, solder irons, solder suckers, solder wicks, flux removers, vacuum brushes, multimeters, oscilloscopes, frequency counters, RF radiation detectors, degaussing equipment, high voltage probe, variac, transistor								
		ability to perform non-technical inspections									
		ability to recognize need to consult with another technician or manufacturer									
		ability to perform visual inspection									
		ability to recognize malfunctions									

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to read schematics	checker, capacitor checker, induction meter, CRT checker,
	ability to isolate receiver fault to sub-assembly/circuit/component	computer, freeze spray, mats, ground straps, software
	ability to select, connect and correctly interpret readings from required test equipment	
	ability to document results	
	ability to communicate results to other personnel	
	ability to recognize warranty and non-warranty situations	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	
	knowledge of basic computer software configuration	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
	<u>NB</u> yes	<u>PQ</u> ND
	<u>ON</u> NV	<u>MA</u> yes
	<u>SK</u> yes	<u>AB</u> yes
	<u>BC</u> no	<u>NT</u> yes
		<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
24.06 Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and</p>	<p>cutters, measuring devices, isolation transformer, anti-static equipment, anti-static sprays, schematic diagrams, equipment specifications, testing procedures, solder irons, solder suckers, solder wicks, flux removers, vacuum brushes, multimeters, oscilloscopes, frequency counters, RF radiation detectors, degaussing equipment, high voltage probe, variac, transistor checker, capacitor checker, induction meter, CRT checker, computer, freeze spray, mats, ground straps, de-soldering tools</p>

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		procedures	
		knowledge of troubleshooting techniques	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes
		<u>PQ</u> ND	<u>ON</u> NV
		<u>MA</u> yes	<u>SK</u> yes
		<u>AB</u> yes	<u>BC</u> no
			<u>NT</u> yes
			<u>YK</u> NV
24.07	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of troubleshooting techniques</p>	<p>computer, schematic diagrams, equipment specifications, testing procedures, solder irons, solder suckers, solder wicks, flux removers, vacuum brushes, multimeters, oscilloscopes, frequency counters, RF radiation detectors, degaussing equipment, high voltage probe, variac, transistor checker, capacitor checker, induction meter, CRT checker, freeze spray, mats, ground straps</p>

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
24.08	Performs routine maintenance.			ability to clean controls							maintenance procedures, allen keys, schematic diagrams, equipment	
				ability to align							specifications, testing procedures, solder irons, solder suckers, solder wicks, flux removers, vacuum brushes, multimeters, oscilloscopes, frequency counters, RF radiation detectors, degaussing equipment, high voltage probe, variac, transistor checker, capacitor checker, induction meter, CRT checker, computer, freeze spray, mats, ground straps, magnifying glass	
				ability to verify operation of controls								
				ability to clean cosmetics of item								
				ability to verify all safety devices are in place and functioning properly								
				ability to perform routine mechanical and electronic adjustments/alignments								
				ability to identify/document weaknesses or potential problems								
				knowledge of precision mechanisms and fine mechanical adjustments								
				knowledge of product and special features and specifications								
				knowledge of application of testing devices								
				knowledge of electro static discharge techniques								
				knowledge of component identification methods								
				knowledge of cleaning chemicals and procedures								
				knowledge of replacement part characteristics (physical and electrical)								
				knowledge of troubleshooting								

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
				techniques								
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
24.09	Performs post-service functional tests.			ability to attach to power source ability to attach to signal source ability to power up ability to check audio ability to check video ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures knowledge of troubleshooting techniques						safety procedures/ standards, computer		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
24.10 Reassembles units and performs final check.	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of cleaning chemicals and procedures</p>	allen keys, hex drivers
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND yes yes yes</p> <p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND NV yes yes yes no yes NV</p>	
24.11 Delivers/installs, sets up units, and demonstrates unit operation.	<p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent repair/defect information</p> <p>ability to respond to customer concerns and customer satisfaction</p>	safety procedures/ standards, light to medium-sized truck

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to obtain customer sign-off	
	ability to obtain payment	
	knowledge of product and special features and specifications	
	knowledge of cleaning chemicals and procedures	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV

24.12	Completes documentation.	ability to bill customer	calculator
		ability to complete warranty claim	
		ability to calculate customer bill	
		ability to tag warranty parts	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes
<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes
<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV

Task 25 Services computer hardware.

Trend: Because of unit obsolescence and a lack of available replacement parts, a technician=s ability to repair declines, resulting in an increase in customer complaints.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
25.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem
		ability to probe for specific symptoms
		ability to reflect back and verify customer's recollection of symptoms
		ability to respond to unrealistic

customer expectations

knowledge of unit operation and potential problems

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

25.02 Processes work orders.

ability to determine name, address and phone numbers of customer

ability to determine name and model number of unit

ability to write up symptoms

knowledge of company documentation procedures

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

25.03 Informs customer of repair time frames and cost responsibilities.

ability to respond to customer enquiries

ability to obtain customer signature on work order

knowledge of company work volume

knowledge of company credit policy

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

25.04 Performs pre-service functional tests.

ability to apply power

multimeters, diskettes

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to attach to signal source

ability to power up

ability to check video

ability to check audio

ability to check all special features

ability to check cosmetics of set

ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

ability to maintain integrity of existing data

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of common operating systems

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

25.05 Disassembles units.

ability to prepare unit and work area for disassembly

hex drivers, mats, soldering irons

ability to select and use tools

ability to follow manufacturers= disassembly procedures

knowledge of local, provincial and

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		federal government regulations	
		knowledge of product and special features and specifications	
		knowledge of application of testing devices	
		knowledge of de-soldering and soldering techniques	
		knowledge of electro static discharge techniques	
		knowledge of flat-pack (surface-mount) servicing techniques	
		knowledge of component identification methods	
		knowledge of troubleshooting techniques	
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND yes yes yes	<u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> ND NV yes yes yes	<u>BC</u> <u>NT</u> <u>YK</u> yes yes NV
25.06	Troubleshoots faults.	ability to prepare unit for troubleshooting ability to perform non-technical inspections ability to recognize need to consult with another technician or manufacturer ability to perform visual inspection ability to recognize malfunctions ability to read schematics ability to isolate receiver fault to sub-	diagnostic routines, test cables, oscilloscopes, multimeters, RAM/ROM testers

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
25.07	Replaces or repairs faulty circuits and components.	<p>assembly/circuit/component</p> <p>ability to select, connect and correctly interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of troubleshooting techniques</p> <p>solder irons, solder wicks, hot air equipment, i.c. pullers, de-soldering tools</p>

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV</p>	
25.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>data generators, RAM/ROM testers</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	ability to attach to power source		
	ability to attach to signal source		
	ability to power up		
	ability to check audio		
	ability to check video		
	ability to check all features		
	ability to check cosmetics		
	ability to recognize malfunctions and troubleshoot		
	ability to document results		
	ability to communicate results to other technicians		
	knowledge of product and special features and specifications		
	knowledge of application of testing devices		
	knowledge of electro static discharge techniques		
	knowledge of flat-pack (surface-mount) servicing techniques		
	knowledge of component identification methods		
	knowledge of troubleshooting techniques		
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV		
25.09	Performs routine	ability to clean controls	cleaning fluids,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
maintenance.	<p>ability to align</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p>	<p>airbrushes, lubricants, swabs, oilers, magnifying glass</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV</p>	
25.10	<p>Performs post-service functional tests.</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p>	<p>safety procedures/ standards, diskettes</p>

ability to communicate results to other technicians

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

25.11 Reassembles units and performs final check.

ability to assemble

hex drivers, solder irons

ability to prepare unit and work area for assembly

ability to select and use tools

ability to follow manufacturers= assembly procedures

ability to perform final functional test

knowledge of product and special features and specifications

knowledge of application of testing devices

Sub-tasks				Supporting Knowledge & Abilities					Tools & Equipment			
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<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

25.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units	safety procedures/ standards, hex drivers
		ability to store units	
		ability to drive to job location when applicable	
		ability to deliver units	
		ability to install and set up units	
		ability to demonstrate unit to customer	
		ability to advise customer of company policies and warranty policies	
		ability to communicate pertinent repair/defect information	
		ability to respond to customer concerns and customer satisfaction	
		ability to obtain customer sign-off ability to obtain payment	
knowledge of product and special features and specifications			
(NOT COMMON CORE)			

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

25.13	Completes documentation.	ability to bill customer
		ability to complete warranty claim

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to calculate customer bill	
	ability to tag warranty parts	
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV

Task 26 Services printers.

Trend: Because of multi uses of printers, they are becoming more and more complex and more difficult to repair.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
26.01	Processes work orders.	ability to determine name, address and phone numbers of customer
		ability to determine name and model number of unit
		ability to write up symptoms
	knowledge of company documentation procedures	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV
26.02	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries
		ability to obtain customer signature on work order
	knowledge of company work volume	

Sub-tasks		Supporting Knowledge & Abilities							Tools & Equipment				
		knowledge of company credit policy											
		<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
26.03	Performs pre-service functional tests.	ability to apply power ability to attach to signal source ability to power up ability to check all special features ability to check cosmetics of set ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications							computer				
		knowledge of application of testing devices											
		<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
26.04	Disassembles units.	ability to prepare unit and work area for disassembly ability to select and use tools ability to follow manufacturers= disassembly procedures							mechanical diagrams/ drawings, equipment specifications, operating procedures, hex drivers, solder irons, solder wicks				

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of local, provincial and federal government regulations	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of component identification methods	
	knowledge of troubleshooting techniques	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
	<u>MA</u> yes	<u>SK</u> yes
	<u>AB</u> yes	<u>BC</u> no
	<u>NT</u> yes	<u>YK</u> NV

26.05	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p>	multimeters, ground straps, diskettes, computer software
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ability to select, connect and correctly interpret readings from required test equipment

ability to document results

ability to communicate results to other personnel

ability to recognize warranty and non-warranty situations

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

26.06

Replaces or repairs faulty circuits and components.

ability to remove faulty component

ability to verify proper installation

ability to verify integrity of board and neighboring components

solder irons, solder wicks, flux removers, cutters, de-soldering tools

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment																								
	ability to select and replace component																									
	ability to order parts																									
	ability to repair faulty circuits or components																									
	ability to clean circuits and components																									
	ability to recognize warranty and non-warranty situations																									
	ability to obtain exact replacement or suitable substitute parts																									
	knowledge of product and special features and specifications																									
	knowledge of application of testing devices																									
	knowledge of de-soldering and soldering techniques																									
	knowledge of electro static discharge techniques																									
	knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods																									
	knowledge of cleaning chemicals and procedures																									
	knowledge of troubleshooting techniques																									
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<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV															
26.07	Sets up and tests units.	ability to ensure unit complies with	diskettes																							

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of component identification methods</p> <p>knowledge of troubleshooting techniques</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no yes NV</p>		
26.08	Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to align</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p>	<p>cleaning fluids, vacuum brushes, lubricants, magnifying glass</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to verify all safety devices are in place and functioning properly

ability to perform routine mechanical and electronic adjustments/alignments

ability to identify/document weaknesses or potential problems

knowledge of precision mechanisms and fine mechanical adjustments

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of cleaning chemicals and procedures

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

26.09 Performs post-service functional tests.

ability to attach to power source

ability to attach to signal source
ability to power up

ability to check all features

ability to check cosmetics

ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

knowledge of product and special features and specifications

safety procedures/
standards, diskettes, test documents

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment								
		<p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p>									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
26.10	Reassembles units and performs final check.	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of cleaning chemicals and procedures</p>	hex drivers, solder irons								
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
26.11	Delivers/installs, sets up	ability to handle units	safety procedures/								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
units, and demonstrates unit operation.	<p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent repair/defect information</p> <p>ability to respond to customer concerns and customer satisfaction</p> <p>ability to obtain customer sign-off</p> <p>ability to obtain payment</p> <p>knowledge of product and special features and specifications</p>	standards
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no no NV</p>	
26.12 Completes documentation.	<p>ability to bill customer</p> <p>ability to complete warranty claim</p> <p>ability to calculate customer bill</p> <p>ability to tag warranty parts</p> <p>knowledge of product and special features and specifications</p>	calculator
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no yes NV</p>	

Task 27 Services modems. (NOT COMMON CORE)

Trend: Stand alone modems are becoming obsolete, resulting in very little servicing.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
27.01 Greet, interviews clients and verifies unit problems.	<p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p> <p>(NOT COMMON CORE)</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes no yes no no NV</p>	
27.02 Processes work orders.	<p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p> <p>knowledge of company documentation procedures</p> <p>(NOT COMMON CORE)</p>	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
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<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.03 Informs customer of repair time frames and cost responsibilities.

ability to respond to customer enquiries

ability to obtain customer signature on work order

knowledge of company work volume

knowledge of company credit policy

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.04 Performs pre-service functional tests.

ability to apply power

ability to attach to signal source

ability to power up

ability to check audio

ability to check all special features

ability to check cosmetics of set
ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

knowledge of product and special features and specifications

knowledge of application of testing devices

telephone analyzer, computer, diagnostic routines, operating procedures

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.05	Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of local, provincial and federal government regulations</p> <p>knowledge of product and special features and specifications</p>	<p>mechanical diagrams/ drawings, manufacturers= manuals/software, allen keys, hex drivers, solder irons, solder suckers, solder wicks, electric screw/nut drivers, anti-static equipment, vacuum brushes</p>
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(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p>	<p>logic diagrams, schematic diagrams, equipment specifications, operating procedures, testing procedures, safety procedures/standards, manufacturers= manuals/software, alignment tools, solder irons, solder suckers, solder wicks, flux removers, heat gun, anti-static equipment, freeze spray, multimeters, oscilloscopes,</p>
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment																								
	ability to select, connect and correctly interpret readings from required test equipment	component testers, RAM/ROM testers, variable voltage/current supplies, variac, jumper wire, transistor checker, capacitor checker, induction meter, telephone analyzer, hot air equipment, mats, ground straps, inspection mirrors, diagnostic routines, magnifiers																								
	ability to document results																									
	ability to communicate results to other personnel																									
	ability to recognize warranty and non-warranty situations																									
	knowledge of product and special features and specifications																									
	knowledge of application of testing devices																									
	knowledge of electro static discharge techniques																									
	knowledge of flat-pack (surface-mount) servicing techniques																									
	knowledge of component identification methods																									
	knowledge of troubleshooting techniques																									
	(NOT COMMON CORE)																									
	<table border="0"> <tr> <td><u>NF</u></td> <td><u>NS</u></td> <td><u>PE</u></td> <td><u>NB</u></td> <td><u>PQ</u></td> <td><u>ON</u></td> <td><u>MA</u></td> <td><u>SK</u></td> <td><u>AB</u></td> <td><u>BC</u></td> <td><u>NT</u></td> <td><u>YK</u></td> </tr> <tr> <td>ND</td> <td>no</td> <td>yes</td> <td>yes</td> <td>ND</td> <td>NV</td> <td>yes</td> <td>no</td> <td>yes</td> <td>no</td> <td>yes</td> <td>NV</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV															
27.07	Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p>	<p>cutters, allen keys, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, glue gun, anti-static equipment, cleaning fluids, mats, ground straps, anti-static sprays, magnifiers, de-soldering tools</p>																							

ability to repair faulty circuits or components

ability to clean circuits and components

ability to recognize warranty and non-warranty situations

ability to obtain exact replacement or suitable substitute parts

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.08 Sets up and tests units.

ability to ensure unit complies with

equipment

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p>	<p>specifications, operating procedures, testing procedures, manufacturers= manuals/software, heat gun, multimeters, oscilloscopes, telephone analyzer, computer, test cables</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes no yes no yes NV</p>	
27.09	<p>Performs routine maintenance.</p> <p>ability to clean controls</p> <p>ability to align</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p>	<p>maintenance procedures, cleaning fluids, cloths, vacuum brushes, telephone analyzer, computer, inspection mirrors, magnifying glass</p>

ability to perform routine mechanical and electronic adjustments/alignments

ability to identify/document weaknesses or potential problems

knowledge of precision mechanisms and fine mechanical adjustments

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.10 Performs post-service functional tests.

ability to attach to power source

ability to attach to signal source

ability to power up

ability to check audio

ability to check all features

safety procedures/ standards, operating procedures, manufacturers= manuals/software, computer

ability to check cosmetics

ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

knowledge of product and special features and specifications

knowledge of electro static discharge techniques

knowledge of cleaning chemicals and procedures

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.11 Reassembles units and performs final check.

ability to assemble

ability to prepare unit and work area for assembly

ability to select and use tools

ability to follow manufacturers= assembly procedures

ability to perform final functional test

knowledge of electro static discharge techniques

mechanical diagrams/ drawings, manufacturers= manuals/software, hex drivers, solder irons, electric screw/nut drivers

(NOT COMMON CORE)

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
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<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	yes	NV

27.12	Delivers/installs, sets up units, and demonstrates unit operation.	ability to handle units	safety procedures/ standards, light to medium-sized truck
		ability to store units	
		ability to drive to job location when applicable	
		ability to deliver units	
		ability to install and set up units	
		ability to demonstrate unit to customer	
		ability to advise customer of company policies and warranty policies	
		ability to communicate pertinent repair/defect information	
		ability to respond to customer concerns and customer satisfaction	
		ability to obtain customer sign-off	
		ability to obtain payment	
		knowledge of product and special features and specifications	
		knowledge of electro static discharge techniques knowledge of cleaning chemicals and procedures	

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
27.13	Completes documentation. ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts (NOT COMMON CORE)	calculator, safety procedures/standards
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
	<u>MA</u> yes	<u>SK</u> no
	<u>AB</u> yes	<u>BC</u> no
	<u>NT</u> yes	<u>YK</u> NV

BLOCK G SERVICE MICROWAVE EQUIPMENT COMPONENTS AND APPLIANCES

Task 28 Services microwave ovens.

Trend: Because of the reducing cost of units and increasing cost of parts, service opportunities are reducing.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
28.01	Greets, interviews clients and verifies unit problems. ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
	ability to perform safety checks										
	ability to power up										
	ability to check all special features										
	ability to check cosmetics of set										
	ability to recognize malfunctions										
	ability to document results										
	ability to communicate results to other technicians										
	knowledge of product and special features and specifications										
	knowledge of application of testing devices										
	knowledge of de-soldering and soldering techniques										
	knowledge of electro static discharge techniques										
	knowledge of flat-pack (surface-mount) servicing techniques										
	knowledge of component identification methods										
	knowledge of cleaning chemicals and procedures										
	knowledge of replacement part characteristics (physical and electrical)										
	knowledge of troubleshooting techniques										
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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28.05 Disassembles units.

ability to prepare unit and work area for disassembly

hex drivers

ability to select and use tools

ability to follow manufacturers= disassembly procedures

knowledge of local, provincial and federal government regulations

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
28.06 Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to select, connect and correctly interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p>	<p>multimeters, schematic diagrams, amp probe, solder irons, solder wicks, solder suckers, flux removers, microwave radiation detector, high voltage probe</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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		<p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> no</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	
28.07	Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p>	<p>multimeters, schematic diagrams, amp probe, solder irons, solder wicks, solder suckers, flux removers, micro-wave radiation detector, hex drivers, de-soldering tools, scope, high voltage probe</p>

		<p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p> <p>knowledge of high voltage safety procedures</p>	
	<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> no</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	
28.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to power up</p> <p>ability to check all features</p> <p>ability to perform safety checks</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p>	<p>micro-wave radiation detectors, operating procedures</p>

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

28.09 Performs routine maintenance.

ability to clean controls

ability to align

ability to verify operation of controls

ability to clean cosmetics of item

ability to verify all safety devices are in place and functioning properly
 ability to perform routine mechanical and electronic adjustments/
 alignments

ability to identify/document

cleaning fluids, cloths, lubricants, swabs, oilers, micro-wave radiation detector, magnifying glass

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
	<p>weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>										
<p><u>NF</u> ND</p>	<p><u>NS</u> yes</p>	<p><u>PE</u> yes</p>	<p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p>	<p><u>ON</u> NV</p>	<p><u>MA</u> yes</p>	<p><u>SK</u> yes</p>	<p><u>AB</u> yes</p>	<p><u>BC</u> no</p>	<p><u>NT</u> yes</p>	<p><u>YK</u> NV</p>
28.10	Performs post-service functional tests.	<p>ability to attach to power source</p> <p>ability to power up</p> <p>ability to perform safety checks</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to</p>	<p>safety procedures/ standards, micro-wave radiation detectors, operating procedures</p>								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no yes NV</p>	
28.11	Reassembles units and performs final check.	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools ability to follow manufacturers= assembly procedures</p> <p>ability to perform safety checks</p> <p>ability to perform final functional test</p> <p>hex drivers, micro-wave radiation detectors, operating procedures</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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knowledge of product and special features and specifications

knowledge of application of testing devices

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

28.12 Delivers/installs, sets up units, and demonstrates unit operation.

ability to handle units

safety procedures/ standards

ability to store units

ability to drive to job location when applicable

ability to deliver units

ability to install and set up units

ability to demonstrate unit to customer

ability to advise customer of company policies and warranty policies

ability to communicate pertinent repair/defect information

ability to respond to customer concerns and customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

knowledge of product and special features and specifications

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
28.13	<p>Completes documentation.</p> <p>ability to bill customer</p> <p>ability to complete warranty claim</p> <p>ability to calculate customer bill</p> <p>ability to tag warranty parts</p>	calculator									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV

Task 29 Services microwave clothes dryers. (NOT COMMON CORE)

Trend: More manufacturers are bringing these to market, so servicing will increase

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
29.01	<p>Greets, interviews clients and verifies unit problems.</p> <p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p> <p>(NOT COMMON CORE)</p>	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV	
29.02	Processes work orders.			<p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p> <p>knowledge of company documentation procedures</p> <p>(NOT COMMON CORE)</p>								
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	no	no	ND	NV	yes	no	no	no	no	NV
29.03	Informs customer of repair time frames and cost responsibilities.			<p>ability to respond to customer enquiries</p> <p>ability to obtain customer signature on work order</p> <p>knowledge of company work volume</p> <p>knowledge of company credit policy</p> <p>(NOT COMMON CORE)</p>								
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	no	no	ND	NV	yes	no	no	no	no	NV
29.04	Performs pre-service functional tests.			<p>ability to apply power</p> <p>ability to power up</p> <p>ability to perform safety checks</p>						leakage tester, micro-wave radiation detectors, AC line testers/monitors		

ability to connect and operate test equipment

ability to check all special features

ability to check cosmetics of set

ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV	
29.05	Disassembles units.			<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of local, provincial and federal government regulations</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p>						allen keys, hex drivers		

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV	
29.06	Troubleshoots faults.			<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p> <p>ability to select, connect and correctly interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p>						<p>mechanical diagrams/ drawings, multimeters, high voltage probe, micro-wave radiation detector, hammers, cleaning fluids, lubricants, swabs, oilers</p>		

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes no no ND NV yes no no no no NV</p>		
29.07	Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p>	<p>mechanical diagrams/ drawings, multimeters, high voltage probe, micro-wave radiation detector, hammers, cleaning fluids, lubricants, swabs, oilers, de-soldering tools</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes no no ND NV yes no no no no NV</p>	
29.08	Sets up and tests units.	safety procedures/ standards, micro-wave radiation detectors
	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to power up</p> <p>ability to perform safety checks</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special</p>	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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features and specifications

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

29.09 Performs routine maintenance.

ability to clean controls

ability to align

ability to verify operation of controls

ability to clean cosmetics of item

ability to verify all safety devices are in place and functioning properly

ability to perform routine mechanical and electronic adjustments/alignments

ability to identify/document weaknesses or potential problems

lubricants, allen keys, hex drivers, micro-wave radiation detector, magnifying glass

knowledge of precision mechanisms and fine mechanical adjustments

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

29.10 Performs post-service functional tests.

ability to attach to power source

ability to power up

bility to perform safety checks

ability to check all features

ability to check cosmetics

ability to recognize malfunctions

safety procedures/ standards, multimeters, micro-wave radiation detectors

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to document results

ability to communicate results to other technicians

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV

29.11	Reassembles units and performs final check.	ability to assemble ability to prepare unit and work area for assembly	allen keys, hex drivers
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment																								
	<p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform safety checks ability to perform final functional test</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>(NOT COMMON CORE)</p> <table border="0"> <tr> <td><u>NF</u></td> <td><u>NS</u></td> <td><u>PE</u></td> <td><u>NB</u></td> <td><u>PQ</u></td> <td><u>ON</u></td> <td><u>MA</u></td> <td><u>SK</u></td> <td><u>AB</u></td> <td><u>BC</u></td> <td><u>NT</u></td> <td><u>YK</u></td> </tr> <tr> <td>ND</td> <td>yes</td> <td>no</td> <td>no</td> <td>ND</td> <td>NV</td> <td>yes</td> <td>no</td> <td>no</td> <td>no</td> <td>no</td> <td>NV</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	yes	no	no	ND	NV	yes	no	no	no	no	NV	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
ND	yes	no	no	ND	NV	yes	no	no	no	no	NV															
29.12	Delivers/installs, sets up units, and demonstrates unit operation.	<p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent repair/defect information</p> <p>ability to respond to customer concerns and customer satisfaction</p>	<p>safety procedures/ standards, allen keys, hex drivers</p>																							

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to obtain customer sign-off	
	ability to obtain payment	
	knowledge of product and special features and specifications	
	(NOT COMMON CORE)	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> no
<u>NB</u> no	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> no	<u>AB</u> no
<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV

29.13	Completes documentation.	ability to bill customer
		ability to complete warranty claim
		ability to calculate customer bill
		ability to tag warranty parts
		(NOT COMMON CORE)

<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> no	<u>NB</u> no	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> no	<u>AB</u> no	<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV
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BLOCK H SERVICE REMOTE CONTROL EQUIPMENT COMPONENTS AND DEVICES

Task 30 Services radio frequency remote control devices.

Trend: Because of the low cost of product, servicing opportunities are limited.

30.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem
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Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment								
		ability to probe for specific symptoms									
		ability to reflect back and verify customer's recollection of symptoms									
		ability to respond to unrealistic customer expectations									
		knowledge of unit operation and potential problems									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV
30.02	Processes work orders.	ability to determine name, address and phone numbers of customer									
		ability to determine name and model number of unit									
		ability to write up symptoms									
		knowledge of company documentation procedures									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV
30.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries									
		ability to obtain customer signature on work order									
		knowledge of company work volume									
		knowledge of company credit policy									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV
30.04	Performs pre-service	ability to apply power	operating procedures,								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
functional tests.	<p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check all features</p> <p>ability to check cosmetics of set</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of cleaning chemicals and procedures</p>	<p>manufacturers= manuals/software, oscilloscopes</p>									
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> no	<u>YK</u> NV
30.05	Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of de-soldering and soldering techniques</p>	<p>hex drivers, soldering iron</p>								
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> yes	<u>NT</u> no	<u>YK</u> NV
30.06	Troubleshoots faults.	<p>ability to prepare unit for</p>	<p>oscilloscopes, solder</p>								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	troubleshooting	irons, solder wicks
	ability to perform non-technical inspections	
	ability to recognize need to consult with another technician or manufacturer	
	ability to perform visual inspection	
	ability to recognize malfunctions	
	ability to read schematics	
	ability to isolate receiver fault to sub-assembly/circuit/component	
	ability to select, connect and correctly interpret readings from required test equipment	
	ability to document results	
	ability to communicate results to other personnel	
	ability to recognize warranty and non-warranty situations	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of troubleshooting	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
				techniques								
	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	no	NV
30.07	Replaces or repairs faulty circuits and components.			ability to remove faulty component						solder irons, solder wicks, de-soldering tools		
				ability to verify proper installation								
				ability to verify integrity of board and neighboring components								
				ability to select and replace component								
				ability to order parts								
				ability to repair faulty circuits or components								
				ability to clean circuits and components								
				ability to recognize warranty and non-warranty situations								
				ability to obtain exact replacement or suitable substitute parts								
				knowledge of product and special features and specifications								
				knowledge of application of testing devices								
				knowledge of de-soldering and soldering techniques								
				knowledge of electro static discharge techniques								
				knowledge of flat-pack (surface-mount) servicing techniques								
				knowledge of component								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
<p></p> <p></p> <p></p> <p></p> <p> <u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND yes yes yes </p>	<p>identification methods</p> <p>knowledge of DOC/FCC rules and legislation</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	<p> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND NV yes yes yes yes no NV </p>
<p>30.08 Sets up and tests units.</p>	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-</p>	<p>operating procedures, oscilloscopes</p>

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		<p>mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND NV yes yes yes yes no NV</p>	
30.09	Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to align</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of DOC/FCC rules and regulations</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component</p>	<p>cleaning fluids, swabs, magnifying glass</p>

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		<p>identification methods</p> <p>knowledge of troubleshooting techniques</p>	
		<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes no NV</p>	
30.11	Reassembles units and performs final check.	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of DOC/FCC rules and regulations</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p>	hex drivers, soldering iron
		<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes no NV</p>	
30.12	Delivers/installs, sets up units, and demonstrates unit operation.	<p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p>	safety procedures/ standards

ability to install and set up units

ability to demonstrate unit to customer

ability to advise customer of company policies and warranty policies

ability to communicate pertinent repair/defect information

ability to respond to customer concerns and ensure customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

knowledge of product and special features and specifications

knowledge of DOC/FCC rules and regulations

knowledge of application of testing devices

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

30.13 Completes documentation.

ability to bill customer

calculator

ability to complete warranty claim

ability to calculate customer bill

ability to tag warranty parts

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	no	NV

Task 31 Services infrared remote control devices.

Trend: Because of the low cost of product, servicing opportunities are limited.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
31.01 Greets, interviews clients and verifies unit problems.	<p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p>	
<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u></p> <p>ND NV yes yes yes</p>	<p><u>BC</u> <u>NT</u> <u>YK</u></p> <p>no no NV</p>
31.02 Processes work orders.	<p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p> <p>knowledge of company documentation procedures</p>	
<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND yes yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u></p> <p>ND NV yes yes yes</p>	<p><u>BC</u> <u>NT</u> <u>YK</u></p> <p>no yes NV</p>
31.03 Informs customer of repair time frames and	ability to respond to customer enquiries	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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cost responsibilities.

ability to obtain customer signature on work order

knowledge of company work volume

knowledge of company credit policy

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

31.04 Performs pre-service functional tests.

ability to apply power

infrared tester

ability to attach to signal source

ability to power up

ability to check all features

ability to check cosmetics of set

ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of cleaning chemicals and procedures infrared tester

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV

31.05 Disassembles units.

ability to prepare unit and work area

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of local, provincial and federal government regulations</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>		
31.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p>	<p>infrared tester, multimeters, oscilloscopes, frequency counter</p>

ability to recognize need to consult with another technician or manufacturer

ability to perform visual inspection

ability to recognize malfunctions

ability to read schematics

ability to isolate receiver fault to sub-assembly/circuit/component

ability to select, connect and correctly interpret readings from required test equipment

ability to document results

ability to communicate results to other personnel

ability to recognize warranty and non-warranty situations

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of troubleshooting techniques

NF NS PE NB PQ ON MA SK AB BC NT YK

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	NV
31.07	Replaces or repairs faulty circuits and components.			<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of troubleshooting techniques</p>						solder irons, solder suckers, solder wicks, de-soldering tools	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment		
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	yes	NV
31.08	Sets up and tests units.			ability to ensure unit complies with government regulations ability to attach to power source ability to attach to signal source ability to power up ability to check all features ability to check cosmetics ability to recognize malfunctions ability to document results ability to communicate results to other technicians knowledge of product and special features and specifications knowledge of application of testing devices knowledge of electro static discharge techniques knowledge of flat-pack (surface-mount) servicing techniques knowledge of component identification methods knowledge of troubleshooting techniques						infrared tester, multimeters, oscilloscopes		
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	
ND	yes	yes	yes	ND	NV	yes	yes	yes	yes	yes	yes	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
31.09 Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to verify operation of controls</p> <p>ability to clean cosmetics of item</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p> <p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	cleaning fluids, swabs
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>	
31.10 Performs post-service functional tests.	<p>ability to attach to power source</p> <p>ability to attach to signal source</p>	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>ability to power up</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>	
31.11	Reassembles units and performs final check.	safety procedures/standards
	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p>	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>ability to follow manufacturers= assembly procedures and perform safety checks</p> <p>ability to perform final functional test</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>		
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>		
31.12	<p>Delivers/installs, sets up units, and demonstrates unit operation.</p>	<p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent</p>	<p>safety procedures/ standards</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	repair/defect information	
	ability to respond to customer concerns and customer satisfaction	
	ability to obtain customer sign-off ability to obtain payment	
	knowledge of product and special features and specifications	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV

31.13	Completes documentation.	ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts	computer, calculator, microfiche reader
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> yes	<u>NB</u> yes
<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes
<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV

BLOCK I SERVICE POWER SUPPLY EQUIPMENT COMPONENTS AND DEVICES

Task 32 Services AC/DC generators. (NOT COMMON CORE)

Trend: Lower prices and unavailability of parts and service information will make it harder to service.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
32.01	<p>Greets, interviews clients and verifies unit problems.</p> <p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p> <p>(NOT COMMON CORE)</p> <p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes no yes ND NV yes no no no no NV</p>	
32.02	<p>Processes work orders.</p> <p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p> <p>knowledge of company documentation procedures</p> <p>(NOT COMMON CORE)</p> <p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes no yes ND NV yes no no no no NV</p>	
32.03	<p>Informs customer of repair time frames and cost responsibilities.</p> <p>ability to respond to customer enquiries</p>	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment										
	ability to obtain customer signature on work order											
	knowledge of company work volume											
	knowledge of company credit policy											
	(NOT COMMON CORE)											
	<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> no	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> no	<u>AB</u> no	<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV
32.04	Performs pre-service functional tests.	<p>ability to apply power</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check all special features</p> <p>ability to check cosmetics of unit</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-</p>	<p>manufacturers= manuals/software, isolation transformer, anti-static equipment, fire extinguisher, multimeters, frequency counters, variable voltage/current supplies, AC line testers/monitors, variac, jumper wire, induction meter, amp probe, dummy loads, reference charts, test charts, test cables, equipment dollies/carts, lifting/leveling devices</p>									

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>mount) servicing techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p> <p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes no yes ND NV yes no no no no NV</p>		
32.05	Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of local, provincial and federal government regulations</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of flat-pack (surface-mount) servicing techniques</p> <p>knowledge of component identification methods</p>	<p>cutters, allen keys, hex drivers, hammers, solder irons, solder suckers, solder wicks, flux removers, chisels, electric drills, electric screw/nut drivers, anti-static equipment, mats, ground straps, anti-static sprays, equipment dollies/carts, lifting/leveling devices</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p> <p>ability to select, connect and correctly interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and</p>	<p>mechanical diagrams/drawings, logic diagrams, schematic diagrams, equipment specifications, operating procedures, maintenance procedures, installation procedures, testing procedures, safety procedures/standards, manufacturers= manuals/software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, chisels, i.c. pullers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, rubber gloves, isolation transformer, anti-static</p>
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	non-warranty situations	equipment, fire extinguisher, fan,
	knowledge of product and special features and specifications	cleaning fluids, cloths, airbrushes, vacuum brushes, swabs,
	knowledge of application of testing devices	ultrasonic cleaner, lubricants, swabs, oilers,
	knowledge of electro static discharge techniques	multimeters, continuity testers, oscilloscopes, circuit testers,
	knowledge of flat-pack (surface-mount) servicing techniques	component testers, logic probes, logic analyzers, frequency counters,
	knowledge of component identification methods	variable voltage/current supplies, AC line testers/monitors, variac,
	knowledge of replacement part characteristics (physical and electrical)	jumper wire, transistor checker, capacitor checker, Z-meter, induction meter, amp probe, dummy loads,
	knowledge of troubleshooting techniques	mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, anti-static sprays, ground straps

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.07	Replaces or repairs faulty circuits and components.	ability to remove faulty component ability to verify proper installation ability to verify integrity of board and neighboring components	mechanical diagrams/ drawings, logic diagrams, schematic diagrams, equipment specifications, operating procedures, maintenance
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to select and replace component	procedures, installation procedures, testing procedures, safety procedures, safety
	ability to order parts	procedures/standards, manufacturers=
	ability to repair faulty circuits or components	manuals/software, cutters, measuring devices, allen keys,
	ability to clean circuits and components	feeler gauges, hex drivers, hammers, alignment tools,
	ability to recognize warranty and non-warranty situations	burnishing tools, solder irons, solder suckers, solder wicks, flux
	ability to obtain exact replacement or suitable substitute parts	removers, chisels, i.c. pullers, cutters,
	knowledge of product and special features and specifications	strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, rubber gloves, isolation
	knowledge of application of testing devices	transformer, anti-static equipment, fire extinguisher, fan,
	knowledge of de-soldering and soldering techniques	cleaning fluids, cloths, airbrushes, vacuum
	knowledge of electro static discharge techniques	brushes, swabs, ultrasonic cleaner,
	knowledge of flat-pack (surface-mount) servicing techniques	lubricants, swabs, oilers, multimeters, continuity testers, oscilloscopes, circuit testers,
	knowledge of component identification methods	component testers, logic probes, logic analyzers, frequency counters,
	knowledge of cleaning chemicals and procedures	variable voltage/current supplies, AC line testers/monitors, variac,
	knowledge of troubleshooting techniques	jumper wire, transistor checker, capacitor checker, Z-meter, induction meter, amp probe, dummy loads, mini torch, inspection mirrors, temperature probes, reference charts,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical

tape, mats, anti-static sprays, ground straps, de-soldering tools

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to signal source/load</p> <p>ability to power up</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p>	<p>operating procedures, maintenance procedures, installation procedures, testing procedures, safety procedures/standards, manufacturers= manuals/software, isolation transformer, anti-static equipment, fire extinguisher, multimeters, frequency counters, variable voltage/current supplies, AC line testers/ monitors, variac, jumper wire, induction meter, amp probe, dummy loads, reference charts, test charts, test cables, equipment dollies/carts, lifting/leveling devices, growler</p>
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knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods
 knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

32.09 Performs routine maintenance.

ability to clean controls

ability to align

ability to fine tune

ability to verify operation of controls

ability to clean cosmetics of item

ability to verify all safety devices are in place and functioning properly

ability to perform routine mechanical and electronic adjustments/alignments

ability to identify/document weaknesses or potential problems

knowledge of precision mechanisms and fine mechanical adjustments

mechanical diagrams/
 drawings, logic diagrams, schematic diagrams, equipment specifications, operating procedures, maintenance procedures, installation procedures, testing procedures, safety procedures/standards, manufacturers= manuals/software, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, alignment tools, burnishing tools, solder irons, solder suckers, solder wicks, flux removers, chisels, i.c. pullers, cutters,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	knowledge of product and special features and specifications	strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, rubber gloves, isolation transformer, anti-static equipment, fire extinguisher, fan, cleaning fluids, cloths, airbrushes, vacuum brushes, ultrasonic cleaner, lubricants, oilers, multimeters, continuity testers, oscilloscopes, circuit testers, component testers, logic probes, logic analyzers, frequency counters, variable voltage/current supplies, AC line testers/monitors, variac, jumper wire, transistor checker, capacitor checker, Z-meter, induction meter, amp probe, dummy loads, mini torch, inspection mirrors, temperature probes, reference charts, test charts, diagnostic routines, test cables, equipment dollies/carts, lifting/leveling devices, magnifiers, electrical tape, mats, anti-static sprays, ground straps, magnifying glass
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	yes	no	yes	ND	NV	yes	no	no	no	no	NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
32.10	<p>Performs post-service functional tests.</p> <p>ability to attach to power source</p> <p>ability to attach to signal source</p> <p>ability to power up</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p>	<p>operating procedures, maintenance procedures, installation procedures, testing procedures, safety procedures/standards, manufacturers= manuals/software, isolation transformer, anti-static equipment, fire extinguisher, multimeters, frequency counters, variable voltage/current supplies, AC line testers/monitors, variac, jumper wire, induction meter, amp probe, dummy loads, reference charts, test charts, test cables, equipment dollies/carts, lifting/leveling devices</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes no yes ND NV yes no no no no NV</p>	
32.11	<p>Reassembles units and performs final check.</p> <p>ability to assemble</p> <p>ability to prepare unit and work area</p>	<p>cutters, allen keys, hex drivers, hammers, soldering irons, solder</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p>	<p>suckers, solder wicks, flux removers, chisels, electric drills, electric screw/nut drivers, anti-static equipment, mats, ground straps, anti-static sprays, equipment dollies/carts, lifting/leveling devices, soldering iron</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes no yes ND NV yes no no no no NV</p>	
32.12	<p>Delivers/installs, sets up units, and demonstrates unit operation.</p> <p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p>	<p>car, light to medium-sized truck, tow motor, cutters, measuring devices, allen keys, feeler gauges, hex drivers, hammers, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, rubber gloves, anti-static</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	ability to demonstrate unit to customer	equipment, multimeters, AC line	
	ability to advise customer of company policies and warranty policies	testers/monitors, mini torch, mats, ground straps, anti-static sprays, test cables, equipment dollies/carts,	
	ability to communicate pertinent repair/defect information	lifting/leveling devices, electrical tape	
	ability to respond to customer concerns and customer satisfaction		
	ability to obtain customer sign-off		
	ability to obtain payment		
	knowledge of product and special features and specifications		
	knowledge of application of testing devices		
	knowledge of electro static discharge techniques		
	knowledge of component identification methods		
	knowledge of replacement part characteristics (physical and electrical)		
	knowledge of troubleshooting techniques		
	(NOT COMMON CORE)		
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes no yes ND NV yes no no no no NV		
32.13	Completes documentation.	ability to bill customer ability to complete warranty claim	computer, calculator, microfiche reader

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to calculate customer bill	
	ability to tag warranty parts	
	(NOT COMMON CORE)	
<u>NF</u> ND	<u>NS</u> yes	<u>PE</u> no
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> no	<u>AB</u> no
<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV

Task 33 Services AC/DC converters/inverters.

Trend: More compact and miniaturized equipment and the use of computers will mean increased consumer demand and more frequent servicing opportunities.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
33.01 Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem	
	ability to probe for specific symptoms	
	ability to reflect back and verify customer's recollection of symptoms	
	ability to respond to unrealistic customer expectations	
	knowledge of unit operation and potential problems	
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> yes	<u>NT</u> no	<u>YK</u> NV
33.02 Processes work orders.	ability to determine name, address and phone numbers of customer	
	ability to determine name and model number of unit	

ability to write up symptoms

knowledge of company
documentation procedures

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	yes	no	NV

33.03 Informs customer of repair time frames and cost responsibilities.

ability to respond to customer enquiries

ability to obtain customer signature on work order

knowledge of company work volume

knowledge of company credit policy

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

33.04 Performs pre-service functional tests.

ability to apply power

ability to power up

ability to check all special features

ability to check cosmetics of unit

ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

knowledge of product and special features and specifications

knowledge of application of testing

schematic diagrams, manufacturers= manuals/software, hex drivers, multimeters, oscilloscopes, component testers, variable voltage/current supplies, AC line testers/monitors, variac, jumper wire, dummy loads, soldering iron

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods
knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

33.05 Disassembles units.

ability to prepare unit and work area for disassembly

ability to select and use tools

ability to follow manufacturers= disassembly procedures

knowledge of local, provincial and federal government regulations

knowledge of product and special features and specifications

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

33.06 Troubleshoots faults.

ability to prepare unit for troubleshooting

ability to perform non-technical inspections

ability to recognize need to consult with another technician or manufacturer

ability to perform visual inspection

ability to recognize malfunctions

ability to read schematics

ability to isolate fault to sub-assembly/circuit/component

ability to select, connect and correctly interpret readings from required test equipment

ability to document results

blueprints, schematic diagrams, cutters, solder irons, solder suckers, solder wicks, flux removers, cutters, strippers, crimpers, airbrushes, vacuum brushes, multimeters, continuity testers, AC line testers/monitors, power factor meters, variac, transistor checker

ability to communicate results to other personnel

ability to recognize warranty and non-warranty situations

knowledge of product and special features and specifications

knowledge of application of testing devices
knowledge of electro static discharge techniques

knowledge of flat-pack (surface-mount) servicing techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

33.07 Replaces or repairs faulty circuits and components.

ability to remove faulty component

ability to verify proper installation

ability to verify integrity of board and neighboring components

ability to select and replace component

ability to order parts

cutters, hex drivers, solder irons, solder suckers, solder wicks, flux removers, de-soldering tools

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to repair faulty circuits or components	
	ability to clean circuits and components	
	ability to recognize warranty and non-warranty situations	
	ability to obtain exact replacement or suitable substitute parts	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of flat-pack (surface-mount) servicing techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of troubleshooting techniques	
	(NOT COMMON CORE)	
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no no NV	

33.08	Sets up and tests units.	ability to ensure unit complies with government regulations ability to attach to power source	schematics, testing procedures, safety procedures/standards, manufacturers= manuals/software,
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	ability to attach to load	multimeters,	
	ability to power up	oscilloscopes,	
	ability to check all features	component testers	
	ability to check cosmetics		
	ability to recognize malfunctions and troubleshoot		
	ability to document results		
	ability to communicate results to other technicians		
	knowledge of product and special features and specifications		
	knowledge of application of testing devices		
	knowledge of electro static discharge techniques		
	knowledge of flat-pack (surface-mount) servicing techniques		
	knowledge of component identification methods		
	knowledge of replacement part characteristics (physical and electrical)		
	knowledge of troubleshooting techniques		
	(NOT COMMON CORE)		
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no no NV		
33.09	Performs routine maintenance.	ability to clean controls ability to align	maintenance procedures, manufacturers= manuals/software,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to fine tune	multimeters,
	ability to verify operation of controls	oscilloscopes, variable voltage/current supplies, AC line testers/
	ability to clean cosmetics of item	monitors, power factor meters, capacitor
	ability to verify all safety devices are in place and functioning properly	checker, transistor checker, dummy loads, magnifying glass
	ability to perform routine mechanical and electronic adjustments/alignments	
	ability to identify/document weaknesses or potential problems	
	knowledge of precision mechanisms and fine mechanical adjustments	
	knowledge of product and special features and specifications	
	knowledge of application of testing devices	
	knowledge of electro static discharge techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	
	(NOT COMMON CORE)	
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
33.10	Performs post-service functional tests.	<p>ability to attach to power source</p> <p>ability to attach to load</p> <p>ability to power up</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p> <p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no no NV</p>
33.11	Reassembles units and	<p>ability to assemble</p> <p>manufacturers=</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
performs final check.	<p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	manuals/software
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes no no NV</p>	
33.12	<p>Delivers/installs, sets up units, and demonstrates unit operation.</p> <p>ability to handle units</p> <p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p>	<p>safety procedures/ standards, car, light to medium-sized truck</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment																								
	ability to install and set up units																									
	ability to demonstrate unit to customer																									
	ability to advise customer of company policies and warranty policies																									
	ability to communicate pertinent repair/defect information																									
	ability to respond to customer concerns and customer satisfaction																									
	ability to obtain customer sign-off																									
	ability to obtain payment																									
	knowledge of product and special features and specifications																									
	knowledge of application of testing devices																									
	knowledge of electro static discharge techniques																									
	knowledge of component identification methods																									
	knowledge of replacement part characteristics (physical and electrical)																									
	knowledge of troubleshooting techniques																									
	(NOT COMMON CORE)																									
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<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV															
33.13	Completes	ability to bill customer	manufacturers=																							

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
documentation.	ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts (NOT COMMON CORE)	manuals/software
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV

BLOCK J SERVICE ANTENNA SYSTEMS

Task 34 Services satellite antenna systems.

Trend: Smaller antenna size (i.e., DSS) result in more accessibility to urban areas for sales and service.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
34.01 Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and potential problems (NOT COMMON CORE)	
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes
<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV
<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes
<u>BC</u> no	<u>NT</u> no	<u>YK</u> NV
34.02 Processes work orders.	ability to determine name, address and phone numbers of customer	

ability to determine name and model number of unit

ability to write up symptoms

knowledge of company documentation procedures

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

34.03 Informs customer of repair time frames and cost responsibilities.

ability to respond to customer enquiries

ability to obtain customer signature on work order

knowledge of company work volume
knowledge of company credit policy

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

34.04 Performs pre-service functional tests.

ability to attach to receiving source

ability to power up

ability to check video signal level

ability to check audio signal level

ability to check all special features

ability to check transponders

ability to recognize malfunctions

ability to document results

ability to communicate results to other technicians

equipment specifications, safety procedures/standards, mechanical diagrams/drawings, field strength meter

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

34.05 Disassembles units.

ability to prepare unit and work area for disassembly

ability to select and use tools

ability to follow manufacturers= disassembly procedures

knowledge of local, provincial and federal government regulations

knowledge of product and special features and specifications

hex drivers, hammers, ladder, test cables, lifting/leveling devices, manufacturers= manuals/software, safety procedures/standards

Sub-tasks		Supporting Knowledge & Abilities	Tools & Equipment
		<p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> ND</p> <p><u>NS</u> no</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> no</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	
34.06	Troubleshoots faults.	<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p> <p>ability to select, connect and correctly</p>	<p>mechanical diagrams/ drawings, testing procedures, safety procedures/standards, burnishing tools, cutters, inclinometer, spectrum analyzer, safety belt, lifting/leveling devices, diagnostic routines, spectrum analyzer, multimeters, lubricants, oilers, field strength meter</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>knowledge of satellite transmission</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV</p>	

34.07	Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p>	<p>equipment specifications, installation procedures, safety procedures/ standards, cutters, strippers, crimpers, allen keys, hammers, lubricants, oilers, de-soldering tools</p>
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ability to order parts

ability to repair faulty circuits or components

ability to clean circuits and components

ability to recognize warranty and non-warranty situations

ability to obtain exact replacement or suitable substitute parts
knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

34.08 Sets up and tests units.

ability to ensure unit complies with government regulations

ability to attach to power source

ability to attach to receiving source

spectrum analyzer,
testing procedures,
safety procedures/
standards

ability to power up

ability to check audio

ability to check video

ability to check transponders

ability to check all features

ability to recognize malfunctions and troubleshoot

ability to document results

ability to communicate results to other technicians

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

34.09 Performs routine maintenance.

ability to align

ability to fine tune channels

maintenance procedures, safety procedures/ standards, lubricants, oilers,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	ability to verify operation of controls	spectrum analyzer,	
	ability to verify all safety devices are in place and functioning properly	ladder, test cables, lifting/leveling devices, electrical tape, lubricants, magnifying glass	
	ability to perform routine mechanical and electronic adjustments/alignments		
	ability to identify/document weaknesses or potential problems		
	knowledge of precision mechanisms and fine mechanical adjustments		
	knowledge of product and special features and specifications		
	knowledge of application of testing devices		
	knowledge of electro static discharge techniques		
	knowledge of component identification methods		
	knowledge of cleaning chemicals and procedures		
	knowledge of satellite locations and transmission format		
	knowledge of replacement part characteristics (physical and electrical)		
	knowledge of troubleshooting techniques		
	<u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV		
34.10	Performs post-service	ability to attach to power source	spectrum analyzer,

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
functional tests.	<p>ability to attach to receiving source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check all features</p> <p>ability to check cosmetics</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<p>testing procedures, safety procedures/standards</p>									
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
34.11 Reassembles units and performs final check.	<p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<p>equipment specifications, safety procedures/standards, manufacturers= manuals/software, hex drivers, hammers, ladder, test cables, lifting/leveling devices</p>
<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u></p> <p>ND no yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u></p> <p>ND NV yes yes yes no</p>	<p><u>NT</u> <u>YK</u></p> <p>yes NV</p>
34.12 Delivers/installs, sets up units, and demonstrates	ability to handle units	light to medium-sized truck, safety procedures/

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
unit operation.	<p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent repair/defect information</p> <p>ability to respond to customer concerns and customer satisfaction</p> <p>ability to obtain customer sign-off</p> <p>ability to obtain payment</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p>	<p>standards, lifting/levelling devices</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment																								
	knowledge of troubleshooting techniques (NOT COMMON CORE)																									
	<table border="0"> <tr> <td><u>NF</u></td><td><u>NS</u></td><td><u>PE</u></td><td><u>NB</u></td><td><u>PQ</u></td><td><u>ON</u></td><td><u>MA</u></td><td><u>SK</u></td><td><u>AB</u></td><td><u>BC</u></td><td><u>NT</u></td><td><u>YK</u></td> </tr> <tr> <td>ND</td><td>no</td><td>yes</td><td>yes</td><td>ND</td><td>NV</td><td>yes</td><td>yes</td><td>yes</td><td>no</td><td>no</td><td>NV</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV															
34.13	Completes documentation. ability to bill customer ability to complete warranty claim ability to calculate customer bill ability to tag warranty parts																									
	<table border="0"> <tr> <td><u>NF</u></td><td><u>NS</u></td><td><u>PE</u></td><td><u>NB</u></td><td><u>PQ</u></td><td><u>ON</u></td><td><u>MA</u></td><td><u>SK</u></td><td><u>AB</u></td><td><u>BC</u></td><td><u>NT</u></td><td><u>YK</u></td> </tr> <tr> <td>ND</td><td>no</td><td>yes</td><td>yes</td><td>ND</td><td>NV</td><td>yes</td><td>yes</td><td>yes</td><td>no</td><td>yes</td><td>NV</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV															

Task 35 Services radio antenna systems. (NOT COMMON CORE)

Trend: There is a decreasing need for servicing.

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
35.01	Greets, interviews clients and verifies unit problems. ability to listen attentively to customer's description of problem ability to probe for specific symptoms ability to reflect back and verify customer's recollection of symptoms ability to respond to unrealistic customer expectations knowledge of unit operation and	

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment																								
	potential problems																									
	(NOT COMMON CORE)																									
	<table border="0"> <tr> <td><u>NF</u></td> <td><u>NS</u></td> <td><u>PE</u></td> <td><u>NB</u></td> <td><u>PQ</u></td> <td><u>ON</u></td> <td><u>MA</u></td> <td><u>SK</u></td> <td><u>AB</u></td> <td><u>BC</u></td> <td><u>NT</u></td> <td><u>YK</u></td> </tr> <tr> <td>ND</td> <td>no</td> <td>yes</td> <td>yes</td> <td>ND</td> <td>NV</td> <td>yes</td> <td>no</td> <td>yes</td> <td>no</td> <td>no</td> <td>NV</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV															
35.02	Processes work orders.																									
	ability to determine name, address and phone numbers of customer																									
	ability to determine name and model number of unit																									
	ability to write up symptoms																									
	knowledge of company documentation procedures																									
	(NOT COMMON CORE)																									
	<table border="0"> <tr> <td><u>NF</u></td> <td><u>NS</u></td> <td><u>PE</u></td> <td><u>NB</u></td> <td><u>PQ</u></td> <td><u>ON</u></td> <td><u>MA</u></td> <td><u>SK</u></td> <td><u>AB</u></td> <td><u>BC</u></td> <td><u>NT</u></td> <td><u>YK</u></td> </tr> <tr> <td>ND</td> <td>no</td> <td>yes</td> <td>yes</td> <td>ND</td> <td>NV</td> <td>yes</td> <td>no</td> <td>yes</td> <td>no</td> <td>no</td> <td>NV</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV															
35.03	Informs customer of repair time frames and cost responsibilities.																									
	ability to respond to customer enquiries																									
	ability to obtain customer signature on work order																									
	knowledge of company work volume																									
	knowledge of company credit policy																									
	(NOT COMMON CORE)																									
	<table border="0"> <tr> <td><u>NF</u></td> <td><u>NS</u></td> <td><u>PE</u></td> <td><u>NB</u></td> <td><u>PQ</u></td> <td><u>ON</u></td> <td><u>MA</u></td> <td><u>SK</u></td> <td><u>AB</u></td> <td><u>BC</u></td> <td><u>NT</u></td> <td><u>YK</u></td> </tr> <tr> <td>ND</td> <td>no</td> <td>yes</td> <td>yes</td> <td>ND</td> <td>NV</td> <td>yes</td> <td>no</td> <td>yes</td> <td>no</td> <td>no</td> <td>NV</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV															
35.04	Performs pre-service functional tests.																									
	ability to apply power	RF power meters, RF radiation detector,																								

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	ability to attach to receiving source	spectrum analyzer, dummy loads
	ability to power up	
	ability to check audio	
	ability to check all special features	
	ability to check tuner	
	ability to recognize malfunctions	
	ability to document results	
	ability to communicate results to other technicians	
	knowledge of product and special features and specifications	
	knowledge of audible defects	
	knowledge of application of testing devices	
	knowledge of de-soldering and soldering techniques	
	knowledge of electro static discharge techniques	
	knowledge of component identification methods	
	knowledge of cleaning chemicals and procedures	
	knowledge of replacement part characteristics (physical and electrical)	
	knowledge of troubleshooting techniques	
	(NOT COMMON CORE)	

Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV
35.05	Troubleshoots faults.			<p>ability to prepare unit for troubleshooting</p> <p>ability to perform non-technical inspections</p> <p>ability to recognize need to consult with another technician or manufacturer</p> <p>ability to perform visual inspection</p> <p>ability to recognize malfunctions</p> <p>ability to read schematics</p> <p>ability to isolate receiver fault to sub-assembly/circuit/component</p> <p>ability to select, connect and correctly interpret readings from required test equipment</p> <p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of audible defects</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p>						<p>RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters, hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat, gloves, tool pouch, safety boots</p>	

knowledge of component
identification methods

knowledge of replacement part
characteristics (physical and
electrical)

knowledge of troubleshooting
techniques

knowledge of specialized cable and
connectors

knowledge of radio transmission
systems

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

35.06	Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p> <p>ability to recognize warranty and non-warranty situations</p>	<p>RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters, hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat, de-soldering tools</p>
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to obtain exact replacement or suitable substitute parts

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

35.07 Sets up and tests units.

ability to ensure unit complies with government regulations

ability to attach to power source

ability to attach to receiving source

ability to power up

ability to check audio

ability to check tuner

ability to check all features

ability to recognize malfunctions and

RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters, hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> <u>ND</u> no yes yes ND NV yes no yes no no NV</p>		
35.08	Performs routine maintenance.	<p>ability to align</p> <p>ability to fine tune channels</p> <p>ability to verify operation of controls</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p>	<p>cleaning fluids, lubricants, oilers, RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters, hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat, magnifying glass</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to identify/document weaknesses or potential problems

knowledge of precision mechanisms and fine mechanical adjustments

knowledge of product and special features and specifications

knowledge of audible defects

knowledge of application of testing devices
knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

35.09 Performs post-service functional tests.

ability to attach to power source
ability to attach to receiving source
ability to power up
ability to check audio
ability to check tuner

safety procedures/ standards, RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters, hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>ability to check all features</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of audible defects</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>(NOT COMMON CORE)</p>	<p>belt, safety hat</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes no yes no no NV</p>	
35.10	<p>Reassembles units and performs final check.</p> <p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p>	<p>RF power meters, RF radiation detector, spectrum analyzer, dummy loads, cutters,</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of audible defects</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>knowledge of grounding techniques</p> <p>(NOT COMMON CORE)</p>	<p>hammers, crimpers, strippers, electric drills, electric screw/nut drivers, glue gun, heat gun, safety belt, safety hat</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes no yes no no NV</p>		
35.11	Delivers/installs, sets up units, and demonstrates	ability to handle units	safety procedures/ standards

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment																								
unit operation.	<p>ability to store units</p> <p>ability to drive to job location when applicable</p> <p>ability to deliver units</p> <p>ability to install and set up units</p> <p>ability to demonstrate unit to customer</p> <p>ability to advise customer of company policies and warranty policies</p> <p>ability to communicate pertinent repair/defect information</p> <p>ability to respond to customer concerns and customer satisfaction</p> <p>ability to obtain customer sign-off</p> <p>ability to obtain payment</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of troubleshooting techniques</p> <p>knowledge of grounding techniques</p>																									
	(NOT COMMON CORE)																									
	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"><u>NF</u></td> <td style="text-align: center;"><u>NS</u></td> <td style="text-align: center;"><u>PE</u></td> <td style="text-align: center;"><u>NB</u></td> <td style="text-align: center;"><u>PQ</u></td> <td style="text-align: center;"><u>ON</u></td> <td style="text-align: center;"><u>MA</u></td> <td style="text-align: center;"><u>SK</u></td> <td style="text-align: center;"><u>AB</u></td> <td style="text-align: center;"><u>BC</u></td> <td style="text-align: center;"><u>NT</u></td> <td style="text-align: center;"><u>YK</u></td> </tr> <tr> <td style="text-align: center;">ND</td> <td style="text-align: center;">no</td> <td style="text-align: center;">yes</td> <td style="text-align: center;">yes</td> <td style="text-align: center;">ND</td> <td style="text-align: center;">NV</td> <td style="text-align: center;">yes</td> <td style="text-align: center;">no</td> <td style="text-align: center;">yes</td> <td style="text-align: center;">no</td> <td style="text-align: center;">no</td> <td style="text-align: center;">NV</td> </tr> </table>	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV	
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>															
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV															
35.12	Completes documentation.	<p>ability to bill customer</p> <p>ability to complete warranty claim</p> <p>ability to calculate customer bill</p>	calculator, computer																							

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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ability to tag warranty parts

(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	no	yes	no	no	NV

Task 36 Services television antenna systems.

Trend: There is a decreasing need for servicing.

36.01	Greets, interviews clients and verifies unit problems.	<p>ability to listen attentively to customer's description of problem</p> <p>ability to probe for specific symptoms</p> <p>ability to reflect back and verify customer's recollection of symptoms</p> <p>ability to respond to unrealistic customer expectations</p> <p>knowledge of unit operation and potential problems</p>
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(NOT COMMON CORE)

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	no	NV

36.02	Processes work orders.	<p>ability to determine name, address and phone numbers of customer</p> <p>ability to determine name and model number of unit</p> <p>ability to write up symptoms</p>
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment									
	<p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>										
<u>NF</u> ND	<u>NS</u> no	<u>PE</u> yes	<u>NB</u> yes	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> yes	<u>SK</u> yes	<u>AB</u> yes	<u>BC</u> no	<u>NT</u> yes	<u>YK</u> NV
36.05	Disassembles units.	<p>ability to prepare unit and work area for disassembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= disassembly procedures</p> <p>knowledge of local, provincial and federal government regulations</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of audible defects</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p>	<p>hex drivers, hammers, solder irons, solder suckers, electric hand grinder, adjustable wrench, ladder</p>								

knowledge of electro static discharge techniques

knowledge of grounding techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

36.06 Troubleshoots faults.

ability to prepare unit for troubleshooting

ability to perform non-technical inspections

ability to recognize need to consult with another technician or manufacturer

ability to perform visual inspection

ability to recognize malfunctions

ability to isolate receiver fault to sub-assembly/circuit/component

ability to select, connect and correctly interpret readings from required test equipment

blueprints, mechanical diagrams/drawings, safety procedures/standards, manufacturers= manuals/software, solder irons, solder suckers, cutters, strippers, crimpers, cleaning fluids, cloths, safety belt, safety hat, multimeters, continuity testers, oscilloscopes, RF generators, frequency counters, RF radiation detectors, power factor meters, ladder, freeze spray, spectrum analyzer

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>ability to document results</p> <p>ability to communicate results to other personnel</p> <p>ability to recognize warranty and non-warranty situations</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of audible defects</p> <p>knowledge of application of testing devices</p> <p>knowledge of matching devices knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND yes yes yes ND NV yes yes yes yes yes NV</p>		
36.07	Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and components</p>	<p>blueprints, mechanical diagrams/drawings, safety procedures/standards, manufacturers= manuals/software, solder irons, solder suckers, cutters, strippers, crimpers, cleaning fluids, cloths, safety belt, safety hat, multimeters, continuity testers, oscilloscopes, RF generators,</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of audible defects</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	<p>frequency counters, RF radiation detectors, power factor meters, ladder, spectrum analyzer, de-soldering tools</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV</p>		
36.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to receiving source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check tuner</p> <p>ability to check all features</p>	<p>blueprints, mechanical diagrams/drawings, safety procedures/standards, logic probes, solder irons, solder suckers, cutters, strippers, crimpers, safety belt, safety hat, cloths, cleaning fluids, multimeters, continuity testers, oscilloscopes, RF generators, frequency counters, RF radiation detectors, power factor meters</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND no yes yes</p>	<p>ability to check cosmetics</p> <p>ability to recognize malfunctions and troubleshoot</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of audible defects</p> <p>knowledge of application of testing devices</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p> <p>knowledge of safe work practices</p>		
36.09	Performs routine maintenance.	<p>ability to clean controls</p> <p>ability to align</p> <p>ability to fine tune channels</p> <p>ability to verify all safety devices are in place and functioning properly</p> <p>ability to perform routine mechanical and electronic adjustments/alignments</p>	<p>blueprints, mechanical diagrams/drawings, safety procedures/standards, manufacturers=manuals/software, solder irons, solder suckers, cutters, strippers, crimpers, safety belt, safety hat, cleaning fluids, cloths, multimeters, continuity</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>ability to identify/document weaknesses or potential problems</p> <p>knowledge of precision mechanisms and fine mechanical adjustments</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of audible defects</p> <p>knowledge of application of testing devices</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<p>testers, oscilloscopes, RF generators, frequency counters, RF radiation detectors, power factor meters, ladder, magnifying glass</p>
<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> ND no yes yes</p>	<p><u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> ND NV yes yes yes no</p>	<p><u>NT</u> <u>YK</u> yes NV</p>
<p>36.10 Performs post-service functional tests.</p>	<p>ability to attach to receiving source</p> <p>ability to power up</p> <p>ability to check audio</p> <p>ability to check video</p> <p>ability to check tuner</p> <p>ability to check all features</p> <p>ability to recognize malfunctions</p>	<p>light to medium-sized truck, mechanical diagrams/drawings, installation procedures, testing procedures, safety procedures/standards, manufacturers= manuals/software, measuring devices, hammers, cutters, strippers, crimpers, electric drills, electric screw/nut drivers, heat</p>

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of audible defects</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	<p>gun, safety belt, safety hat, RF radiation detectors, power factor meters, head phones, dummy loads</p>
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV</p>	
36.11	<p>Reassembles units and performs final check.</p> <p>ability to assemble</p> <p>ability to prepare unit and work area for assembly</p> <p>ability to select and use tools</p> <p>ability to follow manufacturers= assembly procedures</p> <p>ability to perform final functional test</p>	<p>safety belt, safety hat, ladder, logic probes, soldering irons, solder suckers, cutters, strippers, crimpers</p>

knowledge of product and special features and specifications

knowledge of audible defects

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures
 knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

36.12 Delivers/installs, sets up units, and demonstrates unit operation.

ability to handle units

ability to store units

ability to drive to job location when applicable

ability to deliver units

ability to install and set up units

ability to demonstrate unit to customer

ability to advise customer of company policies and warranty policies

safety procedures/ standards, light to medium-sized truck

ability to communicate pertinent repair/defect information

ability to respond to customer concerns and customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

knowledge of product and special features and specifications

knowledge of audible defects

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

36.13

Completes documentation.

ability to bill customer

ability to complete warranty claim

ability to calculate customer billability to tag warranty parts

manufacturers= manuals/software

Sub-tasks	Supporting Knowledge & Abilities								Tools & Equipment			
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<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

Task 37 Services cellular phone antennas.

Trend: There is a decreasing need for servicing.

Sub-tasks	Supporting Knowledge & Abilities								Tools & Equipment			
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37.01	Greets, interviews clients and verifies unit problems.	ability to listen attentively to customer's description of problem	ability to probe for specific symptoms	ability to reflect back and verify customer's recollection of symptoms	ability to respond to unrealistic customer expectations	knowledge of unit operation and potential problems						
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<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.02	Processes work orders.	ability to determine name, address and phone numbers of customer	ability to determine name and model number of unit	ability to write up symptoms	knowledge of company documentation procedures						
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Sub-tasks				Supporting Knowledge & Abilities						Tools & Equipment	
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<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.03	Informs customer of repair time frames and cost responsibilities.	ability to respond to customer enquiries
		ability to obtain customer signature on work order
		knowledge of company work volume
		knowledge of company credit policy

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.04	Performs pre-service functional tests.	ability to apply power
		ability to attach to receiving source
		ability to check audio
		ability to check all special features
		ability to recognize malfunctions
		ability to document results
		ability to communicate results to other technicians
		ability to check receiver/transmitter
		knowledge of product and special features and specifications
		knowledge of application of testing devices
knowledge of de-soldering and soldering techniques		

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques RF power meter

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.05 Disassembles units.

ability to prepare unit and work area for disassembly

cutters, allen keys, test cables, electrical tape

ability to select and use tools

ability to follow manufacturers= disassembly procedures

knowledge of local, provincial and federal government regulations

knowledge of product and special features and specifications

knowledge of audible defects

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of component identification methods

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
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knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.06 Troubleshoots faults.

ability to prepare unit for troubleshooting

ability to perform non-technical inspections

ability to recognize need to consult with another technician or manufacturer

ability to perform visual inspection

ability to recognize malfunctions

ability to read schematics

ability to isolate receiver fault to sub-assembly/circuit/component

ability to select, connect and correctly interpret readings from required test equipment

ability to document results

ability to communicate results to other personnel

ability to recognize warranty and non-warranty situations

RF power meters, cutters, allen keys, test cables, electrical tape, multimeters, continuity testers, RF radiation detector, jumper wire

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of specialized cable and connectors</p> <p>knowledge of radio transmission systems</p> <p>knowledge of component identification methods</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>	
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV</p>	

37.07	Replaces or repairs faulty circuits and components.	<p>ability to remove faulty component</p> <p>ability to verify proper installation</p> <p>ability to verify integrity of board and neighboring components</p> <p>ability to select and replace component</p> <p>ability to order parts</p> <p>ability to repair faulty circuits or components</p> <p>ability to clean circuits and</p>	<p>cutters, strippers, crimpers, electric drills, electric screw/nut drivers, glue gun, heat gun, cutters, allen keys, test cables, electrical tape, multimeters, continuity testers, RF jumper wire, de-soldering tools, soldering iron</p>
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Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment
	<p>components</p> <p>ability to recognize warranty and non-warranty situations</p> <p>ability to obtain exact replacement or suitable substitute parts</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of troubleshooting techniques</p>	
<p><u>NF</u> ND</p> <p><u>NS</u> yes</p> <p><u>PE</u> yes</p> <p><u>NB</u> yes</p>	<p><u>PQ</u> ND</p> <p><u>ON</u> NV</p> <p><u>MA</u> yes</p> <p><u>SK</u> yes</p> <p><u>AB</u> yes</p> <p><u>BC</u> yes</p> <p><u>NT</u> yes</p> <p><u>YK</u> NV</p>	
37.08	Sets up and tests units.	<p>ability to ensure unit complies with government regulations</p> <p>ability to attach to power source</p> <p>ability to attach to receiving source</p> <p>ability to check audio</p> <p>ability to check all features</p> <p>ability to recognize malfunctions and troubleshoot</p>

ability to document results

ability to communicate results to other technicians

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.09 Performs routine maintenance.

ability to verify operation of controls

ability to verify all safety devices are in place and functioning properly

ability to perform routine mechanical and electronic adjustments/alignments

ability to identify/document weaknesses or potential problems

knowledge of precision mechanisms and fine mechanical adjustments

knowledge of product and special

cleaning fluids, RF power meter, test cables, electrical tape, magnifying glass

Sub-tasks	Supporting Knowledge & Abilities	Tools & Equipment	
	<p>features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of electro static discharge techniques</p> <p>knowledge of component identification methods</p> <p>knowledge of cleaning chemicals and procedures</p> <p>knowledge of replacement part characteristics (physical and electrical)</p> <p>knowledge of troubleshooting techniques</p>		
	<p><u>NF</u> <u>NS</u> <u>PE</u> <u>NB</u> <u>PQ</u> <u>ON</u> <u>MA</u> <u>SK</u> <u>AB</u> <u>BC</u> <u>NT</u> <u>YK</u> ND no yes yes ND NV yes yes yes no yes NV</p>		
37.10	Performs post-service functional tests.	<p>ability to attach to power source</p> <p>ability to attach to receiving source</p> <p>ability to check audio</p> <p>ability to check all features</p> <p>ability to recognize malfunctions</p> <p>ability to document results</p> <p>ability to communicate results to other technicians</p> <p>knowledge of product and special features and specifications</p> <p>knowledge of application of testing devices</p> <p>knowledge of de-soldering and soldering techniques</p>	<p>safety procedures/ standards, RF power meters, RF radiation detector</p>

knowledge of electro static discharge techniques

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.11 Reassembles units and performs final check.

ability to assemble

ability to prepare unit and work area for assembly

ability to select and use tools

ability to follow manufacturers= assembly procedures

ability to perform final functional test

knowledge of product and special features and specifications

knowledge of application of testing devices

knowledge of de-soldering and soldering techniques

knowledge of electro static discharge techniques

cutters, allen keys, feeler gauges, hammers, cutters, strippers, crimpers

knowledge of component identification methods

knowledge of cleaning chemicals and procedures

knowledge of replacement part characteristics (physical and electrical)

knowledge of troubleshooting techniques

<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

37.12 Delivers/installs, sets up units, and demonstrates unit operation.

ability to handle units

safety procedures/ standards

ability to store units

ability to drive to job location when applicable

ability to deliver units

ability to install and set up units

ability to demonstrate unit to customer

ability to advise customer of company policies and warranty policies

ability to communicate pertinent repair/defect information

ability to respond to customer concerns and customer satisfaction

ability to obtain customer sign-off

ability to obtain payment

Sub-tasks		Supporting Knowledge & Abilities								Tools & Equipment	
		knowledge of product and special features and specifications									
		knowledge of troubleshooting techniques									
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV
37.13	Completes documentation.	ability to bill customer								calculator, computer	
		ability to complete warranty claim									
		ability to calculate customer bill									
		ability to tag warranty parts									
<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
ND	no	yes	yes	ND	NV	yes	yes	yes	no	yes	NV

APPENDICES

TOOLS AND EQUIPMENT

Vehicles

car	tow motor
light to medium-sized truck	

Technical Documents

blueprints	mechanical diagrams/drawings
equipment specifications	operating procedures
installation procedures	safety procedures/standards
logic diagrams	schematic diagrams
maintenance procedures	testing procedures
manufacturers= manuals/software	

Hand Tools

alignment tools	hex drivers
allen keys	knife
burnishing tools	measuring devices
cutters	pliers
feeler gauges	screwdrivers
hammers	wrenches

Soldering/De-soldering Equipment

flux removers	solder suckers
solder irons	solder wicks

Mechanical Gauges

tension	test/strobes
torque	micrometer
thickness	video disks
tapes/CD/records	

Component Insertion and Extraction Tools

chisels

head pullers

Cable Preparation Tools

crimpers
cutters

strippers

Power Tools

electric drills
electric screw/nut drivers

glue gun
heat gun

Safety Equipment

antistatic equipment
ear protection
fan
fire extinguisher
goggles
isolation transformer

masks
rubber gloves
safety belt
safety hat
safety shoes

Cleaning Equipment

airbrushes
brushes
cleaning fluids
cloths

swabs
ultrasonic cleaner
vacuum brushes

Others

calculator
diagnostic routines
electrical tape
equipment dollies/carts
flashlight
freeze spray
inspection mirrors

ladder
lifting/leveling devices
magnifiers
reference charts
temperature probes
test cables
test chart

Test Equipment

AC line testers/monitors	logic probes
AF generators	micro-wave radiation detectors
amp probe	microfiche reader
capacitor checker	mini torch
circuit testers	multimeters
computer	ND tester
continuity testers	NTSC generators
CRT checker and rejuvenator	oscilloscopes
data generators	power factor meters
db/dbm meters	RAM/ROM testers
decade boxes	RF generators
degaussing equipment	RF power meters
distortion analysers	RF radiation detectors
dot/bar generators	spectrum analyzer
dummy loads	telephone analyzer
frequency counters	test monitors
function generators	test speakers
head checker	tracker
head phones	transistor checker
high voltage probe	vacuum tube tester
hot air equipment	variable voltage/current supplies
induction meter	variac
infrared tester	vector scope
jumper wire	vibration testers
laser power meter	white/pink noise generators
light box	wow & flutter
light meters/colour temp	X-ray and particle detectors
logic analysers	Z-meter

Anti-Static Equipment

mats	sprays
ground straps	

Lubricating Equipment

lubricants	oilers
swabs	

LIST OF ACRONYMS

A/D	Analog/Digital
AF	Audio Frequency
ALC	Automatic Level Control
AM	Amplitude Modulation
AVC	Automatic Volume Control
BNC	Cable Connector
CAD	Computer-aided Drafting
CADD	Computer-aided Design/drafting
CAE	Computer-aided Engineering
CAM	Computer-aided Manufacturing
CATV	Community Antenna Television
CCD	Charge-coupled Device
CCM	Computer-controlled Manufacturing
CCTV	Closed Circuit Television
CIM	Computer Integrated Manufacturing
CP/M	Control Program/Microcomputer
CPU	Central Processing Unit
CRT	Cathode Ray Tube
CSA	Canadian Standards Association
db	Decibel
dbm	Decibels Referenced to 1mW
dbx	Crosstalk Reference Coupling
DIP	Dual in-line Package
DOC	Department of Communications
DOT	Department of Transport
EOL	End-of-line
EPROM	Electrical Programmable Read Only Memory
F	Cable Connector
FCC	Federal Communication Commission (USA)
FM	Frequency Modulation
FMS	Flexible Manufacturing Systems
HF	High Frequency
I/O	Input/output
IC	Integrated Circuit
IF	Intermediate Frequency
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LF	Low Frequency
LNA	Low Noise Amplifier
LSI	Large-scale Integration

MF	Medium Frequency
MP/M	Multi-user Computer Operating System
N	Cable Connector
NC	Numerical Control
NTSC	National Television Systems Committee (USA)
PC	Programmable Controllers
PCB	Printed Circuit Board
PC-DOS	Personal Computer-Disk Operating System
PCM	Pulse Code Modulation
PLC	Programmable Logic Controllers
PROM	Programmable Read Only Memory
R/W	Read/Write
RAM/ROM	Random Access Memory/Read Only Memory
RCA	Radio Corporation of America
RF	Radio Frequency
ROM	Read Only Memory
RS-232	Serial Interface Standard
SSB	Single Sideband
UHF	Ultra High Frequency
ULC	Underwriters Lab
UNIX	Multi-User Computer Operating System
VAX/VMS	Multi-User Computer Operating System
VDU	Video Display Unit
VHF	Very High Frequency
VSWR	Voltage-Standing-wave Ratio
WP	Word Processor

PERCENTAGE RATINGS**BLOCK A SAFETY**

Task 1 Demonstrates safe working practices and techniques.

BLOCK B WORKPLACE PRACTICES AND PROCEDURES

														Nat. Avg.
%	<u>NF</u> ND	<u>NS</u> 8	<u>PE</u> 14	<u>NB</u> 10	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> 2	<u>SK</u> 1	<u>AB</u> 5	<u>BC</u> 20	<u>NT</u> 6	<u>YK</u> NV		8%
														Nat. Avg.
Task 2	Follows Company Policies and Procedures.													
%	<u>NF</u> ND	<u>NS</u> 17	<u>PE</u> 5	<u>NB</u> 10	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> 5	<u>SK</u> 25	<u>AB</u> 10	<u>BC</u> 25	<u>NT</u> 6	<u>YK</u> NV		13%
														Nat. Avg.
Task 3	Applies written and verbal communication skills.													
%	<u>NF</u> ND	<u>NS</u> 21	<u>PE</u> 28	<u>NB</u> 20	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> 5	<u>SK</u> 25	<u>AB</u> 40	<u>BC</u> 10	<u>NT</u> 56	<u>YK</u> NV		25%
														Nat. Avg.
Task 4	Uses and maintains equipment and tools.													
%	<u>NF</u> ND	<u>NS</u> 23	<u>PE</u> 60	<u>NB</u> 60	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> 40	<u>SK</u> 20	<u>AB</u> 30	<u>BC</u> 40	<u>NT</u> 15	<u>YK</u> NV		36%
														Nat. Avg.
Task 5	Disposes of Equipment, Components or Devices.													
%	<u>NF</u> ND	<u>NS</u> 11	<u>PE</u> 2	<u>NB</u> 5	<u>PQ</u> ND	<u>ON</u> NV	<u>MA</u> 5	<u>SK</u> 10	<u>AB</u> 10	<u>BC</u> 10	<u>NT</u> 8	<u>YK</u> NV		8%

Task 6 Upgrades skills and knowledge.

														Nat. Avg.
%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>		
	ND	28	5	5	ND	NV	45	20	10	15	15	NV	18%	

BLOCK C SERVICE AUDIO EQUIPMENT COMPONENTS AND DEVICES

														Nat. Avg.
%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>		
	ND	24	15	20	ND	NV	21	30	21	30	16	NV	22%	

Task 7 Services digital and analog audio recording and playback systems and associated components.

														Nat. Avg.
%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>		
	ND	43	30	50	ND	NV	70	45	45	25	2	NV	39%	

Task 8 Services radio receivers and transmitters.

														Nat. Avg.
%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>		
	ND	18	30	5	ND	NV	5	10	20	20	15	NV	15%	

Task 9 Services musical systems and instruments.

														Nat. Avg.
%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>		
	ND	13	10	5	ND	NV	5	10	5	15	3	NV	8%	

Task 10 Services audio amplification systems.

														Nat. Avg.
%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>		
	ND	26	30	40	ND	NV	20	35	30	40	80	NV	38%	

BLOCK D SERVICE VIDEO EQUIPMENT COMPONENTS AND DEVICES

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	Nat. Avg.
	ND	38	50	50	ND	NV	25	40	41	40	27	NV	39%

Task 11 Services televisions.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	Nat. Avg.
	ND	36	40	40	ND	NV	50	35	30	55	30	NV	39%

Task 12 Services video players/recorders.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	Nat. Avg.
	ND	36	45	46	ND	NV	10	35	35	30	37	NV	34%

Task 13 Services monitors.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	Nat. Avg.
	ND	4	2	5	ND	NV	5	10	10	5	2	NV	5%

Task 14 Services video entertainment equipment.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	Nat. Avg.
	ND	6	3	1	ND	NV	4	5	5	5	2	NV	4%

Task 15 Services satellite receiver systems.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>	Nat. Avg.
	ND	3	5	1	ND	NV	10	5	5	0	1	NV	4%

Task 16 Services video cameras.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	11	2	5	ND	NV	15	10	10	5	20	NV

Nat.
Avg.

10%

Task 17 Services cable converters and decoders.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	4	2	1	ND	NV	3	0	2	0	3	NV

Nat.
Avg.

2%

Task 18 Services video display devices. **(NOT COMMON CORE)**

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	0	1	1	ND	NV	3	0	3	0	5	NV

Nat.
Avg.

2%

BLOCK E SERVICE TELEPHONE ANSWERING EQUIPMENT COMPONENTS AND DEVICES

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	4	1	2	ND	NV	5	4	7	5	27	NV

Nat.
Avg.

7%

Task 19 Services cellular phones. **(NOT COMMON CORE)**

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	0	20	90	ND	NV	5	0	5	0	2	NV

Nat.
Avg.

15%

Task 20 Services cordless phones.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	31	20	5	ND	NV	30	25	25	40	40	NV

Nat.
Avg.

27%

Task 21 Services fax machines.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	38	20	3	ND	NV	30	25	35	0	5	NV

20%

Task 22 Services answering machines.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	31	20	1	ND	NV	30	25	30	40	45	NV

28%

Task 23 Services corded phones.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	0	20	1	ND	NV	5	25	5	20	8	NV

10%

BLOCK F SERVICE COMPUTER EQUIPMENT COMPONENTS AND DEVICES

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	4	5	3	ND	NV	15	7	12	0	6	NV

7%

Task 24 Services computer monitors.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	46	15	50	ND	NV	15	50	40	0	40	NV

37%

Task 25 Services computer hardware.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	0	40	5	ND	NV	40	30	25	0	20	NV

23%

Task 26 Services printers.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	46	40	40	ND	NV	40	20	30	0	20	NV

Nat.
Avg.

34%

Task 27 Services modems. (NOT COMMON CORE)

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	8	5	5	ND	NV	5	0	5	0	20	NV

Nat.
Avg.

6%

BLOCK G SERVICE MICROWAVE EQUIPMENT COMPONENTS AND APPLIANCES

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	13	7	6	ND	NV	5	1	5	1	6	NV

Nat.
Avg.

6%

Task 28 Services microwave ovens.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	100	100	100	ND	NV	100	100	100	100	100	NV

Nat.
Avg.

100%

Task 29 Services microwave clothes dryers. (NOT COMMON CORE)

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	0	0	0	ND	NV	0	0	0	0	0	NV

Nat.
Avg.

0%

BLOCK H SERVICE REMOTE CONTROL EQUIPMENT COMPONENTS AND DEVICES

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	8	2	3	ND	NV	2	4	4	4	6	NV

Nat.
Avg.

4%

Task 30 Services radio frequency remote control devices.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	17	10	5	ND	NV	10	30	20	20	0	NV

14%

Task 31 Services infrared remote control devices.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	83	90	95	ND	NV	90	70	80	80	100	NV

86%

BLOCK I SERVICE POWER SUPPLY EQUIPMENT COMPONENTS AND DEVICES

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	1	1	1	ND	NV	20	10	2	0	0	NV

4%

Task 32 Services AC/DC generators. **(NOT COMMON CORE)**

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	63	0	5	ND	NV	5	0	0	0	0	NV

12%

Task 33 Services AC/DC converters/inverters.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	37	100	95	ND	NV	95	100	100	0	0	NV

88%

BLOCK J SERVICE ANTENNA SYSTEMS

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	0	5	5	ND	NV	5	3	3	0	6	NV

3%

Task 34 Services satellite antenna systems.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	0	70	20	ND	NV	25	33	30	0	14	NV

32%

Task 35 Services radio antenna systems. **(NOT COMMON CORE)**

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	0	5	5	ND	NV	25	0	10	0	0	NV

8%

Task 36 Services television antenna systems.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	0	20	15	ND	NV	30	33	55	0	29	NV

30%

Task 37 Services cellular phone antennas.

Nat.
Avg.

%	<u>NF</u>	<u>NS</u>	<u>PE</u>	<u>NB</u>	<u>PQ</u>	<u>ON</u>	<u>MA</u>	<u>SK</u>	<u>AB</u>	<u>BC</u>	<u>NT</u>	<u>YK</u>
	ND	0	5	60	ND	NV	20	34	5	0	57	NV

30%

APPENDIX "D"
ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS

TITLES OF BLOCKS

A SAFETY**

B WORKPLACE PRACTICES AND PROCEDURES

C SERVICE AUDIO EQUIPMENT COMPONENTS AND DEVICES

D SERVICE VIDEO EQUIPMENT COMPONENTS AND DEVICES

E SERVICE TELEPHONE ANSWERING EQUIPMENT COMPONENTS AND DEVICES

F SERVICE COMPUTER EQUIPMENT COMPONENTS AND DEVICES

G SERVICE MICROWAVE EQUIPMENT COMPONENTS AND APPLIANCES

H SERVICE REMOTE CONTROL EQUIPMENT COMPONENTS AND DEVICES

I SERVICE POWER SUPPLY EQUIPMENT COMPONENTS AND DEVICES

J SERVICE ANTENNA SYSTEMS

** Since safety practices are a mandatory feature of all occupations, they are considered common core, ratings are not required and thus Block A does not appear on the chart.

BLOCKS	TASKS	SUB-TASKS														
A Safety	1. Demonstrates safe working practices and techniques.	1.01 Obtains relevant laws and regulations.	1.02 Evaluates safety.	1.03 Practises safe work habits.	1.04 Uses personal protective equipment and clothing.	1.05 Practises good housekeeping.	1.06 Practises safe use of hand and power tools.	1.07 Works safely in enclosed areas.	1.08 Ensures proper fire protection.	1.09 Handles hazardous materials correctly and safely.	1.10 Attends safety meetings to obtain information on safety rules and safe work habits and procedures.	1.11 Reports accidents and applies first aid if necessary.				
		B Workplace Practices and Procedures	2. Follows company policies and procedures.	2.01 Follows company ethics, policies and procedures.	2.02 Follows company customer relations policies and procedures.	2.03 Follows company service policies and procedures.	2.04 Follows company financial policies and procedures.	2.05 Follows company safety policies and procedures.	2.06 Follows company environmental policies and procedures.	2.07 Follows company warranty policies and procedures.						
				3. Applies written and oral communication skills.	3.01 Identifies internal and external customers.	3.02 Provides and receives information to/from other employees.	3.03 Consults with external customers and responds to their concerns.	3.04 Completes required documentation.	3.05 Trains and coaches other employees.	3.06 Writes technical reports.	3.07 Reads technical reports.	3.08 Interprets technical terminology.	3.09 Reads and follows instructions.	3.10 Follows up with customers to ensure satisfaction.	3.11 Presents professional and courteous attitude to customers.	
					4. Uses and maintains equipment and tools.	4.01 Uses and maintains vehicles.	4.02 Uses and maintains technical documents.	4.03 Uses and maintains hand tools.	4.04 Uses and maintains soldering/de-soldering equipment.	4.05 Uses and maintains component insertion and extraction tools.	4.06 Uses and maintains cable preparation tools.	4.07 Uses and maintains power tools.	4.08 Uses and maintains safety equipment.	4.09 Cleans tools and equipment.	4.10 Lubricates tools and equipment.	4.11 Uses and maintains test equipment.
						4.12 Uses and maintains anti static equipment.	4.13 Uses and maintains miscellaneous tools and equipment.									
						5. Disposes of equipment, components or devices.	5.01 Identifies equipment, components, or devices that require disposal.	5.02 Prepares equipment, components, or devices for disposal.	5.03 Disposes of or arranges for disposal of equipment, components, or devices.							
6. Upgrades skills and knowledge.	6.01 Upgrades skills and knowledge in theoretical areas.	6.02 Upgrades skills and knowledge in technological innovations.	6.03 Upgrades skills and knowledge in manufacturers= new products and upgrades.	6.04 Upgrades skills and knowledge in relevant government laws, policies and procedures.	6.05 Upgrades skills and knowledge in relevant business areas.		6.06 Upgrades skills and knowledge in customer relations areas.									
	C Service Audio Equipment Components and Devices	7. Services digital and analog audio recording and playback systems and associated components.	7.01 Greets, interviews clients and verifies unit problems.	7.02 Processes work orders.	7.03 Informs customer of repair time frames and cost responsibilities.	7.04 Performs pre-service functional tests.	7.05 Disassembles units.	7.06 Troubleshoots faults.	7.07 Replaces or repairs faulty circuits and components.	7.08 Sets up and tests units.	7.09 Performs routine maintenance.	7.10 Performs post-service functional tests.	7.11 Reassembles units and performs final check.			

* = (NOT COMMON CORE)

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS

TASKS

SUB-TASKS

7.12 Delivers/installs, sets up units, and demonstrates unit operation.	7.13 Completes documentation.
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8. Services radio receivers and transmitters.

8.01 Greets, interviews clients and verifies unit problems.	8.02 Processes work orders.	8.03 Informs customer of repair time frames and cost responsibilities.	8.04 Performs pre-service functional tests.	8.05 Disassembles units.	8.06 Troubleshoots faults.	8.07 Replaces or repairs faulty circuits and components.	8.08 Sets up and tests units.	8.09 Performs routine maintenance.	8.10 Performs post-service functional tests.	8.11 Reassembles units and performs final check.
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8.12 Delivers/installs, sets up units, and demonstrates unit operation.	8.13 Completes documentation.
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9. Services musical systems and instruments.
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9.01 Greets, interviews clients and verifies unit problems.	9.02 Processes work orders.	9.03 Informs customer of repair time frames and cost responsibilities.	9.04 Performs pre-service functional tests.	9.05 Disassembles units.	9.06 Troubleshoots faults.	9.07 Replaces or repairs faulty circuits and components.	9.08 Sets up and tests units.	9.09 Performs routine maintenance.	9.10 Performs post-service functional tests.	9.11 Reassembles units and performs final check.
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9.12 Delivers/installs, sets up units, and demonstrates unit operation.	9.13 Completes documentation.
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10. Services audio amplification systems.

10.01 Greets, interviews clients and verifies unit problems.	10.02 Processes work orders.	10.03 Informs customer of repair time frames and cost responsibilities.	10.04 Performs pre-service functional tests.	10.05 Disassembles units.	10.06 Troubleshoots faults.	10.07 Replaces or repairs faulty circuits and components.	10.08 Sets up and tests units.	10.09 Performs routine maintenance.	10.10 Performs post-service functional tests.	10.11 Reassembles units and performs final check.
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10.12 Delivers/installs, sets up units, and demonstrates unit operation.	10.13 Completes documentation.
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D

Service Video Equipment Components and Devices

11. Services televisions.

11.01 Greets, interviews clients and verifies unit problems.	11.02 Processes work orders.	11.03 Informs customer of repair time frames and cost responsibilities.	11.04 Performs pre-service functional tests.	11.05 Disassembles units.	11.06 Troubleshoots faults.	11.07 Replaces or repairs faulty circuits and components.	11.08 Sets up and tests units.	11.09 Performs routine maintenance.	11.10 Performs post-service functional tests.	11.11 Reassembles units and performs final check.
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ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS

TASKS

SUB-TASKS

15.12 Delivers/ installs, sets up units, and demonstrates unit operation.	15.13 Completes documentation.
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16. Services video cameras.

16.01 Greets, interviews clients and verifies unit problems.	16.02 Processes work orders.	16.03 Informs customer of repair time frames and cost responsibilities.	16.04 Performs pre-service functional tests.	16.05 Disassembles units.	16.06 Troubleshoots faults.	16.07 Replaces or repairs faulty circuits and components.	16.08 Sets up and tests units.	16.09 Performs routine maintenance. 16.10 Performs post-service functional tests. 16.11 Reassembles units and performs final check.
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16.12 Delivers/ installs, sets up units, and demonstrates unit operation.	16.13 Completes documentation.
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17. Services cable converters and decoders.

17.01 Greets, interviews clients and verifies unit problems.	17.02 Processes work orders.	17.03 Informs customer of repair time frames and cost responsibilities.	17.04 Performs pre-service functional tests.	17.05 Disassembles units.	17.06 Troubleshoots faults.	17.07 Replaces or repairs faulty circuits and components.	17.08 Sets up and tests units.	17.09 Performs routine maintenance.	17.10 Performs post-service functional tests.	17.11 Reassembles units and performs final check.
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17.12 Delivers/ installs, sets up units, and demonstrates unit operation.	17.13 Completes documentation.
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18. Services video display devices. (Large projection television screen)*

18.01 Greets, interviews clients and verifies unit problems.*	18.02 Processes work orders.*	18.03 Informs customer of repair time frames and cost responsibilities.*	18.04 Performs pre-service functional tests.*	18.05 Disassembles units.*	18.06 Troubleshoots faults.*	18.07 Replaces or repairs faulty circuits and components.*	18.08 Sets up and tests units.*	18.09 Performs routine maintenance.*	18.10 Performs post-service functional tests.*	18.11 Reassembles units and performs final check.*
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18.12 Delivers/ installs, sets up units, and demonstrates unit operation.*	18.13 Completes documentation.*
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E Service Telephone Answering Equipment Components and Devices
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19. Services cellular phones.*

19.01 Greets, interviews clients and verifies unit problems.*	19.02 Processes work orders.*	19.03 Informs customer of repair time frames and cost responsibilities.*	19.04 Performs pre-service functional tests.*	19.05 Disassembles units.*	19.06 Troubleshoots faults.*	19.07 Replaces or repairs faulty circuits and components.*	19.08 Sets up and tests units.*	19.09 Performs routine maintenance.*	19.10 Performs post-service functional tests.*	19.11 Reassembles units and performs final check.
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ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS

TASKS

SUB-TASKS

F	Service Computer Equipment Components and Devices	24. Services computer monitors.	23.12 Delivers/installs, sets up units, and demonstrates unit operation.	23.13 Completes documentation.	24.01 Greets, interviews clients and verifies unit problems.	24.02 Processes work orders.	24.03 Informs customer of repair time frames and cost responsibilities.	24.04 Disassembles units.	24.05 Troubleshoots faults.	24.06 Replaces or repairs faulty circuits and components.	24.07 Sets up and tests units.	24.08 Performs routine maintenance.	24.09 Performs post-service functional tests.	24.10 Reassembles units and performs final check.	24.11 Delivers/installs, sets up units, and demonstrates unit operation.
		24.12 Completes documentation.	25. Services computer hardware.	25.01 Greets, interviews clients and verifies unit problems.	25.02 Processes work orders.	25.03 Informs customer of repair time frames and cost responsibilities.	25.04 Performs pre-service functional tests.	25.05 Disassembles units.	25.06 Troubleshoots faults.	25.07 Replaces or repairs faulty circuits and components.	25.08 Sets up and tests units.	25.09 Performs routine maintenance.	25.10 Performs post-service functional tests.	25.11 Reassembles units and performs final check.	
		25.12 Delivers/installs, sets up units, and demonstrates unit operation.	25.13 Completes documentation.	26. Services printers.	26.01 Processes work orders.	26.02 Informs customer of repair time frames and cost responsibilities.	26.03 Performs pre-service functional tests.	26.04 Disassembles units.	26.05 Troubleshoots faults.	26.06 Replaces or repairs faulty circuits and components.	26.07 Sets up and tests units.	26.08 Performs routine maintenance.	26.09 Performs post-service functional tests.	26.10 Reassembles units and performs final check.	26.11 Delivers/installs, sets up units, and demonstrates unit operation.
		26.12 Completes documentation.	27. Services modems.*	27.01 Greets, interviews clients and verifies unit problems.*	27.02 Processes work orders.*	27.03 Informs customer of repair time frames and cost responsibilities.*	27.04 Performs pre-service functional tests.*	27.05 Disassembles units.*	27.06 Troubleshoots faults.*	27.07 Replaces or repairs faulty circuits and components.*	27.08 Sets up and tests units.*	27.09 Performs routine maintenance.*	27.10 Performs post-service functional tests.*	27.11 Reassembles units and performs final check.	

* = (NOT COMMON CORE)

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS

TASKS

SUB-TASKS

		27.12 Delivers/ installs, sets up units, and demonstrates unit operation.*	27.13 Completes documentation.*																				
G	Service Microwave Equipment Components and Appliances	28. Services microwave ovens.	28.01 Greets, interviews clients and verifies unit problems.	28.02 Processes work orders.	28.03 Informs customer of repair time frames and cost responsibilities.	28.04 Performs pre-service functional tests.	28.05 Disassembles units.	28.06 Troubleshoots faults.	28.07 Replaces or repairs faulty circuits and components.	28.08 Sets up and tests units.	28.09 Performs routine maintenance.	28.10 Performs post-service functional tests.	28.11 Reassembles units and performs final check.										
			28.12 Delivers/ installs, sets up units, and demonstrates unit operation.	28.13 Completes documentation.																			
			29. Services microwave clothes dryers.*	29.01 Greets, interviews clients and verifies unit problems.*	29.02 Processes work orders.*	29.03 Informs customer of repair time frames and cost responsibilities.*	29.04 Performs pre-service functional tests.*	29.05 Disassembles units.*	29.06 Troubleshoots faults.*	29.07 Replaces or repairs faulty circuits and components.*	29.08 Sets up and tests units.*	29.09 Performs routine maintenance.*	29.10 Performs post-service functional tests.*	29.11 Reassembles units and performs final check.									
29.12 Delivers/ installs, sets up units, and demonstrates unit operation.*	29.13 Completes documentation.*																						
H	Service Remote Control Equipment Components and Devices	30. Services radio frequency remote control devices.		30.01 Greets, interviews clients and verifies unit problems.	30.02 Processes work orders.	30.03 Informs customer of repair time frames and cost responsibilities.	30.04 Performs pre-service functional tests.	30.05 Disassembles units.	30.06 Troubleshoots faults.	30.07 Replaces or repairs faulty circuits and components.	30.08 Sets up and tests units.	30.09 Performs routine maintenance.	30.10 Performs post-service functional tests.	30.11 Reassembles units and performs final check.									
			30.12 Delivers/ installs, sets up units, and demonstrates unit operation.	30.13 Completes documentation.																			

* = (NOT COMMON CORE)

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS		TASKS	SUB-TASKS									
	31. Services infrared remote control devices.	31.01 Greets, interviews clients and verifies unit problems.	31.02 Processes work orders.	31.03 Informs customer of repair time frames and cost responsibilities.	31.04 Performs pre-service functional tests.	31.05 Disassembles units.	31.06 Troubleshoots faults.	31.07 Replaces or repairs faulty circuits and components.	31.08 Sets up and tests units.	31.09 Performs routine maintenance.	31.10 Performs post-service functional tests.	31.11 Reassembles units and performs final check.
		31.12 Delivers/installs, sets up units, and demonstrates unit operation.	31.13 Completes documentation.									
I	Service Power Supply Equipment Components and Devices	32.01 Greets, interviews clients and verifies unit problems.*	32.02 Processes work orders.*	32.03 Informs customer of repair time frames and cost responsibilities.*	32.04 Performs pre-service functional tests.*	32.05 Disassembles units.*	32.06 Troubleshoots faults.*	32.07 Replaces or repairs faulty circuits and components.*	32.08 Sets up and tests units.*	32.09 Performs routine maintenance.*	32.10 Performs post-service functional tests.*	32.11 Reassembles units and performs final check.
		32.12 Delivers/installs, sets up units, and demonstrates unit operation.*	32.13 Completes documentation.*									
	33. Services AC/DC converters/inverters.	33.01 Greets, interviews clients and verifies unit problems.	33.02 Processes work orders.	33.03 Informs customer of repair time frames and cost responsibilities.	33.04 Performs pre-service functional tests.	33.05 Disassembles units.	33.06 Troubleshoots faults.	33.07 Replaces or repairs faulty circuits and components.	33.08 Sets up and tests units.	33.09 Performs routine maintenance.	33.10 Performs post-service functional tests..	33.11 Reassembles units and performs final check
		33.12 Delivers/installs, sets up units, and demonstrates unit operation.	33.13 Completes documentation.									
J	Service Antenna Systems	34.01 Greets, interviews clients and verifies unit problems.	34.02 Processes work orders.	34.03 Informs customer of repair time frames and cost responsibilities.	34.04 Performs pre-service functional tests.	34.05 Disassembles units.	34.06 Troubleshoots faults.	34.07 Replaces or repairs faulty circuits and components.	34.08 Sets up and tests units.	34.09 Performs routine maintenance.	34.10 Performs post-service functional tests.	34.11 Reassembles units and performs final check.
		34.12 Delivers/installs, sets up units, and demonstrates unit operation.	34.13 Completes documentation.									

* = (NOT COMMON CORE)

ELECTRONICS TECHNICIAN - CONSUMER PRODUCTS (1997)

BLOCKS

TASKS

SUB-TASKS

35. Services radio antenna systems.*	35.01 Greets, interviews clients and verifies unit problems.*	35.02 Processes work orders.*	35.03 Informs customer of repair time frames and cost responsibilities.*	35.04 Performs pre-service functional tests.*	35.05 Troubleshoots faults.*	35.06 Replaces or repairs faulty circuits and components.*	35.07 Sets up and tests units.*	35.08 Performs routine maintenance.*	35.09 Performs post-service functional tests.*	35.10 Reassembles units and performs final check.*	35.11 Delivers/installs, sets up units, and demonstrates unit operation.*
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

35.12 Completes documentation.*	<input type="checkbox"/>
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36. Services television antenna systems.	36.01 Greets, interviews clients and verifies unit problems.	36.02 Processes work orders.	36.03 Informs customer of repair time frames and cost responsibilities.	36.04 Performs pre-service functional tests.	36.05 Disassembles units.	36.06 Troubleshoots faults.	36.07 Replaces or repairs faulty circuits and components.	36.08 Sets up and tests units.	36.09 Performs routine maintenance.	36.10 Performs post-service functional tests.	36.11 Reassembles units and performs final check.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

36.12 Delivers/installs, sets up units, and demonstrates unit operation.	36.13 Completes documentation.	<input type="checkbox"/>	<input type="checkbox"/>
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37. Services cellular phone antennas.	37.01 Greets, interviews clients and verifies unit problems.	37.02 Processes work orders.	37.03 Informs customer of repair time frames and cost responsibilities.	37.04 Performs pre-service functional tests.	37.05 Disassembles units.	37.06 Troubleshoots faults.	37.07 Replaces or repairs faulty circuits and components.	37.08 Sets up and tests units.	37.09 Performs routine maintenance.	37.10 Performs post-service functional tests.	37.11 Reassembles units and performs final check.
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

37.12 Delivers/installs, sets up units, and demonstrates unit operation.	37.13 Completes documentation.	<input type="checkbox"/>	<input type="checkbox"/>
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