



PB96-117825

NTIS
Information is our business.

HEATING, COOLING, VENTILATING HANDBOOK

DISTRIBUTION STATEMENT A

Approved for public release
Distribution Unlimited

(U.S.) NAVAL FACILITIES ENGINEERING COMMAND, NORFOLK, VA

FEB 82



U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

DTIC QUALITY INSPECTED 8

19970821 067

BIBLIOGRAPHIC INFORMATION

PB96-117825

Report Nos: NAVFAC-P-704.0

Title: Heating, Cooling, Ventilatin, Handbook.

Date: Feb 82

Performing Organization: Naval Facilities Engineering Command, Norfolk, VA. Atlantic Div. **Department of the Army, Washington, DC. **Department of the Air Force, Washington, DC.

Supplemental Notes: Also pub. as Department of the Army, Washington, DC. rept. no. DA-1B-420-8 and Department of the Air Force, Washington, DC. rept. no. AFM-85-44.

NTIS Field/Group Codes: 94K (Laboratory & Test Facility Design & Operation), 89B (Architectural Design & Environmental Engineering), 74E (Logistics, Military Facilities, & Supplies), 70G (Productivity)

Price: PC A07/MF A02

Availability: Available from the National Technical Information Service, Springfield, VA. 22161

Number of Pages: 137p

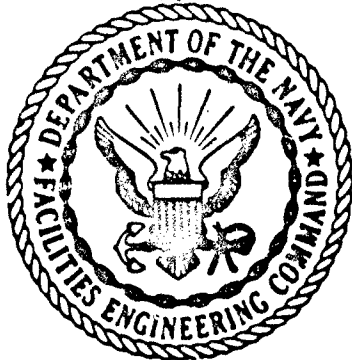
Keywords: *Task scheduling, *Management planning and control, *Facilities management, *Maintenance, *Handbooks, Tasks, Descriptions, Time, Estimation, Navy personnel, Repairs, Cooling systems, Ventilating systems, Compressors, Condensers(Liquefiers), Cooling towers, Air conditioners, Heaters, Blowers, Fire tube boilers, Water tube boilers, Electrostatic precipitators, Superheaters, Air handling systems, Work units.

Abstract: This handbook provides guidance to Planners-Estimators in projecting lab hour requirements for workers to perform typical facilities maintenance tasks. Proper use of the data in this handbook will help provide more realistic, consistent, and timely labor hour estimates. These estimates provide bench marks which enable managers to evaluate and control actions based on improvement. More effective response and support at minimum cost can, in turn, be realized.



FB96-117825

NAVFAC 0525-LP-139-0154



**ENGINEERED
PERFORMANCE STANDARDS
Public Works Maintenance**

HEATING, COOLING, VENTILATING HANDBOOK

**NAVFAC P-704.0
ARMY TB 420-8
AIR FORCE AFM 85-44**

**DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND**



0525LP1390154

DATE OF PUB
FEB 82
CHANGE LEVEL
BRIC

[DTIC QUALITY INSPECTED 3]

REPRODUCED BY: NTIS
U.S. Department of Commerce
National Technical Information Service
Springfield, Virginia 22161

DISTRIL-TION

ARMY Active Army, ARNG, USAR: To be distributed in accordance with DA Form 12-34C, requirements for TB 420 series (block 348).

NAVY (for Public Works)
(4 cys each unless specified otherwise)
SNDL Part 1: 24J1; 27G (Detachment Christ Church only); 39B1;
39B2; 49

Part 2:

A6 (LFF-2); B1; C37A2 (Annapolis Laboratory, White Oak Laboratory only); C43 (Kamiseya only); C4F48A (Kamiseya only); E3A (Washington only); FA6 (Bermuda, Brunswick, Cecil Field, Jacksonville, Key West, Virginia Beach, only); FA7 (Guantanamo Bay, Keflavik, Mayport, Panama, Roosevelt Roads only); FA10; FA18; FA23 (Argentia only); FB6 (Atsugi, El Centro only); FB7 (Fallon, Lemoore, Moffett Field, Oak Harbor, San Diego only); FB10 (Adak only); FB13 (Bremerton only); FB31 (Lualuale only); FB34 (Kadena, Sasebo only); FB36 (Adak only); FC4 (Sigonella only); FC7; FE2; FE4 (Adak, Winter Harbor only); FF1; FF6; FF19 (New Orleans, Seattle only); FF38, 25 cys; FG2 (Diego Garcia, Exmouth, Stockton only); FG3 (Cutler, Washington DC only); FH3 (Beaufort only); FKA1C; FKA6A1; FKA6A2; FKA6A3A; FKA6A3B; FKA6A9; FKA6A15; FKML3; FKN1, 50 cys ea; FKN2; FKN5, 30 cys ea; FKN10; FKPlB (Concord, Colts Neck, Seal Beach, Yorktown only); FKPlE; FKPlJ; FKPlM; FKP4C; FKP7 (Bremerton, Charleston, Long Beach, Philadelphia, Portsmouth NH, Portsmouth VA, Mare Island only); FKR1A; FKR3A; FKR3H; FKR5; FR3; FT6 (Beeville, Corpus Christi, Kingsville, Millington, Meridian, Milton only); FT22 (Dam Neck only); FT28, 5 cys; FT31 (Orlando only); FT37, 10 cys; FT55; FT73; V5 (Beaufort, Cherry Point-10 cys, Iwakuni, Kaneohe Bay, El Toro, Yuma only); V8; V12; V14; V16 (Camp Lejuene, Camp Pendleton, Camp Smedley D. Butler only); V23.

Additional copies may be obtained from:

Naval Publications and Forms Center
5801 Tabor Ave., Philadelphia, PA 19120
(Available in paper or microfiche copy)

AIR FORCE (for Base Civil Engineer)

F; X (controlled by HQ AFESC/DEMG, Tyndall AFB, FL 32403)

Additional copies may be obtained from:

Air Force Publication Distribution Center
2800 Eastern Blvd.
Baltimore, MD 21220
Via: Activity Publications Distribution Office

FOREWORD

This handbook provides guidance to Planners-Estimators in projecting labor hour requirements for workers to perform typical facilities maintenance tasks. Proper use of the data in this handbook will help provide more realistic, consistent, and timely labor hour estimates. These estimates provide bench marks which enable managers to evaluate and control actions based on improvement. More effective response and support at minimum cost can, in turn, be realized.

Comments and suggestions regarding the handbook are invited and should be sent to:

Director
NAVFAC Industrial Engineering Center (NIEC)
Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia 23511

Telephone (804) 444-3324
or AUTOVON 690-3324

To facilitate forwarding of comments, addressed feedback forms are included in the back of this handbook.

This publication supersedes TB 420-8, NAVFAC P-704.0 and AFM 85-44 of May 1977.

By Order of the Secretaries of the Army, the Navy, and the Air Force.

E. C. MEYER
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Brigadier General, United States Army
The Adjutant General


W. M. TOBEL
Rear Admiral, CEC, U.S. Navy
Commander, Naval Facilities
Engineering Command

Official:

JAMES L. WYATT, JR.
Colonel, USAF
Director of Administration

LEW ALLEN, JR.
General, USAF
Chief of Staff

TABLE OF CONTENTS

CHAPTER 1. INTRODUCTION

Pa

1. Spread Sheets
2. Task Times
3. General Information

CHAPTER 2. SPREAD SHEETS
Section 1. Cooling, Ventilating

Air Handler
Annual maintenance
Recurring maintenance
Seasonal shutdown
Remove and install units/components
Pump down, charge and evacuate
Miscellaneous 12, 13,

Compressor
Annual maintenance
Recurring maintenance
Seasonal shutdown
Remove and install units/components
Pump down, charge and evacuate.
Miscellaneous 12, 13,

Condenser
Annual maintenance 5,
Recurring maintenance
Seasonal shutdown
Remove and install units/components
Pump down, charge and evacuate.
Miscellaneous

Cooling Tower	
Annual maintenance	
Recurring maintenance	
Seasonal shutdown	
Remove and install units/components	1
Pump down, charge and evacuate.	1
Miscellaneous	1
Package-Type/Self-Contained	
Annual maintenance	
Recurring maintenance	
Seasonal shutdown	
Remove and install units/components	1
Pump down, charge and evacuate.	1
Miscellaneous	1
Window Unit	
Annual maintenance	
Recurring maintenance	
Seasonal shutdown	
Remove and install units/components	1
Pump down, charge and evacuate.	1
Miscellaneous	12, 1
 Section 2. Heating	 1
Air Preheater	
Open or close fireside	1
Clean fireside	2
Remove and install tubes	2
Blowers	
Disassemble, clean, lubricate, inspect, assemble, regulate	3
Boiler, Fire Tube	
Assist boiler inspector in inspection	1
Open or close fireside	1
Open or close waterside	2
Clean fireside	2
Clean waterside	2
Remove and install tubes	2
Analyze boiler water samples	2
Boiler, Water Tube	
Assist boiler inspector in inspection	
Open or close fireside	
Open or close waterside	
Clean fireside	22,
Clean waterside	22,
Remove and install tubes	

Boiler, Sectional	
Remove and install push nipples	
Heaters	
Remove, install, disassemble, clean, lube,	
inspect, assemble	
Precipitator	
Open or Close fireside	
Clean fireside	
Superheater	
Open or close fireside	
Clean fireside	

CHAPTER 3. TASK TIMES

Section 1. Cooling, Ventilating (VT-1 through VT-77)	
Section 2. Heating (VT-200 through VT-303)	
Index	1
EPS Feedback Sheets	1

References

1. TB-420-2, NAVFAC P-701.0, EPS General Handbook

CRAFTS		JOB PREP.	PERCENT CRAFT ALLOW.	
			ONE MAN	MULTI-MAN
BOILER WORK - PERF. BY ANY SHOP		.4	23	33
CARPENTRY	GENERAL	.3	16	23
	ROOFING	.6	18	25
COOLING/VENTILATING/REFRIGERATION		.3	19	21
ELECTRICAL AND ELECTRONIC		.3	19	21
HAZARDOUS WORK: ADDED TO PREP. TIME/CRAFT		.2	-	-
HEATING		.3	18	20
JANITORIAL		.2	11	13
MACHINE SHOP		.3	23	24
MACHINE REPAIR		.4	28	36
MASONRY	GENERAL	.4	15	23
	WITH PURCHASED CONCRETE	.4	23	31
MOVING AND RIGGING		.3	28	40
PAINT	GENERAL	.2	14	15
	SPRAY	.2	16	17
PEST CONTROL		.2	14	17
PIPEFITTING AND PLUMBING		.3	18	20
ROADS & GROUNDS	GENERAL	.3	18	20
	LABORERS	.3	21	23
SHEETMETAL		.3	20	26
STRUCTURAL	SHOP	.3	20	24
	FIELD	.6	20	24
TRACKAGE		.4	-	22
WHARFBUILDING		.5	24	32

TASK REF.	VALUE	TWO MAN JOB		TASK REF.	VALUE
PWP-27	.9	PAINT - ADDITIONAL PREPARATION TIME		PWP-27	1.8
PWP-27	1.8	MORE THAN TWO MEN		PWP-27	1.1/DAY
PWP-27	1.1/DAY	TRAFFIC STRIPPING		PWP-27	1.1/DAY
P-701.1	.3	PER SECTION LONG		P-701.1	.3
P-701.1	.9	PER 10' HIGH (2 - 5' SECTIONS)		P-701.1	.9
P-701.1	1.8	PER 15' HIGH (3 - 5' SECTIONS)		P-701.1	1.8
P-701.1	2.7	PER 20' HIGH (4 - 5' SECTIONS)		P-701.1	2.7
P-701.1	.3	ALUMINUM - PER SECTION (UP TO 5 SECTIONS HIGH)		P-701.1	.3
PWA-5	.04	PER ARMLOAD - PER 200' ROUND TRIP		PWA-5	.04
PWA-5	.11	PER 100 LBS. OR 2 MEN PER UNIT		PWA-5	.11
PWA-1	.07MAN	EACH ADDITIONAL WORK LOCATION		PWA-1	.07MAN
PWA-2	0	ZONE 1		PWA-2	0
PWA-2	0	ZONE 2		PWA-2	0
PWA-2	0	ZONE 3		PWA-2	0
PWA-2	.11	ZONE 4		PWA-2	.11
PWA-2	.19	ZONE 5		PWA-2	.19
PWA-2	.27	ZONE 6		PWA-2	.27
PWA-2	.35	ZONE 7		PWA-2	.35
PWA-2	.43	ZONE 8		PWA-2	.43
PWA-2	.55	ZONE 9		PWA-2	.55
PWA-2	.71	ZONE 10		PWA-2	.71
PWA-2	.87	ZONE 11		PWA-2	.87
PWA-2	1.03	ZONE 12		PWA-2	1.03
PWA-2	1.19	ZONE 13		PWA-2	1.19
PWA-2	1.35	ZONE 14		PWA-2	1.35
PWA-2	1.51	ZONE 15		PWA-2	1.51

CHAPTER 1. INTRODUCTION

1. Spread Sheets. The spread sheets on the following pages are arranged by task area. Overall information is shown at the top of each page with specific task data listed down the left hand side. Various tasks, with times measured using industrial engineering techniques, are displayed on the spread sheets to provide guidance in choosing the correct group time. A more complete description of each task is provided in Chapter 3, TASK TIMES.

2. Task Times. The task times are listed numerically and the reference numbers correspond with those shown on the spread sheets or tabular listings. The task times show the operations that were combined to develop the various tasks. More detailed developmental data supporting the operation times is maintained by the NAVFAC Industrial Engineering Center.

3. General Information. Labor hour estimates obtained from spread sheets in this handbook do not include time for staging required materials at the job site. Ancillary activities, such as this type of material handling, can be estimated using data in the General Handbook (TB 420-2, NAVFAC P-701.0) as guidance. Allowances, travel time and job preparation time are additionally covered in the General Handbook. Engineered Performance Standards (EPS) should only be applied by personnel who have attended an EPS training course.

CHAPTER 2

SPREAD SHEETS

Section 1. Cooling, Ventilating

TASK AREA: Air conditioning units - annual maintenance							
Tasks Include: (1) Shell and tube water-cooled condenser - drain and fill, remove and install end plates, punch and clean tubes, fabricate and install gaskets. (2) All other units - clean, inspect, adjust, lubricate bearings, change oil and filter as appropriate. NOTE: For seasonal and continuous operating systems.							
DESCRIPTION	GROUP E Craft 1.8 Time hrs.	GROUP F Craft 2.9 Time hrs.	GROUP G Craft 4.4 Time hrs.	GROUP H Craft 6.0 Time hrs.	NOTE		
3-24 tons (per unit)	1	2	3	4	over 4 use 1.677 hrs. per unit		
25-99 tons (per unit)			1		over 1 use 4.318 hrs. per unit		
100-250 tons (per unit)					use 10.431 hrs. per unit		
3-24 tons (per unit)	1	2	3	4-5	over 5 use 1.372 hrs. per unit		
25-99 tons (per unit)		1		2	over 2 use 3.085 hrs. per unit		
100-250 tons (per unit)				1	over 1 use 6.869 hrs. per unit		
3-24 tons (per unit)	1		2	3	over 3 use 1.912 hrs. per unit		
over 100 tons (per unit)				1	over 1 use 5.423 hrs. per unit		
100-200 tons (per unit)			1		over 1 use 5.070 hrs. per unit		
300-400 tons (per unit)					use 8.629 hrs. per unit		
700-800 tons (per unit)					use 14.723 hrs. per unit		

TASK AREA: Air conditioning units - annual maintenance

3

TASK AREA: Air conditioning units - annual maintenance						
Tasks include: (1) Shell and tube water-cooled condenser - drain and fill, remove and install end plates, punch and clean tubes, fabricate and install gaskets. (2) All other units - clean, inspect, adjust, lubricate bearings, change oil and filter as appropriate.						
NOTE: For seasonal and continuous operating systems.						
DESCRIPTION		GROUP E Craft Time hrs.	GROUP F Craft Time hrs.	GROUP G Craft Time hrs.	GROUP H Craft Time hrs.	NOTE
CONDENSER	3-9 tons (per unit)	1		2	3	over 3 use 2,002 hrs. per unit
	25-49 tons (per unit)			1		over 1 use 4,899 hrs. per unit
	100-199 tons (per unit)					use 8,987 hrs. per unit
	3-24 tons (per unit)	2 (for 1 unit use Group D, 1.1 hrs.)	3	4-5	6-7	over 7 use .939 hrs. per unit
	25-49 tons (per unit)		1	2	3	over 3 use 2,289 hrs. per unit
COOLING	25-99 tons (per unit)	1		2	3	over 3 use 2,115 hrs. per unit
	800-999 tons (per unit)					use 12,185 hrs. per unit
	3-9 tons (per unit)	1		2	3	over 3 use 2,002 hrs. per unit
	25-49 tons (per unit)			1		over 1 use 4,899 hrs. per unit
	100-199 tons (per unit)					use 8,987 hrs. per unit
PACKAGE-TYPE/SLIP-CONTAINED	3-49 tons (per unit)		1		2	over 2 use 3,398 hrs. per unit
	All sizes (per unit)	2 (for 1 unit use Group D, 1.1 hrs.)	3	4-5	6-7	over 7 use .913 hrs. per unit
WINDOW						
TASK AREA: Air conditioning units - annual maintenance						

TASK AREA: Air conditioning units - recurring maintenance

Tasks Include: Remove and install access panel(s), clean, inspect, lubricate, add oil, make adjustments, change filters and fill out inspection report.

NOTE: To perform this maintenance requires minimum system shutdown.

DESCRIPTION		GROUP C Craft Time hrs.	GROUP D Craft Time hrs.	GROUP E Craft Time hrs.	GROUP F Craft Time hrs.	NOTE
AIR HANDLER	3-24 tons (per unit) VT-38	1	2	3	4-6	over 6 use .566 hrs. per unit
	25-250 tons (per unit) VT-60		1	2	3	over 3 use 1.028 hrs. per unit
PACKAGE-TYPE/ SELF-CONTAINED	3-9 tons (per unit) VT-41	1		2	3-4	over 4 use .735 hrs. per unit
	3-24 tons (per unit) VT-42	1		2	3-4	over 4 use .781 hrs. per unit
	25 tons and over (per unit) VT-44		1	2	3	over 3 use .989 hrs. per unit
	All sizes (per fan assembly) VT-39	1	2	3	4-5	over 5 use .618 hrs. per fan assembly
WOOD	25 tons and over (per unit) VT-45		1	2	3	over 3 use 1.094 hrs. per unit
	25-99 tons (per unit) VT-47	1		2	3-4	over 4 use .730 hrs. per unit
METAL	500-999 tons (per unit) VT-48				1	over 1 use 2.219 hrs. per unit
	3-24 tons (per unit) VT-40	1	2	3	4-5	over 5 use .678 hrs. per unit
PACKAGE-TYPE/ SELF-CONTAINED	25 tons and over (per unit) VT-45		1	2	3	over 3 use 1.094 hrs. per unit
	3-9 tons (per unit) VT-41	1		2	3-4	over 4 use .735 hrs. per unit
WINDOW	10-49 tons (per unit) VT-37		1			over 2 use 1.207 hrs. per unit
	All sizes (per unit) VT-36	2-3 (for 1 unit use Group B, 0.3 hrs.)	4-5	6-8	9-14	over 14 use .247 hrs. per unit

TASK AREA: Air conditioning units - recurring maintenance

TASK AREA: Air conditioning units - seasonal shutdown

Tasks include: Remove and install panel, sensory inspect bearings, turn off power, fill out inspection report, pump down and drain tank as appropriate.

DESCRIPTION		GROUP B Craft 0.3 Time hrs.	GROUP C Craft 0.6 Time hrs.	GROUP D Craft 1.1 Time hrs.	GROUP E Craft 1.8 Time hrs.	NOTE
AIR HANDLER	Cooling only All sizes (per unit) VT-26		1	2	3-4	over 4 use .470 hrs. per unit
	All sizes (per unit) VT-27		1	2	3-4	over 4 use .497 hrs. per unit
COMPRESSOR OPEN (CENTRAL COMPRESSION) SYSTEM	100-199 tons (per unit) VT-29			1	2	over 2 use .967 hrs. per unit
	3-99 tons (per unit) VT-30	1	2	3	4-5	over 5 use .372 hrs. per unit
	All sizes (per fan assembly) VT-31	1	2	3-4	5-6	over 6 use .33 hrs. per fan assembly
	3-99 tons (per unit) VT-33		1	2	3	over 3 use .663 hrs. per unit
METAL	100-199 tons (per unit) VT-32			1		over 1 use 1.205 hrs. per unit
	100-199 tons (per unit) VT-29			1	2	over 2 use .967 hrs. per unit
	3-99 tons (per unit) VT-30	1	2	3	4-5	over 5 use .372 hrs. per unit
	25-199 tons (per unit) VT-33		1	2	3	over 3 use .663 hrs. per unit
WOOD	100-299 tons (per unit) VT-32			1		over 1 use 1.205 hrs. per unit
	All sizes (per unit) VT-33		1		2	over 2 use .742 hrs. per unit
WINDOW	All sizes (per unit) VT-35	(for 1 unit use Group A, .13 hrs.)	3-4	5-7	8-11	over 11 use .184 hrs. per unit

TASK AREA: Air conditioning units - seasonal shutdown

TASK AREA: Air conditioning units - remove and install units/components										
Tasks include: Time to perform all operations required to remove and install units/components.										
DESCRIPTION		GROUP E	Craft 1.8 hrs.	GROUP F	Craft 2.9 hrs.	GROUP G	Craft 4.4 hrs.	GROUP H	Craft 6.0 hrs.	NOTE
A I R	COIL (HEATING AND COOLING)	25-99 tons (per component) VT-11				1				over 1 use 3.818 hrs. per component
	EVAPORATOR	25-99 tons (per component) VT-12						1		over 1 use 5.344 hrs. per component
H A N D L E R	CENTRIFUGAL (SQUIREL CAGE)	All sizes (per component) VT-73	1			2		3		over 3 use 1.843 hrs. per component
	PROPELLER- TYPE	All sizes (per component) VT-74	1			2		3		over 3 use 1.928 hrs. per component
C O M P O N E N T S	100 disposable-type filters (from/to overhead plenums (average 10 plenums) (per 100 filters)	VT-65						1		over 1 use 6.158 hrs. per 100 filters (average 10 plenums)
	VALVE PLATES	All sizes (per unit) VT-67				1				over 1 use 4.639 hrs. per unit
S O R L	THERMOSTATIC EXPANSION VALVE	All sizes (per component) VT-14				1				over 1 use 3.913 hrs. per component
	AIR-COOLED	3-10 tons (per unit) VT-8				1				over 1 use 4.276 hrs. per unit
C O M P O N E N T S	SHIELD AND TUBE WATER-COOLED	25-99 tons (per unit) VT-9								use 9.755 hrs. per unit
		25-99 tons (per unit) VT-10								use 7.655 hrs. per unit
TASK AREA: Air conditioning units - remove and install units/components										

TASK AREA: Air conditioning units - remove and install units/components									
Tasks Include: Time to perform all operations required to remove and install units/components									
DESCRIPTION		GROUP E Craft 1.8 hrs.	GROUP F Craft 2.9 hrs.	GROUP G Craft 4.4 hrs.	GROUP H Craft 6.0 hrs.	NOTE			
COOLING TOWER	FAN AND MOTOR (ONLY)	All sizes (per component) VT-75	1	2		over 2 use 2.531 hrs. per component			
	AIR-COOLED CONDENSER	3-10 tons (per unit) VT-8		1		over 1 use 4.276 hrs per unit			
	EVAPORATOR	3-10 tons (per unit) VT-8		1		over 1 use 4.276 hrs per unit			
	CENTRIFUGAL (SQUIRREL CAGE)	All sizes (per component) VT-73	1	2	3	over 3 use 1.843 hrs per component			
PROPELLER-TYPE	All sizes (per component) VT-74	1		2	3	over 3 use 1.928 hrs per component			
TASK AREA: Air conditioning units - remove and install units/components									

TASK AREA: Air conditioning systems/units/components - pump down, charge and evacuate					
DESCRIPTION	GROUP B Craft Time hrs.	GROUP C Craft Time hrs.	GROUP D Craft Time hrs.	GROUP E Craft Time hrs.	NOTE
Charge air conditioning system (per ton) VT-1		1-4	5-20	21-41	over 41 tons use .621 hrs. plus .04 hrs. per ton
Pump down air conditioning system (compressor only) (per unit) VT-2	1	2	3	4-5	over 6 use .382 hrs. per unit
Pump down air conditioning system (into receiver) (per system) VT-3		1	2	3	over 3 use .591 hrs. per system
Pump down air conditioning system (separate cylinders) (per component) VT-4		1-2	3-4	5-8	over 8 tons use .279 hrs. plus .23 hrs. per cylinder
Pull vacuum on air conditioning system (per system) VT-5				1	over 1 use 1.514 hrs. per air conditioning system
TASK AREA: Air conditioning systems/units/components - pump down, charge and evacuate					

NOTE: These task times are for miscellaneous work that could apply to components found in more than one system/unit with the same work content.

TASK AREA: Remove and install air conditioning components -- miscellaneous

TASK AREA: Remove and install air conditioning components - miscellaneous						
NOTE: These task times are for miscellaneous work that could apply to components found in more than one system/unit with the same work content.						
	DESCRIPTION	GROUP C Craft 0.6 Time hrs.	GROUP D Circuit 1.1 Time hrs.	GROUP E Craft 1.8 Time hrs.	GROUP F Craft 2.9 Time hrs.	NOTE
R	Electric motor (under 1 HP) (per component) VT-7	1	2	3-4	5-6	over 6 use .535 hrs. per component
E	Strainer or dryer in open (central compression) air conditioning system			1	2	over 2 use 1.639 hrs. per component
M	VT-15					
O	Door gasket on domestic refrigerator		1		2	over 2 use 1.214 hrs. per gasket
V	VT-68					
E	Centrifugal (per assembly) VT-73			1		over 1 use 1.843 hrs. per assembly
F						
A						
H						
M	Propeller-type (per assembly) VT-74			1		over 1 use 1.928 hrs. per assembly
O						
T						
A						
O	In cooling tower (per unit) VT-75				1	over 1 use 2.531 hrs. per unit
M						
R						
D						
I						
N						
S	Seals and bearings in water pump- 3 HP motor (per component) VT-72			1	2	over 2 use 1.576 hrs. per component
T						
A						
L	Float linkage in water towers or condensers (per component) VT-23	1	2	3-4	5-7	over 7 use .509 hrs. per component
L						
	Replace solid bearing with split type bearing on centrifugal (squirrel cage) fan shaft (per bearing) VT-18		1		2	over 2 use 1.243 hrs. per bearing
TASK AREA: Remove and install air conditioning components - miscellaneous						

TASK AREA: Air conditioning units/components - miscellaneous						
NOTE: These task times are for miscellaneous work that could apply to components found in more than one system/unit with the same work content.						
DESCRIPTION	GROUP G Craft Time hrs.	GROUP H Cr.:t Time hrs.	GROUP J Craft Time hrs.	GROUP K Craft Time hrs.	NOTE	
Receiver/King Valve in open (central compression) air conditioning system (per component) VT-13	1		2	3	over 3 use 3.959 hrs. per component	
Thermostatic expansion valve in open (central compression) air conditioning system (per component) VT-14	1		2	3	over 3 use 3.913 hrs. per component	
100 disposable-type filters (average 10 plenums) (per 100 filters) VT-65		1		2	over 2 use 6.158 hrs. per 100 filters	
Valve plates on compressor in open (central compression) air conditioning system (per unit) VT-67	1		2	3	over 3 use 4.639 hrs. per unit	
DISASSEMBLE, CLEAN, INSPECT ASSEMBLE, EVACUATE COMPRESSOR	10-25 tons (per unit) VT-70		2		over 2 use 5.179 hrs. per unit	
	50-100 tons (per unit) VT-71		1		over 1 use 9.323 hrs. per unit	
	100 tons absorption system (per unit) VT-19	1		2	over 2 use 6.986 hrs. per unit	
ANNUAL MAINTENANCE ON ABSORBER OR GENERATOR	300 tons absorption system (per unit) VT-20			1	over 1 use 11.436 hrs. per unit	
TASK AREA: Air conditioning units/components - miscellaneous						

Section 2. Heating

TASK AREA: Fire or water tube boiler - assist boiler inspector in inspection						
External Inspection: Includes all external boiler parts and components. Internal Inspection: Includes all internal boiler parts and components. Operating Inspection: Includes using inspector gage, checking and adjusting safety valve, waiting for maximum pressure. Hydrostatic Inspection: Includes using hand pump, search and repair, search and repair minor leaks; no time to fill or drain drum.						
DESCRIPTION	GROUP B Craft Time hrs.	GROUP C Crack Time hrs.	GROUP D Craft Time hrs.	GROUP E Craft Time hrs.	NOTE	
INSPECTION VT-200 Fire tube (per boiler)	1	2	3	4-5	over 5 use .383 hrs. per boiler	
INSPECTION VT-201 Water tube (per boiler)		1	2-3	4	over 4 use .464 hrs. per boiler	
INSPECTION VT-202 Fire tube (per boiler)		1	2	3	over 3 use .671 hrs. per boiler	
INSPECTION VT-203 Water tube (per boiler)				1	over 1 use 1.426 hrs. per boiler	
INSPECTION VT-204 Fire tube (per boiler)		1	2	3-4	over 4 use .533 hrs. per boiler	
INSPECTION VT-205 Water tube (per boiler)			1	2	over 2 use .876 hrs. per boiler	
TASK AREA: Fire or water tube boiler - assist boiler inspector in inspection						

Preceding page blank

TASK AREA: Fire or water tube boiler - assist boiler inspector in inspection

External Inspection: Includes all external boiler parts and components.
 Internal Inspection: Includes all internal boiler parts and components.
 Operating Inspection: Includes using inspector gage, checking and adjusting safety valve, waiting for maximum pressure.
 Hydrostatic Inspection: Includes using hand pump, search and repair minor leaks; no time to fill or drain drum.

DESCRIPTION		GROUP D Craft 1.1 hrs.	GROUP E Craft 1.8 hrs.	GROUP F Craft 2.9 hrs.	GROUP G Craft 4.4 hrs.	NOTE
T E S T I N G H Y D R O S T A T I C I N S P E C T I O N	Fire tube (per boiler)		1	2	3	over 3 use 1.480 hrs. per boiler
	VT-206					
I N T E R N A L T E S T I N G H Y D R O S T A T I C I N S P E C T I O N	Water tube (per boiler)			1	2	over 2 use 2.436 hrs. per boiler
	VT-207					
I N T E R N A L T E S T I N G H Y D R O S T A T I C I N S P E C T I O N	Fire tube (per boiler)	1	2	3	4	over 4 use 1.053 hrs. per boiler
	VT-208					
I N T E R N A L T E S T I N G H Y D R O S T A T I C I N S P E C T I O N	Water tube (per boiler)		1		2	over 2 use 1.890 hrs. per boiler
	VT-209					
E X T E R N A L T E S T I N G H Y D R O S T A T I C I N S P E C T I O N	Fire tube (per boiler)			1	2	over 2 use 2.534 hrs. per boiler
	VT-210					
E X T E R N A L T E S T I N G H Y D R O S T A T I C I N S P E C T I O N	Water tube (per boiler)				1	over 1 use 4.326 hrs. per boiler
	VT-211					
TASK AREA: Fire or water tube boiler - assist boiler inspector in inspection						

TASK AREA: Fire tube or water tube boiler, superheater, precipitator, or preheater-open or close fireside									
Open or close fireside: Consists of removing and installing a combination of doors, plates, steel strips, firebricks, etc. Includes all work necessary to remove or install each piece.									
Total time shall be obtained as follows: 1) Determine total number of each component to be removed or installed. 2) Find group time value for each number of components and 3) Add group time values together.									
NOTE: Quantities given are for remove or install and must be doubled for remove and install.									
DESCRIPTION	GROUP A Craft Time hrs.	GROUP B Craft Time hrs.	GROUP C Craft Time hrs.	GROUP D Craft Time hrs.	GROUP E Craft Time hrs.	GROUP F Craft Time hrs.	GROUP G Craft Time hrs.	GROUP H Craft Time hrs.	GROUP I Craft Time hrs.
Tube sheet compartment door (per door) VT-212	1-2	3-5							
Fire box door (per door) VT-213	1-2	3-4	5-8						
Ash pit door (per door) VT-214	1-2	3-4	5-8						
Access pass door (per door) VT-215	1-2	3-4	5-8						
Explosion proof doors (per door) VT-216	1	2-3	4-8						
Superheater door (per door) VT-217	1	2-3	4-8						
Precipitator door (per door) VT-218			1	2					3-4
Access door (per door) VT-219	1-2	3-4	5-8						
Clean-out door (per door) VT-220	1-7	8-15							
Peephole door (per door) VT-221	1-7	8-15	16-31						
TASK AREA: Fire tube or water tube boiler, superheater, precipitator, or preheater-open or close fireside									

TASK AREA: Fire tube or water tube boiler, superheater, precipitator or preheater-open or close fireside					
Open or close fireside: Consists of removing and installing a combination of doors, plates, steel strips, firebricks, etc. Includes all work necessary to remove or install each piece.					
Total time shall be obtained as follows: 1) Determine total number of each component to be removed or installed.					
2) Find group time value for each number of components and					
3) Add group time values together.					
NOTE: Quantities given are for remove or install and must be doubled for remove and install.					
DESCRIPTION	GROUP A Craft Time hrs.	GROUP B Craft Time hrs.	GROUP C Craft Time hrs.	GROUP D Craft Time hrs.	GROUP E Craft Time hrs.
Inspection plates (bolted) VT-222	1-2	3-4	5-8	9-16	
Steel sheec strip (per strip) VT-223	1-15	15-30			
Firebox top (per top) VT-224	1-4	5-9	10-19		
Firebox top insulation (per piece) VT-225	1-8	9-15	16-32		
Firebrick (per brick) VT-226	1-15	15-30	31-61	62-106	
TASK AREA: Fire tube or water tube boiler, superheater, precipitator-open or close fireside					

TASK AREA: Fire tube or water tube boiler-open or close waterside							
Open or close waterside: Consists of removing and installing a combination of plugs, manhole and handhole covers. Use of ladders where required is included. Total time shall be obtained as follows: 1) Determine total number of each component to be removed or installed 2) Find group time value for each number of components and 3) Add group time values together.							
DESCRIPTION	GROUP A Craft Time hrs.	GROUP B Craft Time hrs.	GROUP C Craft Time hrs.	GROUP D Craft Time hrs.	GROUP E Craft Time hrs.	GROUP F Craft Time hrs.	GROUP G Craft Time hrs.
Shell plug (per plug) VT-227	1-6	7-13					
Manhole cover (per cover) VT-228	1-2	3-4	5-8	9-14			
Handhole cover (per cover) VT-229	1-3	4-6	7-13	14-23	24-36		
Manhole cover (per cover) VT-230		1	2-3	4-6	7-10		
Handhole cover (per cover) VT-231	1	2-3	4-6	7-11	12-18		
Prepare to drain boiler (per boiler) VT-232	1-2						
Fill and inspect boiler (per boiler) VT-233			1	2			
TASK AREA: Fire tube or water tube boiler-open or close waterside							

TASK AREA: Water tube boiler-clean fireside, waterside, air preheater (fireside), precipitator (fireside), superheater						
Fireside heavy slag: Remove slag, loose cinders, clean fire box, 2 passes, tubes by scraping. Vacuum fire box top. Fireside light slag: Remove slag, loose cinders, clean fire box, 2 passes, tubes by scraping. No time to vacuum fire box top. Waterside: Wash and scrape drum. Turbining tool in tubes. No time for remove or install baffling. Air preheater: Use air hose; blow out compartment at top of tubes. Clean smoke box under air preheater tubes using air hose and shovel. Precipitator: Use scraper; clean header box by vacuuming. Superheater: Use scraper; clean header box by vacuuming. No time to erect or dismantle scaffold, clean superheater tubes or header, air preheater or precipitator.						
DESCRIPTION		GROUP D	GROUP F	GROUP G	GROUP H	GROUP I
		Craft 1.1 Time hrs.	Craft 2.9 Time hrs.	Craft 4.4 Time hrs.	Craft 4.4 Time hrs.	Craft 4.4 Time hrs.
5' ID X 20' LONG DRUM	High pressure water only - no turbinizing - to 800 tubes (per boiler)	VT-242				
3' ID X 10' LONG DRUM	Turbined-60 (1" to 3") tubes-10' to 20' long (per boiler)	VT-243	1			
	Turbined-98 (2 1/2" to 4") tubes-30' to 50' long (per boiler)	VT-245	1			
Precipitator - 36 (4") tubes 8' long (per boiler)		VT-255	1			
Superheater - 120 tubes (per boiler)		VT-256		1		
TASK AREA: Water tube boiler-clean fireside, waterside; air preheater (fireside), precipitator (fireside), superheater						

TASK AREA Water tube boiler-clean fireside, waterside, air preheater (fireside), precipitator (fireside), superheater									
Fireside heavy slag: Remove slag, loose cinders, clean fire box, 2 passes, tubes by scraping. Vacuum fire box top.									
Fireside light slag: Remove slag, loose cinders, clean fire box, 2 passes, tubes by scraping. No time to vacuum fire box top.									
Waterside: Wash and scrape drum. Turbining tool in tubes. No time for remove or install baffling.									
Air preheater: Use water hose in tubes. Clean smoke box under air preheater tubes using air hose and shovel.									
Precipitator: Use air hose; blow out compartment at top of tubes, push air hose into tubes.									
Superheater: Use scraper; clean header box by vacuuming.									
No time to erect or dismantle scaffold, clean superheater tubes or header, air preheater or precipitator-									
DESCRIPTION		GROUP H Craft 6.0 Time hrs.		GROUP I Craft 8.0 Time hrs.		GROUP K Craft 12.5 Time hrs.		GROUP L Craft 16.0 Time hrs.	
F	HEAVY	4' X 10' X 15' fire box - 110 tubes (per boiler)							
I	SLAG								
R		VT-235							
E	LIGHT	4' X 10' X 15' fire box - 166 tubes (per boiler)		1					
S	SLAG								
I		VT-234							
D		8' X 13' X 20' fire box - 182 tubes (per boiler)							
E		VT-236							
W		3' ID X 10' long drum 110 (1" to 3") tubes - 10'-20' long (per boiler)	1						
A		VT-244							
T		3' ID X 20' long drum 141 (2 1/2" to 4") tubes - 30'-50' long (per boiler)		1					
E		VT-246							
S		3' ID X 20' long drum 240 (2 1/2" to 4") tubes - 30'-50' long (per boiler)							
I		VT-247							
D									
E									
T									
U									
P									
B									
I									
N									
E									
D									
TASK AREA Water tube boiler-clean fireside, waterside, air preheater (fireside), precipitator (fireside), superheater									

TASK AREA: Water tube boiler-clean fireside, waterside, air preheater (fireside), precipitator (fireside), superheater						
Fireside heavy slag: Remove slag, loose cinders, clean fire box, 2 passes, tubes by scraping. Vacuum fire box top. Fireside light slag: Remove slag, loose cinders, clean fire box, 2 passes, tubes by scraping. No time to vacuum fire box top. Waterside: Wash and scrape drum. Turbining tool in tubes. No time for remove or install baffling. Air preheater: Use water hose in tubes. Clean smoke box under air preheater tubes using airhose and shovel. Precipitator: Use airhose; blow out compartment at top of tubes, push airhose into tubes. Superheater: Use scraper; clean header box by vacuuming. No time to erect or dismantle scaffold, clean superheater tubes or header, air preheater or precipitator-						
	DESCRIPTION	GROUP M Craft Time hrs.	GROUP P Craft Time hrs.	GROUP Q Craft Time hrs.	GROUP S Craft Time hrs.	GROUP V Craft Time hrs.
F I R E S I D E	8' X 13' X 20' fire box - 182 tubes (per boiler) VT-239			1		
	8' X 16' X 20' fire box - 420 tubes (per boiler) VT-240				1	
	14' X 20' X 30' fire box - 600 tubes (per boiler) VT-241					1
	10' X 16' X 20' fire box - 317 tubes (per boiler) VT-237	1				
	14' X 20' X 30' fire box - 400 tubes (per boiler) VT-238		1			
W A T E R S I D E	5' ID X 20' long drum 425 (2 1/2" to 4") tubes - 30' to 50' long (per boiler) VT-249	1				
	5' ID X 20' long drum 590 (2 1/2" to 4") tubes - 30' to 50' long (per boiler) VT-250		1			
	5' ID X 20' long drum 732 (2 1/2" to 4") tubes - 30' to 50' long (per boiler) VT-251			1		
TASK AREA: Water tube boiler-clean fireside, waterside, air preheater (fireside), precipitator (fireside), superheater						

TASK AREA: Water tube boiler-clean fireside, waterside, air preheater (fireside), precipitator (fireside), superheater Fireside heavy slag: Remove slag, loose cinders, clean fire box, 2 passes, tubes by scraping. Vacuum fire box top. Fireside light slag: Remove slag, loose cinders, clean fire box, 2 passes, tubes by scraping. No time to vacuum fire box top. Waterside: Wash and scrape drum. Turbining tool in tubes. No time for remove or install baffling. Air preheater: Use water hose in tubes. Clean smoke box under air preheater tubes using airhose and shovel. Precipitator: Use airhose; blow out compartment at top of tubes, push airhose into tubes. Superheater: Use scraper; clean header box by vacuuming. No time to erect or dismantle scaffold, clean superheater tubes or header, air preheater or precipitator-				
DESCRIPTION	GROUP K Craft 12.5 Time hrs.	GROUP M Crack 20.0 Time hrs.	GROUP P Craft 29.0 Time hrs.	
432 (2" X 20') tubes (per boiler) VT-252	1			
675 (2 1/2" X 30') tubes (per boiler) VT-253		1		
1024 (2 1/2" X 30') tubes (per boiler) VT-254			1	
A I R P R E H E A T E R (F I R E S I D E)				
TASK AREA: Water tube boiler-clean fireside, waterside, air preheater (fireside), precipitator (fireside), superheater				

TASK AREA: Fire tube or water tube boiler-clean tubes, tube sheet compartments, fire boxes, waterside drum							CONTINUED ON NEXT PAGE	
Fire tubes are cleaned by using a tube scraper or pneumatic turbing tool. Tube sheet compartments are cleaned using a vacuum and broom. Fire boxes: Cleaned using broom, shovel and vacuum. Waterside: Cleaned by washing interior of drum with hose and inspecting work.								
	DESCRIPTION	GROUP A Craft Time hrs.	GROUP B Crack Time hrs.	GROUP C Craft Time hrs.	GROUP D Craft Time hrs.	GROUP E Craft Time hrs.		
8'	Tube scraper (per tube) VT-257	1-19	20-42	43-88	89-156	157-247		
	Pneumatic turbing (per tube) VT-258		1-10	11-31	32-62	63-104		
12'	Tube scraper (per tube) VT-259	1-13	14-28	29-58	59-104	105-164		
	Pneumatic turbing (per tube) VT-260		1-7	8-20	21-41	42-69		
16'	Tube scraper (per tube) VT-261	1-9	10-21	22-44	45-78	79-123		
	Pneumatic turbing (per tube) VT-262		1-5	6-15	16-31	32-52		
20'	Tube scraper (per tube)							
	Pneumatic turbing (per tube) VT-263		1-4	5-12	13-25	26-41		
Tube sheet compartment (per compartment) VT-264				1		2		
Fire box (per fire box) VT-265				1	2			
Fire tube boiler drum interior	VT-266				Fire tube boiler 1,205 lb/hr or 36 HP			
	VT-267					Fire tube boiler 4,185 lb/hr or 175 HP		
	VT-268					Fire tube boiler 4,185 lb/hr or 175 HP		
TASK AREA: Fire tube or water tube boiler-clean tubes, tube sheet compartments, fire boxes, waterside drum								

TASK AREA: Fire tube or water tube boiler-clean tubes, tube sheet compartments, fire boxes, waterside drum							CONTINUED ON NEXT PAGE
Fire tubes: Cleaned by using a tube scraper or pneumatic turbing tool. Tube sheet compartments: Cleaned using a vacuum and broom. Fire boxes: Cleaned using broom, shovel, and vacuum. Waterside: Cleaned by washing interior of drum with hose and inspecting work.							
	DESCRIPTION	GROUP F Craft 2.9 Time hrs.	GROUP G Craft 4.4 Time hrs.	GROUP H Craft 6.0 Time hrs.	GROUP I Craft 8.0 Time hrs.	GROUP J Craft 10.0 Time hrs.	
8'	Tube scraper (per tube)	VT-257	248-406	407-588			
	Pneumatic turbing (per tube)	VT-258	105-177	178-260	355-458	459-562	
12'	Tube scraper (per tube)	VT-259	165-270	271-392	393-528		
	Pneumatic turbing (per tube)	VT-260	70-118	119-173	174-236	306-375	
16'	Tube scraper (per tube)	VT-261	124-207	204-294	295-396	397-510	
	Pneumatic turbing (per tube)	VT-262	53-88	89-130	131-177	178-229	
20'	Tube scraper (per tube)					230-281	
	Pneumatic turbing (per tube)	VT-263	42-70	71-104	105-141	142-183	
	Tube sheet compartment (per compartment)	VT-264				184-225	
	Fire box (per fire box)	VT-265					
	Fire tube Boiler drum interior	VT-269	Fire tube boiler 6,696 lb/hr or 200 HP				
TASK AREA: Fire tube or water tube boiler-clean tubes, tube sheet compartments, fire boxes, waterside drum							

TASK AREA: Fire tube or water tube boiler-clean tubes, tube sheet compartments, fire boxes, waterside drum				CONTINUED FROM PREVIOUS PAGE		
Fire tubes: Cleaned by using a tube scraper or pneumatic turblining tool.						
	DESCRIPTION	GROUP K Craft 12.5 Time hrs.	GROUP L Craft 16.0 Time hrs.	GROUP M Craft 20.0 Time hrs.	GROUP N Craft 24.0 Time hrs.	
12'	Tube scraper (per tube) VT-259					
	Pneumatic turblining (per tube) VT-260	376-479	480-618			
16'	Tube scraper (per tube) VT-261					
	Pneumatic turblining (per tube) VT-262	282-359	360-463	364-567		
20'	Tube scraper (per tube)					
	Pneumatic turblining (per tube) VT-263	224-287	288-370	371-454	455-537	
TASK AREA: Fire tube or water tube boiler-clean tubes						

TASK AREA: Boiler tubes-remove and install tubes to 30' long and 4" OD							CONTINUED ON NEXT PAGE	
Method 1: Remove boiler tubes through manhole or handhole without cutting into smaller sections and install new tubes. Method 2: Remove boiler tubes through manhole by cutting into smaller sections and install new tubes. Method 3: Remove and install tubes through own hole and tube sheet.								
DESCRIPTION	GROUP E Craft Time hrs.	GROUP G Craft Time hrs.	GROUP I Craft Time hrs.	GROUP K Craft Time hrs.	GROUP M Craft Time hrs.	GROUP N Craft Time hrs.		
Method 1 (per tube) VT-270	2	5-6	9-10	14-17	22-26			
Method 2 (per tube) VT-271	2	5-6	9-10	13-16	21-25			
Method 3 (per tube) VT-272	2	4-5	8-9	12-14	20-23			
Air preheater tubes (per tube) VT-273	2	4-5	8-9	12-14	20-23			
Tube sheet compartment door and door frame (per door) VT-274	2	5-6						
NOTE: When hoist is required for reInstalling boiler tubes, add .12 hrs. per tube installed in this manner. VT-275								
TASK AREA: Boiler tubes-remove and install tubes to 30' long and 4" OD								

TASK AREA: Boiler tubes-remove and install tubes to 30' long and 4" OD

Method 1: Remove boiler tubes through manhole or handhole without cutting into smaller sections, and install new tubes.
 Method 2: Remove boiler tubes through manhole by cutting into smaller sections, and install new tubes.
 Method 3: Remove and install tubes through own hole in tube sheet.

DESCRIPTION	GROUP P Craft Time hrs.	GROUP R Craft Time hrs.	GROUP T Craft Time hrs.	GROUP V Craft Time hrs.	NOTE
Method 1 (per tube) VT-270	29-36	46-57	71-82	95-106	Add .82 hrs. for each additional tube
Method 2 (per tube) VT-271	31-37	47-58	70-81	94-104	Add .86 hrs. for each additional tube
Method 3 (per tube) VT-272	28-34	43-53	64-74	86-95	Add .94 hrs. for each additional tube
Air preheater tubes (per tube) VT-273	28-34	43-53	64-74	86-95	Add .94 hrs. for each additional tube
NOTE: When hoist is required for reinstalling boiler tubes, add .12 hrs. for tube installed in this manner. VT-275					

TASK AREA: Boiler tubes-remove and install tubes to 30' long and 4" OD

TASK AREA: Sectional boiler, cast iron, low pressure - remove and install push nipples					
Remove and install push nipples includes cleaning nipples and fabricating new gaskets. Normally there are an average of 3 push nipples per boiler section.					
DESCRIPTION	GROUP M Craft Time hrs.	GROUP N Craft Time hrs.	GROUP P Craft Time hrs.	GROUP Q Craft Time hrs.	NOTE
7 boiler sections (21 push nipples) VT-276	per 21 push nipples				NOTE: Time for more than 13 boiler sections may be figured by adding 2.45 hrs. for each additional section to the above group time value.
9 boiler sections (27 push nipples) VT-276		per 27 push nipples			
11 boiler sections (33 push nipples) VT-276			per 33 push nipples		
13 boiler sections (39 push nipples) VT-276				per 39 push nipples	
TASK AREA: Sectional boiler, cast iron, low pressure - remove and install push nipples					

TASK AREA: Heaters; unit, wall, space, floor, hot water - remove, install, disassemble, clean, lube, inspect, assemble

Clean and inspect: Includes cleaning component parts and heater housing, lubrication of motors and blowers, and checking unit operation.
 Install: Includes assembling necessary parts, making any necessary brackets, putting unit in place and connecting fuel lines and vent stacks; use ladder or scaffold as required.
 Repair: Includes repair an average of two (2) leaks.

DESCRIPTION	GROUP F Craft 2.9 Time hrs.	GROUP G Craft 4.4 Time hrs.	GROUP H Craft 6.0 Time hrs.	GROUP I Craft 8.0 Time hrs.	NOTE
Install new unit heater (per heater) VT-284	1		2	3	over 3 use 2.776 hrs. per heater
Remove, clean, inspect and install heater (per heater) VT-278	1		2		over 2 use 3.282 hrs. per heater
Remove old heater and install new heater (per heater) VT-279		1		2	over 2 use 3.765 hrs. per heater
Remove, disassemble, clean, inspect, test repair and install heater (per heater) VT-280			1		over 1 use 5.395 hrs. per heater

TASK AREA: Heaters; unit, wall, space, floor, hot water - remove, install, disassemble, clean, lube, inspect, assemble

TASK AREA Heaters; unit, wall, space, floor, hot water - remove, install, disassemble, clean, lube, inspect, assemble							
DESCRIPTION		GROUP C Craft Time hrs.	GROUP D Craft 1.1 Time hrs.	GROUP E Craft 1.8 Time hrs.	GROUP F Craft 2.9 Time hrs.	NOTE	
Clean and inspect heater (per heater) VT-277		1	2	3	4-6	over 6 use .58 hrs. per heater	
W A L L F U R N A C E	G Install unit A (per furnace) VT-281	1	2	3	4-6	over 6 use .561 hrs. per furnace	
	F Clean unit I (per furnace) VT-282	1	2	3	4-6	over 6 use .590 hrs. per furnace	
	L Remove and install E unit D (per furnace) VT-283	1	1	2	3	over 3 use 1.067 hrs. per furnace	
	U Install unit I (per furnace) VT-281	1	2	3	4-6	over 6 use .561 hrs. per furnace	
	N Clean unit F (per furnace) VT-285	1	1	2	3	over 3 use .933 hrs. per furnace	
	A Remove and install E unit D (per furnace) VT-283	1	1	2	3	over 3 use 1.067 hrs. per furnace	
	Does not include clean chimney or carburetor (per heater) VT-286		1	2	3-4	5-6	over 6 use .547 hrs. per heater
	Includes clean chimney and carburetor (per heater) VT-287		1	1	2	3	over 3 use .966 hrs. per heater
	Install heater (per heater) VT-288		1	2	3	4-6	over 6 use .598 hrs. per heater
	Clean heater (per heater) VT-290		1	1	2	3-4	over 4 use .876 hrs. per heater
Hot water heater (gas fired-30 gal.)	Remove and install heater (per heater) VT-289	1	1	2	2	over 2 use 1.231 hrs. per heater	
	Disassemble, clean, lubricate, inspect, reassemble including clean chimney (per heater) VT-291	1		2	3-4	over 4 use .744 hrs. per heater.	
TASK AREA: Heaters; unit, wall, space, floor, hot water - remove, install, disassemble, clean, lube, inspect, assemble							

TASK AREA Blowers and furnaces - blowers, miscellaneous-disassemble, clean, lubricate, inspect, assemble, regulate

B L O W E R U N I T	DESCRIPTION	GROUP A Time hrs.	GROUP B Time hrs.	GROUP C Time hrs.	GROUP D Time hrs.	NOTE
Disassemble, clean, lubricate, inspect, assemble	Cold water blower unit with (2) 8" centrifugal (squirrel cage) fans (per blower) VT-292	1		2	3	over 3 use .358 hrs. per blower unit
	Blower unit with electric and pneumatic controls (4) 8" centrifugal (squirrel cage) fans (per blower) VT-293				1	over 1 use .933 hrs. per blower unit
	Regulate blower unit thermostat and room thermostat (per blower) VT-294	1	2	3-5	6-9	over 9 use .166 hrs. per blower unit
	Hot air furnace, gun type, (up to 770,000 BTU) off-season maintenance (per furnace) VT-295				1	over 1 use 1.238 hrs. per furnace
F U E L M O T O R A S S E M B L Y	Clean fuel oil filter, renew element and gasket (per furnace) VT-297	1-2	3-5	6-10	11-18	over 18 use .08 hrs. per furnace
	Clean, inspect, adjust electrode/ nozzle assembly (per furnace) VT-298	1	2	3-4	5-8	over 8 use .173 hrs. per furnace
	Service fuel unit - includes fuel oil pump, forced draft blower and motor (per furnace) VT-299	1	2	3-4	5-8	over 8 use .169 hrs. per furnace
	Service furnace fire box and flue (per furnace) VT-300			1	2-3	over 3 use .412 hrs. per furnace
E	Service furnace stack switch (per furnace) VT-301	1-2	3-4	5-8	9-15	over 15 use .09 hrs. per furnace
	Service air circulation fan and motor (per furnace) VT-302		1	2-3	4-6	over 6 use .210 hrs. per furnace
	Conduct furnace operational check (per furnace) VT-303	1	2-3	4-7	8-12	over 12 use .110 hrs. per furnace

TASK AREA: Blowers and furnaces - blowers, miscellaneous-disassemble, clean, lubricate, inspect, assemble, regulate

TASK AREA: Analyze boiler water samples						
Analyze samples of boiler water from fire tube boilers that are treated with chemicals.						
DESCRIPTION	GROUP A Craft 0.3 Time hrs	GROUP B Craft 0.6 Time hrs	GROUP C Craft 1.1 Time hrs	GROUP D Craft 1.8 Time hrs	GROUP E Craft 2.7 Time hrs	NOTE
ANALYZE BOILER WATER SAMPLES (PER BOILER)	1	2	3-5	6-8	Over 8 use 273 hrs per boiler	
VT-296						

CHAPTER 3
TASK TIMES

37

Preceding page blank

VT-1 CHARGE AIR CONDITIONING SYSTEM.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWU-1-8552	REMOVE AND INSTALL SERVICE VALVE CAP NUTS	.08720	SYSTEM	
2	PWU-1-8000	INSTALL AND REMOVE GAUGE/HOSE MANIFOLD	.05340	SYSTEM	
3	PWU-14-IV	RELEASE AND TIGHTEN VALVES	.06768	SYSTEM	
4	PWU-1-VIII	CHARGE ANY SIZE AIR CONDITIONING SYSTEM WITH REFRIGERANT	.01759 .03789	SYSTEM TONNAGE	
5	PWU-5-I	MOVE CYLINDER OF REFRIGERANT	.10359	SYSTEM	
6	4211	CHECK OPERATION OF SYSTEM	.29200	SYSTEM	

VT-1 = .62145 HRS PER SYSTEM + .03789 HRS PER TONNAGE

VT-2 PUMP DOWN AIR CONDITIONING SYSTEM; COMPRESSOR ONLY.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWU-1-8552	REMOVE AND INSTALL VALVE CAP NUTS	.08720	SYSTEM	
2	PWU-1-8000	INSTALL AND REMOVE GAUGE/HOSE MANIFOLD	.03560	SYSTEM	
3	PWU-14-IV	RELEASE AND TIGHTEN VALVE	.06768	SYSTEM	
4	PWU-1-I	RUN COMPRESSOR TO PUMP DOWN	.19172	SYSTEM	

VT-2 = .38220 HRS PER SYSTEM

VT-3 PUMP DOWN AIR CONDITIONING SYSTEM; INTO RECEIVER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWU-1-8552	REMOVE AND INSTALL VALVE CAP NUTS	.08720	SYSTEM	
2	PWU-1-8000	INSTALL AND REMOVE GAUGE/HOSE MANIFOLD	.03560	SYSTEM	
3	PWU-14-IV	RELEASE AND TIGHTEN VALVE	.06768	SYSTEM	
4	PWU-1-VIII	PUMP DOWN SYSTEM INTO RECEIVER	.40083	SYSTEM	

VT-3 = .59128 HRS PER SYSTEM

VT-4 PUMP DOWN AIR CONDITIONING SYSTEM INTO SEPARATE CYLINDERS.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWU-1-8552	REMOVE AND INSTALL VALVE CAP NUTS	.00720	SYSTEM	
2	PWU-1-8000	INSTALL AND REMOVE GAUGE/HOSE MANIFOLD	.07120	SYSTEM	
3	PWC-1A-IV	OPEN AND CLOSE VALVES	.06768	SYSTEM	
4	PWV-1-III	PUMP AIR CONDITIONING SYSTEM DOWN INTO SEPARATE CYLINDER	.01689 .23402	SYSTEM CYLINDER	
5	PWA-5-1	MOVE CYLINDER OF REFRIGERANT	.03453	SYSTEM	

VT-4 * .27549 HRS PER SYSTEM * .23402 HRS PER CYLINDER

VT-5 PULL VACUUM ON AIR CONDITIONING SYSTEM

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V28
1	PWU-1-8552	REMOVE AND INSTALL VALVE CAP NUTS	.00720	SYSTEM	
2	PWU-1-8000	INSTALL AND REMOVE GAUGE/HOSE MANIFOLD	.03560	SYSTEM	
3	PWC-1A-IV	OPEN AND CLOSE COMPRESSOR SERVICE VALVES	.06768	SYSTEM	
4	PWV-1-XVII	PULL VACUUM	1.32348	SYSTEM	

VT-5 * 1.51396 HRS PER SYSTEM

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	VT-2	PUMP DOWN COMPRESSOR	.38220	SYSTEM	
2	PWMU-1-8552	REMOVE AND INSTALL BOLTS IN INTAKE AND DISCHARGE VALVES	.17440	SYSTEM	
3	PWMU-1-8011	REMOVE AND INSTALL INTAKE AND DISCHARGE VALVES	.14640	SYSTEM	
4	PWG-4-2	REMOVE AND INSTALL OIL LINE AND GAGES	.21916	SYSTEM	
5	PWMU-1-8552	REMOVE AND INSTALL BOLTS IN VALVE FITTINGS	.17440	SYSTEM	
6	PWMU-1-8011	REMOVE AND INSTALL VALVE FITTINGS	.14640	SYSTEM	
7	PWMU-1-8010	PLUG AND UNPLUG PORT OPENINGS	.10490	SYSTEM	
8	PWMU-1-8010	PULL AWAY AND PUSH VALVE TO COMPRESSOR	.05240	SYSTEM	
9	PWMU-1-8000	REMOVE AND INSTALL BOLTS FOR BELT GUARD	.07120	SYSTEM	
10	PWMU-1-8021	REMOVE AND INSTALL BELT GUARD	.04900	SYSTEM	
11	PWMU-1-8553	LOOSEN AND TIGHTEN MOTOR BASE BOLTS	.06960	SYSTEM	
12	PWMU-1-8010	REMOVE AND INSTALL BELTS	.10480	SYSTEM	
13	PWMU-1-8552	REMOVE AND INSTALL COMPRESSOR BASE BOLTS	.08720	SYSTEM	
14	PWN-10-KV1	REMOVE AND INSTALL COMPRESSOR	1.10240	SYSTEM	
15	PWMU-1-8011	REMOVE AND INSTALL PLYWHEEL	.07320	SYSTEM	
16	VT-1	CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM	.62145	SYSTEM	
17	PWV-1-21	PUT COMPRESSOR INTO OPERATION	.35211	SYSTEM	
18	4211	CHECK OPERATION OF SYSTEM	.29200	SYSTEM	
19	PWA-5-21	MATERIAL HANDLING	.62154	SYSTEM	
VT-6 = 5.82357 HRS PER SYSTEM					

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-9000	REMOVE AND INSTALL SCREW	.07120	JOB	
2	PWMU-1-8010	REMOVE AND INSTALL PANEL	.02620	JOB	
3	PWG-4-2	DISCONNECT WIRING TO MOTOR	.00964	JOB	
4	PWMU-1-8010	PLUG AND UNPLUG UNIT	.02620	JOB	
5	PWMU-1-8552	REMOVE AND INSTALL BASE BOLTS	.08720	JOB	
6	PWMU-1-8012	REMOVE AND INSTALL MOTOR	.01780	JOB	
7	PWMU-1-8010	REMOVE AND INSTALL BELT	.02620	JOB	
8	4209	CHECK OPERATION OF MOTOR	.16700	JOB	
9	PWA-5-21	MATERIAL HANDLING	.10359	JOB	
VT-7 = .93503 HRS PER JOB					

VT-8 REMOVE AND INSTALL AIR-COOLED CONDENSER OR EVAPORATOR IN A 3-10 TON PACKAGE-TYPE/SELF-CONTAINED AIR CONDITIONING SYSTEM

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-3-R1	REMOVE AND INSTALL ACCESS PANEL	.22392	SYSTEM	
2	VT-4	PUMP AIR CONDITIONING SYSTEM DOWN INTO SEPARATE CYLINDER	.27949	SYSTEM	
		#1 CYLINDER	.07801	SYSTEM	
3	PMQ-19-VII	REMOVE AND INSTALL FITTING	.33608	SYSTEM	
4	PMU-1-8010	PLUG AND UNPLUG PORT OPENING	.10480	SYSTEM	
5	PMV-1-IV	PREPARE TO REMOVE AIR COOLED CONDENSER	.17830	SYSTEM	
6	PMU-1-8000	REMOVE AND INSTALL BOLT	.14240	SYSTEM	
7	PMU-1-8022	REMOVE AND INSTALL CONDENSER	.20540	SYSTEM	
8	PM -1-V	PUT AIR COOLED CONDENSER INTO OPERATION	.01673	SYSTEM	
9	VT-1	CHARGE PACKAGE-TYPE/SELF-CONTAINED AIR CONDITIONING SYSTEM AFTER REPAIR	.62145	SYSTEM	
			.11367	SYSTEM	
10	PMA-5-II	MATERIAL HANDLING	.10359	SYSTEM	
11	PMV-1-II	CHECK OPERATION OF SYSTEM	.09211	SYSTEM	
VT-8 = 4.27614 HRS PER SYSTEM					

VT-9 REMOVE AND INSTALL AIR-COOLED CONDENSER IN A 25-99 TON OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	VT-4	PUMP DOWN 25-99 TON SYSTEM INTO SEPARATE CYLINDERS	.27949	JOB	
			5.85050	JOB	
2	PMU-1-8000	REMOVE AND INSTALL SCREW	.14240	JOB	
3	PMU-1-8021	REMOVE AND INSTALL PANEL	.09800	JOB	
4	PMQ-19-VII	REMOVE AND INSTALL FITTING	.33608	JOB	
5	PMU-1-8010	PLUG AND UNPLUG PORT OPENINGS	.10480	JOB	
6	PMV-1-IV	PREPARE TO REMOVE CONDENSER	.17830	JOB	
7	PMU-1-8000	REMOVE AND INSTALL BOLT	.14240	JOB	
8	PMN-10-XII	REMOVE AND INSTALL CONDENSER	.35716	JOB	
9	PMV-1-IV	PUT CONDENSER INTO OPERATION	.17830	JOB	
10	VT-1	CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM	.62145	JOB	
			.94725	JOB	
11	4211	CHECK OPERATION OF SYSTEM	.29200	JOB	
12	PMA-5-II	MATERIAL HANDLING	.20710	JOB	
VT-9 = 9.75530 HRS PER JOB					

VT-12 REMOVE AND INSTALL COOLING UNIT (EVAPORATOR) IN A 25-99 TON AIR HANDLING UNIT--DIRECT EXPANSION SYSTEM.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-3-A1	REMOVE AND INSTALL ACCESS PANEL	.22392	SYSTEM	
2	VT-3	PUMP DOWN SYSTEM INTO RECEIVER	.59128	SYSTEM	
3	PWC-19-VIC	REMOVE AND INSTALL FITTING	.35605	SYSTEM	
4	PMU-1-8010	PLUG AND UNPLUG PORT OPENINGS	.10483	SYSTEM	
5	PMV-1-IX	PREPARE TO REMOVE EVAPORATOR	.20137	SYSTEM	
6	PMU-1-8592	REMOVE AND INSTALL BOLT	.34880	SYSTEM	
7	PMN-10-XII	REMOVE AND INSTALL EVAPORATOR	.35716	SYSTEM	
8	PdV-1-X	PUT EVAPORATOR INTO OPERATION	.53794	SYSTEM	
9	VT-1	CHARGE 25-99 TON AIR CONDITIONING SYSTEM AFTER REPAIR	.62145 .96725	SYSTEM SYSTEM	
10	PMV-1-II	CHECK OPERATION OF SYSTEM	.95211	SYSTEM	
11	PWA-5-II	MATERIAL HANDLING	.10359	SYSTEM	
VT-12 = 5.34574 HRS PER SYSTEM					

VT-13 REMOVE AND INSTALL RECEIVER VALVE OR KING VALVE IN A OPEN (CENTRAL COMPRESSION) SYSTEM. AVG. 50 TON AIR CONDITIONING SYSTEM.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-1-XIII	REMOVE AND INSTALL VALVE OR RECEIVER FLANGES	.58148	SYSTEM	
2	PMN-10-XII	REMOVE AND INSTALL RECEIVER	.17858	SYSTEM	
3	PMV-1-II	CHECK OPERATION OF SYSTEM	.95211	SYSTEM	
4	VT-1	CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM	.62145 .64413	SYSTEM SYSTEM	
5	VT-4	PUMP DOWN OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM	.27949 .70206	SYSTEM SYSTEM	
VT-13 = 3.95929 HRS PER SYSTEM					

VT-14 REMOVE AND INSTALL THERMOSTATIC EXPANSION VALVE IN
A 25 TO 99 TON OPEN (CENTRAL COMPRESSION) AIR
CONDITIONING SYSTEM.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	VT-3	PUMP DOWN SYSTEM INTO RECEIVER	.59120	SYSTEM	
2	PMQ-10-VII	REMOVE AND INSTALL FITTING	.93412	SYSTEM	
3	PMU-1-8010	PLUG AND UNPLUG PORT OPENINGS	.15720	SYSTEM	
4	PMV-1-XI	PREPARE TO REMOVE EXPANSION VALVE	.35852	SYSTEM	
5	PMU-1-8011	REMOVE AND INSTALL EXPANSION VALVE	.07320	SYSTEM	
6	PMV-1-XII	PUT EXPANSION VALVE INTO OPERATION	.23417	SYSTEM	
7	VT-1	CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM	.62145 .94725	SYSTEM SYSTEM	
8	4211	CHECK OPERATION OF SYSTEM	.29200	SYSTEM	
9	PMA-9-II	MATERIAL HANDLING	.10359	SYSTEM	
VT-14 = 3.91277 HRS PER SYSTEM					

VT-15 REMOVE AND INSTALL STRAINER OR DRYER IN A 25-99
TON OPEN (CENTRAL COMPRESSION) AIR CONDITIONING
SYSTEM.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	VT-3	PUMP SYSTEM DOWN INTO RECEIVER	.39120	COMPONENT	
2	PMU-1-8000	REMOVE AND INSTALL SCREWS	.21360	COMPONENT	
3	PMV-1-XV	PREPARE TO REMOVE DRYER/STRAINER	.34466	COMPONENT	
4	PMU-1-8011	REMOVE AND INSTALL DRYER/STRAINER	.07320	COMPONENT	
5	PMU-1-8010	REMOVE AND INSTALL DRYER/STRAINER INSERT	.07800	COMPONENT	
6	PMV-1-XVI	PUT DRYER/STRAINER INTO OPERATION	.26959	COMPONENT	
7	PMA-9-I	MATERIAL HANDLING	.04906	COMPONENT	
VT-15 = 1.63999 HRS PER COMPONENT					

VT-16 INSTALL NEW WINDOW AIR CONDITIONER (1/2-2 TONS)
IN WINDOW WITH RAISABLE SASH.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWMU-1-8021	REMOVE CARDBOARD CONTAINER	.02450	JOB	
2	PWMU-1-8000	REMOVE AND INSTALL SCREWS	.12460	JOB	
3	PWMU-1-8010	REMOVE AND INSTALL PANEL	.02620	JOB	
4	PWN-10-XII	REMOVE AND INSTALL UNIT IN CABINET	.35716	JOB	
5	PWMU-1-8552	REMOVE BOLT FROM CRATE	.04360	JOB	
6	PWMU-1 8003	RAISE AND LOWER WINDOW	.00400	JOB	
7	PWMU-1-8021	INSTALL CABINET IN WINDOW	.02450	JOB	
8	PWMU-1-8552	INSTALL LEVELING ARM	.00720	JOB	
9	PWMU-1-8553	LOOSEN AND TIGHTEN LEVELING SCREW	.03400	JOB	
10	PWMU-1-8100	MEASURE, MARK AND CUT FILLER PANEL	.00202 .05330	JOB JOB	
11	PWMU-1-8010	INSTALL FILLER PANEL	.02620	JOB	
12	PWMU-1-8010	INSTALL WEATHER STRIPPING	.03930	JOB	
13	PWMU-1-8003	INSTALL CAULKING	.01200	JOB	
14	PWMU-1-8010	INSTALL PLUG	.01310	JOB	
15	4211	CHECK OPERATION OF UNIT	.20200	JOB	
16	PWA-3-II	MATERIAL HANDLING	.31077	JOB	

VT-16 = 1.47323 HRS PER JOB

VT-17 REMOVE WINDOW AIR CONDITIONER (1/2-2 TONS) FROM
RAISABLE WINDOW.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWMU-1-8000	REMOVE FACE PANEL SCREWS	.07120	JOB	
2	PWMU-1-8010	REMOVE FACE PANEL	.01310	JOB	
3	PWN-10-XII	REMOVE UNIT FROM CABINET	.17058	JOB	
4	PWMU-1-8003	RAISE AND LOWER WINDOW	.00400	JOB	
5	PWMU-1-8010	REMOVE WEATHER STRIPPING	.01310	JOB	
6	PWMU-1-8010	REMOVE FILLER PANEL	.02620	JOB	
7	PWMU-1-8553	LOOSEN LEVELING SCREW	.01740	JOB	
8	PWMU-1-8021	REMOVE CABINET FROM WINDOW	.02450	JOB	
9	PWMU-1-8022	INSTALL UNIT IN CABINET	.10280	JOB	
10	PWMU-1-8010	INSTALL FACE PANEL	.01310	JOB	
11	PWMU-1-8000	INSTALL SCREWS	.07120	JOB	
12	PWA-3-I	MATERIAL HANDLING	.06906	JOB	

VT-17 = .60426 HRS PER JOB

VT-18 REMOVE SOLID BEARING AND INSTALL SPLIT TYPE BEARING ON CENTRIFUGAL (SQUIRREL CAGE) FAN SHAFT.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.10680	JOB	
2	PWMU-1-8012	REMOVE AND INSTALL ACCESS PANEL	.03560	JOB	
3	PWMU-1-8552	REMOVE AND INSTALL OIL FILLER TUBE	.04360	JOB	
4	PWMU-1-8000	REMOVE AND INSTALL BOLT	.03560	JOB	
5	PWMU-1-8012	REMOVE AND INSTALL BEARING CAP	.01780	JOB	
6	PWMU-1-8000	LOOSEN AND TIGHTEN BEARING RETAINER BOLT	.01780	JOB	
7	PWMU-1-.011	MOVE BEARING DOWN SHAFT	.03660	JOB	
8	PWMU-1-8000	REMOVE AND INSTALL HOUSING NUTS	.07120	JOB	
9	PWMU-1-8005	REMOVE AND INSTALL HOUSING BOLTS	.01600	JOB	
10	PWMU-1-8012	REMOVE AND INSTALL BEARING HOUSING	.01780	JOB	
11	PWEA-4-I	BURN HOUSING WITH TORCH	.00960 .04035	JOB JOB	
12	PWMU-1-8000	REMOVE AND INSTALL BEARING NUTS	.07120	JOB	
13	PWMU-1-8005	REMOVE AND INSTALL BEARING BOLTS	.01600	JOB	
14	PWEA-4-II	BURN HOLES FOR HOUSING BOLTS	.10480 .05380	JOB JOB	
15	PWN-3-VII	FILL OIL FILLER TUBE WITH OIL	.07887 .28760	JOB JOB	
16	4208	CHECK OPERATION FOR BEARING	.04200	JOB	
17	PWA-5-I	MATERIAL HANDLING	.13912	JOB	

VT-18 = 1.24314 HRS PER JOB

VT-19 DRAIN, REMOVE AND INSTALL END PLATES, PUNCH TUBES, AND FILL ABSORBER OR GENERATOR IN 100 TON ABSORPTION SYSTEM. USE LADDER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMQ-19-VIII	REMOVE AND INSTALL PIPE FITTINGS	.54969	JOB	
2	PMQ-20-II	DRAIN AND FILL TUBES	.76000	JOB	
3	PWMU-1-8553	REMOVE AND INSTALL NUT	1.11360	JOB	
4	PWN-10-XII	REMOVE AND INSTALL END PLATES	.71432	JOB	
5	PMV-13-II	PUNCH 220 TUBES UP TO 14" LONG AND 1" O.D.	.02403 2.90400	JOB JOB	
6	PWN-19-II	CUT GASKET * AVG. OF 2 GASKETS	.01564 .18503	JOB JOB	
7	PWN-19-K5	PUNCH HOLES IN GASKET	.00201 .23646	JOB JOB	
8	PWMU-1-8010	INSTALL GASKET	.02620	JOB	
9	PWA-5-II	MATERIAL HANDLING	.41436	JOB	
10	PWMU-1-8052	GET, ASCEND, DESCEND, AND ASIDE LADDER	.04140	JOB	

VT-19 = 6.98584 HRS PER JOB

VT-20 DRAIN, REMOVE AND INSTALL END PLATES, PUNCH TUBES, AND FILL ABSORBER OR GENERATOR IN 300 TON ABSORPTION SYSTEM. USE LADDER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMQ-19-VIII	REMOVE AND INSTALL PIPE FITTING	.54868	JOB	
2	PMQ-20-II	DRAIN AND FILL TUBES	1.90000	JOB	
3	PMU-1-8552	REMOVE AND INSTALL NUT	1.39520	JOB	
4	PMU-10-IV	REMOVE AND INSTALL END PLATES	1.36640	JOB	
5	PMU-13-II	PUNCH TUBES UP TO 25" LONG AND 1" O.D.	.02408 5.20000	JOB JOB	
6	PMU-19-II	CUT AVG. OF 2 GASKETS	.01564 .18508	JOB JOB	
7	PMU-19-R5	PUNCH 32 HOLES IN GASKET	.00201 .23648	JOB JOB	
8	PMU-1-8010	INSTALL GASKET	.02620	JOB	
9	PMA-5-II	MATERIAL HANDLING	.41436	JOB	
10	PMU-1-8052	GET, ASCEND, DESCEND, AND ASIDE LADDER	.04140	JOB	

VT-20 = 11.43553 HRS PER JOB

VT-21 REMOVE AND INSTALL DISPOSABLE TYPE FILTER IN INDIVIDUAL OVERHEAD UNIT-- LADDER USED.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL NUT OR SCREW	.07120	JOB	
2	PMU-1-8012	REMOVE AND INSTALL PANEL	.01780	JOB	
3	PMU-1-8012	REMOVE AND INSTALL FILTER	.01780	JOB	
4	PMA-5-II	MATERIAL HANDLING	.10359	JOB	
5	PMU-1-8052	GET, ASCEND, DESCEND, AND ASIDE LADDER	.02070	JOB	

VT-21 = .23109 HRS PER JOB

VT-22 REMOVE AND INSTALL A SET OF THREE BELTS ON A
COMPRESSOR IN A OPEN (CENTRAL COMPRESSION) AIR
CONDITIONING SYSTEM.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	2388	TURN POWER ON AND OFF	.00250	SYSTEM	
2	PMU-1-8000	REMOVE AND INSTALL SCREWS ON BELT GUARD	.07120	SYSTEM	
3	PMU-1-8021	REMOVE AND INSTALL BELT GUARD	.04900	SYSTEM	
4	PMU-1-8553	LOOSEN AND TIGHTEN MOTOR BASE BOLTS	.06940	SYSTEM	
5	PMU-1-8553	LOOSEN AND TIGHTEN ADJUSTING SCREW	.05220	SYSTEM	
6	PMU-1-8011	PRY MOTOR TO LOOSEN AND TIGHTEN	.07320	SYSTEM	
7	PMU-1-8021	REMOVE AND INSTALL BELTS	.14700	SYSTEM	
8	4209	CHECK OPERATION	.14700	SYSTEM	
9	PMU-5-1	MATERIAL HANDLING	.06900	SYSTEM	
VT-22 = .70086 HRS PER SYSTEM					

VT-23 REMOVE AND INSTALL FLOAT LINKAGE IN WATER TOWER
OR CONDENSER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.14240	JOB	
2	PMU-1-8012	REMOVE AND INSTALL PANEL	.07320	JOB	
3	PMU-1-8013	REMOVE AND INSTALL FLOAT ASSEMBLY	.04620	JOB	
4	5601	ADJUST FLOAT LINKAGE	.08000	JOB	
5	4209	CHECK OPERATION	.14700	JOB	
VT-23 = .50880 HRS PER JOB					

VT-24 INSTALL NEW WINDOW AIR CONDITIONING UNIT (1/2 TO 3 TONS) IN FIXED STEEL SASH WINDOW.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8021	REMOVE LANDSCAPE CONTAINER	.02450	JOB	
2	PWMU-1-8000	REMOVE AND INSTALL SCREWS	.12460	JOB	
3	PWMU-1-8010	REMOVE AND INSTALL PANEL	.02620	JOB	
4	PWMU-10-XII	REMOVE AND INSTALL UNIT IN CABINET	.35716	JOB	
5	PWEA-52-I	LAYOUT AREA TO BE REMOVED FROM WINDOW	.20040	JOB	
6	PWMU-1-8013	REMOVE WINDOW PANES	.13860	JOB	
7	PWEA-4-III	CUT FRAME WITH TORCH	.00960 .02490	JOB JOB	
8	PWMU-1-8552	REMOVE BOLT FROM CRATE	.04360	JOB	
9	PWMU-1-8000	INSTALL MOUNTING FRAME	.03560	JOB	
10	PWMU-1-8021	INSTALL CABINET IN WINDOW	.02450	JOB	
11	PWMU-1-8552	INSTALL LEVELING ARM	.00720	JOB	
12	PWMU-1-8553	LOOSEN AND TIGHTEN LEVELING SCREW	.03480	JOB	
13	PWMU-1-8100	MEASURE, MARK AND CUT FILLER PANEL	.00202 .07993	JOB JOB	
14	PWMU-1-8010	INSTALL FILLER PANEL	.03930	JOB	
15	PWMU-1-8010	INSTALL WEATHER STRIPPING	.03930	JOB	
16	PWMU-1-8003	INSTALL CAULKING	.01200	JOB	
17	PWMU-1-8010	INSTALL PLUG	.01310	JOB	
18	PWMU-1-8000	SECURE PANELS TO WINDOW	.00900	JOB	
19	4211	CHECK OPERATION OF UNIT	.58400	JOB	
20	5607	ADJUST UNIT	.10200	JOB	
21	PHA-3-I	MATERIAL HANDLING	.13012	JOB	
VT-24 2.23044 HRS PER JOB					

VT-25 CLEAN SHELL AND TUBE WATER COOLED CONDENSER OR CHILLED WATER EVAPORATOR (100 TO 200 TON SYSTEM). --INCLUDES DRAIN AND FILL; REMOVE AND INSTALL END PLATES; PUNCH CLEAN TUBES; FABRICATE AND INSTALL GASKETS.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMQ-19-VIII	REMOVE AND INSTALL PILLING PIPE	.54868	JOB	
2	PMQ-20-II	DRAIN AND FILL TUBES	.38000	JOB	
3	PMU-1-8552	REMOVE AND INSTALL NUT	1.00280	JOB	
4	PMN-10-XII	REMOVE AND INSTALL PLATE COVER	.71432	JOB	
5	PMV-13-I	PUNCH CLEAN TUBE UP TO 14" LONG, UP TO 1" O.D.	.02408 .74800	JOB JOB	
6	PMV-13-I	DRY TUBE WITH RAG	.02408 .74800	JOB JOB	
7	PMN-19-II	CUT 2 GASKETS UP TO 2 SQ. FT. EACH	.01564 .18308	JOB JOB	
8	PMN-19-K5	MARK AND PUNCH 32 HOLES IN GASKET	.00201 .23648	JOB JOB	
9	PMU-1-8010	INSTALL GASKETS	.02620	JOB	
10	PMA-3-II	MATERIAL HANDLING	.41436	JOB	

VT-25 = 5.06972 HRS PER JOB

VT-26 SEASONAL (FALL) OPERATION--SHUT DOWN AIR HANDLING UNIT; COOLING ONLY.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.28480	JOB	
2	PMU-1-8012	REMOVE AND INSTALL PANEL	.03360	JOB	
3	PMG-40-XI	SENSORY INSPECT BEARINGS	.08420	JOB	
4	PMG-40-I	GREASE BEARINGS	.03025	JOB	
5	PMG-40-XIII	FILL OUT INSPECTOR REPORT	.01375	JOB	
6	5603	TURN SWITCH OFF	.02100	JOB	

VT-26 = .46960 HRS PER JOB

VT-27 SEASONAL (FALL) OPERATION--SHUT DOWN COMPRESSOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-1-VIII	PREPARE AND PUMP DOWN SYSTEM INTO RECEIVER	.40880	JOB	
2	4205	CHECK SYSTEM FOR LEAKS AND NOTE	.06300	JOB	
3	5603	TURN SWITCH OFF	.02100	JOB	
4	PMG-40-XII	FILL OUT INSPECTOR'S REPORT	.01185	JOB	

VT-27 = .49665 HRS PER JOB

VT-28

CLEAN SHELL AND TUBE CONDENSER OR CHILLED WATER
EVAPORATOR (300 TO 400 TON SYSTEM).
--INCLUDES DRAIN AND FILL REMOVE AND INSTALL END
PLATES; PUNCH AND CLEAN TUBES; FABRICATE AND
INSTALL GASKETS.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWC-19-VICI	REMOVE AND INSTALL PIPE FITTINGS	.54868	JOB	
2	PWC-19-II	DRAIN AND FILL TUBES	.68400	JOB	
3	PWPU-1-8552	REMOVE AND INSTALL NUT	1.13360	JOB	
4	PWN-19-KII	REMOVE AND INSTALL COVER PLATE	.71432	JOB	
5	PWV-19-II	PUNCH CLEAN TUBE UP TO 25' LONG, UP TO 1" O.D.	.02409 2.31000	JOB JOB	
6	PWV-19-II	DRY TUBE WITH RAG	.02400 2.31000	JOB JOB	
7	PWN-19-II	CUT 2 GASKETS OVER 2 SQ. FT.	.01944 .18308	JOB JOB	
8	PWN-19-KS	MARK AND PUNCH 32 HOLES IN GASKET	.00201 .23648	JOB JOB	
9	PWPU-1-8010	INSTALL GASKET	.02620	JOB	
10	PWA-9-II	MATERIAL HANDLING	.41436	JOB	
VT-28 =			8.62852 HRS PER JOB		

VT-29

SEASONAL (FALL) OPERATION--SHUT DOWN EVAPORATIVE
CONDENSER OR METAL COOLING TOWER (100 TO 199 TON
AIR CONDITIONING SYSTEM)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWPU-1-8000	REMOVE AND INSTALL SCREW	.21360	JOB	
2	PWPU-1-8011	REMOVE AND INSTALL PANEL	.14640	JOB	
3	PWG-40-KI	SENSORY INSPECT BEARINGS	.08420	JOB	
4	2140	DRAIN WATER	.49000	JOB	
5	5603	TURN SWITCH OFF	.02100	JOB	
6	PWG-40-KII	FILL OUT INSPECTOR REPORT	.01105	JOB	
VT-29 =			.96705 HRS PER JOB		

VT-30 SEASONAL (FALL) OPERATION--SHUT DOWN EVAPORATOR,
CONDENSER OR METAL COOLING TOWER (3 TO 99 TON
SYSTEM).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL SCREWS	.10680	JOB	
2	PMU-1-8011	REMOVE AND INSTALL PANEL	.07320	JOB	
3	PMG-40-XI	SENSORY INSPECT BEARINGS	.08420	JOB	
4	2148	DRAIN WATER	.07350	JOB	
5	PMG-40-XIII	FILL OUT INSPECTOR REPORT	.01375	JOB	
6	5603	TURN SWITCH OFF	.02100	JOB	

VT-30 = .37245 HRS PER JOB

VT-31 SEASONAL (FALL) OPERATION--SHUT DOWN AIR COOLED
CONDENSER PER PAN ASSEMBLY.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.14240	JOB	
2	PMU-1-8011	REMOVE AND INSTALL PANEL	.07320	JOB	
3	PMG-40-XI	SENSORY INSPECT BEARINGS	.08420	JOB	
4	PMG-40-XIII	FILL OUT INSPECTOR REPORT	.01375	JOB	
5	5603	TURN OFF SWITCH	.02100	JOB	

VT-31 = .33455 HRS PER JOB

VT-32 SEASONAL (FALL) OPERATION--SHUT DOWN WOOD COOLING
TOWER (200-299 TON) OR METAL COOLING TOWER (100-
199 TON).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.28480	JOB	
2	PMU-1-8011	REMOVE AND INSTALL SCREEN	.29280	JOB	
3	PMG-40-XI	SENSORY INSPECT BEARINGS AND GEAR BOXES	.50520	JOB	
4	PMV-2-IV	PREPARE TOWER TO DRAIN	.08732	JOB	
5	5603	TURN OFF POWER	.02100	JOB	
6	PMG-40-XIII	FILL OUT INSPECTOR REPORT	.01375	JOB	

VT-32 = 1.20487 HRS PER JOB

VT-33 SEASONAL (FALL) OPERATION--SHUT DOWN WOOD COOLING
TOWER (25-199 TON) OR METAL COOLING TOWER
(3-99 TON).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWU-1-8000	REMOVE AND INSTALL SCREW	.14240	JOB	
2	PWU-1-8011	REMOVE AND INSTALL SCREEN	.14440	JOB	
3	PWG-40-XI	SENSORY INSPECT BEARING AND GEAR BOXES	.25240	JOB	
4	PWY-2-IV	PREPARE TOWER TO DRAIN	.08732	JOB	
5	5403	TURN OFF POWER	.02100	JOB	
6	PWG-40-XIII	FILL OUT INSPECTOR REPORT	.01375	JOB	

VT-33 = .66347 HRS PER JOB

VT-34 SEASONAL (FALL) OPERATION--SHUT DOWN PACKAGE UNIT
(10-49 TON).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWU-1-8000	REMOVE AND INSTALL SCREW	.10680	JOB	
2	PWU-1-8011	REMOVE AND INSTALL PANEL	.07320	JOB	
3	PWY-1-VIII	PREPARE AND RUN COMPRESSOR TO PUMP DOWN INTO RECEIVER	.40080	JOB	
4	PWG-40-XI	SENSORY INSPECT BEARINGS	.12630	JOB	
5	5403	TURN POWER OFF	.02100	JOB	
6	PWG-40-XIII	FILL OUT INSPECTOR REPORT	.01375	JOB	

VT-34 = .74185 HRS PER JOB

VT-35 SEASONAL (FALL) OPERATION--SHUT DOWN WINDOW AIR
CONDITIONING UNIT

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	3842	WALK AROUND WORK AREA TO DIFFERENT LOCATION	.01500	JOB	
2	2581	LOCATE UNIT IN COMPARTMENT AND VISUALLY INSPECT	.00464	JOB	
3	2389	TURN OFF SWITCH	.00103	JOB	
4	2235	UNPLUG UNIT FROM POWER SOURCE	.00099	JOB	
5	2648	TIE UP ELECTRICAL CORD	.00185	JOB	
6	PWU-1-8052	INSTALL, ASCEND, DESCEND AND REMOVE STEP LADDER	.02070	JOB	
7	5523	OBTAIN AND ASIDE COVER AND ROLL OF TAPE	.01486	JOB	
8	PWU-1-8012	PLACE COVER OVER UNIT	.00890	JOB	
9	4818	TAPE EDGES OF COVER	.10450	JOB	
10	PWG-40-XII	FILL OUT RECORD SHEET	.01185	JOB	

VT-35 = .12432 HRS PER JOB

RECURRING MAINTENANCE--WINDOW AIR CONDITIONING
UNIT

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.08900	JOB	
2	PWMU-1-8021	REMOVE AND INSTALL PANEL	.04900	JOB	
3	PWG-40-XI	SENSORY INSPECT BEARINGS	.08420	JOB	
4	PWMU-1-9010	REMOVE AND INSTALL DISPOSABLE FILTER	.01310	JOB	
5	PWG-40-XII	FILL OUT INSPECTION REPORT	.01185	JOB	
VT-36 = .24715 HRS PER JOB					

RECURRING MAINTENANCE--PACKAGE-TYPE AIR CONDITION-
ING SYSTEM (10-49 TON).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.21360	J09	
2	PWMU-1-8011	REMOVE AND INSTALL PANEL	.14640	J08	
3	PWG-40-I	GREASE BLOWER BEARING FITTINGS	.02420	J08	
4	PWG-40-II	LUBRICATE OIL CUP	.03516	J09	
5	PWG-40-X	SENSORY INSPECT MOTOR	.02193	J08	
6	PWG-40-XI	SENSORY INSPECT BLOWER	.04210	J08	
7	PWMU-1-8020	WIPE COMPRESSOR AND MOTOR	.16880	J08	
8	PWMU-1-8032	INSPECT SIGHT GLASS	.00790	J08	
9	4210	INSPECT FOR LEAKS	.22500	J09	
10	PWMU-1-8021	REMOVE AND INSTALL DISPOSABLE FILTER	.09800	J09	
11	5607	ADJUST FAN ASSEMBLY MOTOR PULLEY	.10200	J09	
12	PWN-3-VII	ADD OIL TO CRANKCASE	.07887 .02896	J03 J08	
13	PWG-40-XIII	FILL OUT INSPECTION REPORT	.01375	J06	

VT-37 = 1.20667 HRS PER J09

RECURRING MAINTENANCE--AIR HANDLING UNIT(3-24 TON)
--INCLUDES INSPECT, LUBRICATE AND ADJUSTMENT

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V39
1	PMU-1-8000	REMOVE AND INSTALL SCREEN	.28480	J08	
2	PMU-1-8012	REMOVE AND INSTALL PANEL	.03560	J08	
3	PMG-40-41	SENSORY INSPECTION FAN MOTOR	.08420	J05	
4	PMG-40-41	GREASE BEARINGS	.02420	J03	
5	5604	ADJUST BELT TENSION	.07100	J03	
6	PMU-1-8010	REMOVE AND INSTALL DISPOSABLE FILTER	.05240	J08	
7	PMG-40-4111	FILL OUT INSPECTION REPORT	.01375	J05	
VT-32 = .56595 HRS PER JOB					

VT-39

RECURRING MAINTENANCE--AIR-COOLED CONDENSER: PER
PAN ASSEMBLY.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.24920	JOB	
2	PMU-1-8011	REMOVE AND INSTALL PANEL	.14440	JOB	
3	PMG-40-7	LUBRICATE BEARINGS	.02420	JOB	
4	S607	ADJUST BELT TENSION	.10200	JOB	
5	PMG-40-XI	SENSORY INSPECT PAN AND MOTOR	.08420	JOB	
6	PMG-40-XII	FILL OUT INSPECTOR REPORT	.01180	JOB	

VT-39 = .61785 HRS PER JOB

VT-40

RECURRING MAINTENANCE--EVAPORATIVE COOLER OR METAL
COOLING TOWER (3-24 TON).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.21360	JOB	
2	PMU-1-8011	REMOVE AND INSTALL PANEL	.14440	JOB	
3	PMG-40-I	LUBRICATE BEARINGS, PAN, MOTORS, AND PUMP	.03630	JOB	
4	S607	ADJUST BELT TENSION	.10200	JOB	
5	S601	ADJUST FLOAT	.04000	JOB	
6	PMG-40-XI	SENSORY INSPECT BEARINGS	.12630	JOB	
7	PMG-40-XIII	FILL OUT INSPECTOR REPORT	.01375	JOB	

VT-40 = .67835 HRS PER JOB

VT-41 RECURRING MAINTENANCE--AIR OR WATER-COOLED PACKAGE
TYPE/SELF-CONTAINED AIR CONDITIONING SYSTEM
(3-9 TON).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.21360	J08	
2	PWMU-1-8021	REMOVE AND INSTALL PANEL	.09800	J08	
3	PWG-40-I	GREASE BLOWER BEARING FITTING	.01815	J08	
4	PWG-40-II	LUBRICATE OIL CUP	.02344	J08	
5	PWG-40-X	SENSORY INSPECT FAN	.02193	J08	
6	PWG-40-XI	SENSORY INSPECT BLOWER	.04210	J08	
7	PWMU-1-8028	WIPE MOTOR AND CONDENSER	.16890	J08	
8	PWMU-1-8032	INSPECT SIGHT GLASS	.00790	J08	
9	4210	INSPECT FOR LEAKS	.07500	J08	
10	PWMU-1-8010	REMOVE AND INSTALL DISPOSABLE FILTER	.05240	J08	
11	PWG-40-XIII	FILL OUT INSPECTION REPORT	.01375	J08	

VT-41 = .73507 HRS PER J08

VT-42 RECURRING MAINTENANCE--COMPRESSOR--OPEN (CENTRAL
COMPRESSION) AIR CONDITIONING SYSTEM. (3-24 TON
SYSTEM)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8023	WIPE COMPRESSOR AND MOTOR	.16690	J08	
2	5607	ADJUST BELT TENSION	.10200	J08	
3	PWMU-1-8032	INSPECT SIGHT GLASS AND GAGES	.02370	J08	
4	PWG-40-I	LUBRICATE BEARINGS	.01210	J08	
5	PWN-3-VII	ADD OIL	.07887	J08	
			.01448	J08	
6	4210	INSPECT FOR LEAKS	.07500	J08	
7	4211	CHECK FOR PROPER OPERATION	.29200	J08	
8	PWG-40-XIII	FILL OUT INSPECTION REPORT	.01375	J08	

VT-42 = .73070 HRS PER J08

VT-43

CLEAN AND LUBRICATE WINDOW AIR CONDITIONING UNIT.
 --INCLUDES REMOVE AND INSTALL PANELS CLEAN INSIDE
 CABINET; LUBRICATE BEARING; INSPECT FAN AND
 BLOWER; REPLACE DISPOSABLE FILTER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.08900	JOB	
2	PMU-1-8021	REMOVE AND INSTALL PANEL	.04900	JOB	
3	PMU-10-XII	PULL UNIT PARTIALLY INSIDE WINDOW AND SLIP BACK	.39716	JOB	
4	PMU-1-8028	CLEAN UNIT INSIDE CABINET	.08440	JOB	
5	PMG-40-I	GREASE BLOWER BEARING FITTING	.01210	JOB	
6	PMG-40-II	LUBRICATE OIL CUP	.02344	JOB	
7	PMG-40-X	SENSORY INSPECT FAN	.07193	JOB	
8	PMG-40-XI	SENSORY INSPECT BLOWER	.04210	JOB	
9	PMU-1-8010	REMOVE AND INSTALL DISPOSABLE FILTER	.02620	JOB	
10	PMU-9-II	MATERIAL HANDLING	.20718	JOB	

VT-43 = .91251 HRS PER JOB

VT-44

RECURRING MAINTENANCE--COMPRESSOR--OPEN (CENTRAL
 COMPRESSION) AIR CONDITIONING SYSTEM (25 TON AND
 OVER SYSTEM)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8028	WIPE COMPRESSOR AND MOTOR	.16000	JOB	
2	8408	CHECK MOTOR ALIGNMENT AND ADJUST	.10000	JOB	
3	PMU-1-8032	INSPECT SIGHT GLASS AND GAUGES	.03160	JOB	
4	PMG-40-I	LUBRICATE BEARINGS	.03630	JOB	
5	PMU-3-VII	ADD OIL	.07887 .01440	JOB JOB	
6	PMQ-20-II	DRAIN AIR TANK	.01920	JOB	
7	4210	INSPECT FOR LEAKS	.15000	JOB	
8	4211	CHECK FOR PROPER OPERATION	.29200	JOB	
9	PMG-40-XIII	FILL OUT INSPECTOR REPORT	.01375	JOB	

VT-44 = .98900 HRS PER JOB

VT-45 RECURRING MAINTENANCE--EVAPORATIVE CONDENSER OR
METAL COOLING TOWER (25 TON AND OVER AIR CONDIT-
IONING SYSTEM)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.32040	JOB	
2	PMU-1-8011	REMOVE AND INSTALL PANEL	.29280	JOB	
3	PMU-40-I	LUBRICATE BEARINGS, FAN, MOTOR AND PUMP	.07260	JOB	
4	5607	ADJUST BELT TENSION	.10200	JOB	
5	5601	ADJUST FLOAT	.04000	JOB	
6	PMU-40-XI	SENSORY INSPECT BEARINGS	.25260	JOB	
7	PMU-40-XIII	FILL OUT INSPECTOR REPORT	.01375	JOB	

VT-45 = 1.09415 HRS PER JOB

VT-46 CLEAN, INSPECT, ADJUST AND LUBRICATE PACKAGE-TYPE/
SELF-CONTAINED AIR CONDITIONING SYSTEM (3-4* TON)
--INCLUDES REMOVE AND INSTALL PANELS; CLEAN
INTERIOR AND CENTRIFUGAL (SQUIRREL CAGE) FAN;
INSPECT; MAKE ADJUSTMENTS; LUBRICATE MOVING PARTS;
AND CHARGE SYSTEM.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.21360	JOB	
2	PMU-1-8011	REMOVE AND INSTALL PANEL	.14640	JOB	
3	PMU-40-I	LUBRICATE BLOWER BEARINGS	.02420	JOB	
4	PMU-40-II	LUBRICATE OIL CUP	.03516	JOB	
5	PMU-40-X	SENSORY INSPECT PUMP	.02193	JOB	
6	PMU-40-XI	SENSORY INSPECT BLOWER	.04210	JOB	
7	PMU-40-XXI	CLEAN SQUIRREL CAGE FAN	.25882	JOB	
8	PMU-1-8028	WIPE MOTOR AND COMPRESSOR	.16980	JOB	
9	PMU-1-8031	BRUSH COOLING COILS	.27400	JOB	
10	PMU-1-8032	INSPECT SIGHT GLASS	.00790	JOB	
11	4210	INSPECT FOR LEAKS	.22500	JOB	
12	PMU-1-8021	REMOVE AND INSTALL DISPOSABLE FILTER	.09800	JOB	
13	PMU-1-8011	REMOVE AND INSTALL BELT	.07320	JOB	
14	5607	ADJUST PULLEY	.10200	JOB	
15	VT-1	CHARGE PACKAGE-TYPE/SELF-CONTAINED AIR CONDITIONING SYSTEM REPAIR	.62145 .37890	JOB JOB	
16	VT-2	PUMP DOWN COMPRESSOR	.38220	JOB	
17	PMU-3-V	ADD OIL TO CRANKCASE	.02265 .02731	JOB JOB	
18	PMU-1-8031	CLEAN INTERIOR CABINET BY SCRAPING AND WIPING	.27400	JOB	

VT-46 = 3.39761 HRS PER JOB

VT-47 RECURRING MAINTENANCE--WOOD COOLING TOWER (25-99
TON AIR CONDITIONING SYSTEM)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.14240	JOB	
2	PWMU-1-8011	REMOVE AND INSTALL SCREEN	.14640	JOB	
3	PWG-40-IV	CLEAN PAN	.04911	JOB	
4	PWG-34-II	CLEAN, LUBRICATE, INSPECT AND ADJUST MOTOR	.04810	JOB	
5	PWG-40-VI	ADD OIL TO GEAR BOX	.01428	JOB	
6	PWMU-1-8003	REMOVE AND INSTALL GEAR BOX PLUG	.01780	JOB	
7	5607	ADJUST BELT TENSION	.10200	JOB	
8	PWG-40-I	LUBRICATE PAN AND PUMP	.03630	JOB	
9	PWG-40-XI	SENSORY INSPECT BEARINGS	.12630	JOB	
10	5601	ADJUST FLOAT ASSEMBLY	.04000	JOB	
11	PWG-40-XIII	FILL OUT INSPECTOR REPORT	.01375	JOB	

VT-47 = .73644 HRS PER JOB

VT-48 RECURRING MAINTENANCE--WOOD COOLING TOWER (500-999
TON AIR CONDITIONING SYSTEM)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.56960	JOB	
2	PWMU-1-8011	REMOVE AND INSTALL SCREEN	.29280	JOB	
3	PWG-40-IV	CLEAN PAN	.19644	JOB	
4	PWG-34-II	CLEAN, LUBRICATE, INSPECT AND ADJUST MOTOR	.19240	JOB	
5	PWMU-1-8000	REMOVE AND INSTALL GEAR BOX PLUG	.07120	JOB	
6	PWG-40-VI	ADD OIL TO GEAR BOX	.02854	JOB	
7	5607	ADJUST BELT TENSION	.40800	JOB	
8	PWG-40-I	LUBRICATE BEARINGS	.07260	JOB	
9	PWG-40-XI	SENSORY INSPECT BEARINGS	.25260	JOB	
10	5601	ADJUST FLOAT ASSEMBLY	.08000	JOB	
11	PWG-40-XIII	FILL OUT INSPECTOR REPORT	.05500	JOB	

VT-48 = 2.21919 HRS PER JOB

VT-49 CLEAN, INSPECT, ADJUST AND LUBRICATE AIR HANDLING UNIT (3-24 TON).
--INCLUDES REMOVE AND INSTALL PANELS; CLEAN CENTRIFUGAL (SQUIRREL CAGE) FAN, COOLING COILS AND AIR PLENUM; INSPECT; MAKE ADJUSTMENTS; LUBRICATE BEARINGS.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.28480	JOB	
2	PWMU-1-8012	REMOVE AND INSTALL PANEL	.03560	JOB	
3	PWG-40-XI	SENSORY INSPECTION SQUIRREL CAGE FAN AND MOTOR	.08420	JOB	
4	PWG-40-XXIV	CLEAN SQUIRREL CAGE FAN	.38763	JOB	
5	PWMU-1-8031	CLEAN COOLING COILS	.27400	JOB	
6	PWV-2-I	CLEAN AIR PLENUM	.18680 .02400	JOB JOB	
7	PWG-40-I	GREASE FAN BEARINGS	.02420	JOB	
8	5674	ADJUST FAN MOTOR PULLEYS	.07100	JOB	

VT-49 = 1.37223 HRS PER JOB

VT-50 CLEAN, INSPECT, ADJUST, LUBRICATE AND CHANGE OIL IN COMPRESSOR IN OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM (3-24 TON)--INCLUDES WIPE COMPRESSOR AND MOTOR; INSPECT FOR LEAKS AND PROPER OPERATION; ADJUST BELTS; LUBRICATE MOTOR BEARING; DRAIN AND FILL CRANKCASE; AND CHARGE SYSTEM.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V36
1	PWMU-1-8028	WIPE COMPRESSOR AND MOTOR	.16980	JOB	
2	PWMU-1-8010	REMOVE AND INSTALL BELT	.02620	JOB	
3	5607	ADJUST BELT TENSION AND ALIGNMENT	.10200	JOB	
4	PWN-3-VII	DRAIN OIL FROM CRANKCASE	.07987 .01443	JOB JOB	
5	PWN-3-VII	FILL CRANKCASE WITH OIL	.07887 .01448	JOB JOB	
6	VT-2	PREPARE AND RUN TO PUMP DOWN	.38220	JOB	
7	PWMU-1-8032	INSPECT SIGHT GLASS	.00790	JOB	
8	VT-1	CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM	.62145 .03789	JOB JOB	
9	4210	INSPECT FOR LEAKS	.07500	JOB	
10	PWG-40-I	LUBRICATE MOTOR BEARINGS	.01210	JOB	
11	4211	CHECK FOR PROPER OPERATION	.29200	JOB	

VT-50 = 1.91224 HRS PER JOB

VT-31

CLEAN, INSPECT, ADJUST AND LUBRICATE AIR HANDLING UNIT (3-24 TON).
 --INCLUDES REMOVE AND INSTALL PANELS; CLEAN CENTRIFUGAL (SQUIRREL CAGE) FAN, COOLING AND HEATING COILS AND AIR PLENUM; INSPECT FAN AND MOTOR; ADJUST PULLEYS; LUBRICATE FAN BEARINGS.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PNMU-1-8000	REMOVE AND INSTALL SCREW	.28480	JOB	
2	PNMU-1-8012	REMOVE AND INSTALL PANEL	.03560	JOB	
3	PMG-40-XI	SENSORY INSPECTION SQUIRREL CAGE AND FAN AND MOTOR	.08420	JOB	
4	PMG-40-XXIV	CLEAN SQUIRREL CAGE FAN	.38763	JOB	
5	PNMU-1-8031	CLEAN COOLING AND HEATING COILS	.54800	JOB	
6	PMV-2-I	CLEAN AIR PLENUM (CLEAN AVG. OF 40 SQ. FT.)	.18680 .02400	JOB JOB	
7	PMG-40-I	GREASE FAN BEARINGS	.02420	JOB	
8	5607	ADJUST FAN MOTOR PULLEYS	.10200	JOB	

VT-31 = 1.67722 HRS PER JOB

VT-32

CLEAN, INSPECT, ADJUST AND LUBRICATE AIR HANDLING UNIT (25-99 TON).
 --INCLUDES REMOVE AND INSTALL PANELS; CLEAN CENTRIFUGAL (SQUIRREL CAGE) FAN, COOLING COILS AND PLENUM; INSPECT FAN AND MOTOR; ADJUST PULLEYS; LUBRICATE FAN BEARINGS.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PNMU-1-8000	REMOVE AND INSTALL SCREW	.42720	JOB	
2	PNMU-1-8013	REMOVE AND INSTALL PANEL	.13860	JOB	
3	PMG-40-XI	SENSORY INSPECT SQUIRREL CAGE FAN AND MOTOR	.08420	JOB	
4	PMG-40-XXIV	CLEAN SQUIRREL CAGE FAN	.77526	JOB	
5	PNMU-1-8031	CLEAN COOLING COILS	1.23300	JOB	
6	PMV-2-I	CLEAN AIR PLENUM (AVG. OF 180 SQ. FT.)	.18680 .10800	JOB JOB	
7	PMG-40-I	GREASE FAN BEARINGS	.03025	JOB	
8	5607	ADJUST FAN MOTOR PULLEY	.10200	JOB	

VT-32 = 3.08531 HRS PER JOB

VT-53

CLEAN, INSPECT, ADJUST, LUBRICATE AND CHANGE OIL IN COMPRESSOR IN OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM (COVER 100 TON)--INCLUDES WIPE COMPRESSOR AND MOTOR; INSPECT FOR LEAKS AND SAFETY DEVICES; ADJUST MOTOR ALIGNMENT; LUBRICATE MOTOR BEARINGS; DRAIN AND FILL CRANKCASE; CHANGE SYSTEM; AND REMOVE AND INSTALL DRYER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8028	WIPE COMPRESSOR AND MOTOR	.16000	JOB	
2	5608	CHECK AND ADJUST MOTOR ALIGNMENT COUPLINGS	.18000	JOB	
3	PMG-40-I	LUBRICATE MOTOR AND COUPLING	.02420	JOB	
4	PMN-3-VII	DRAIN OIL FROM CRANKCASE	.07887 .02896	JOB JOB	
5	PMN-3-V	FILL CRANKCASE WITH OIL	.02269 .05462	JOB JOB	
6	VT-2	PREPARE AND RUN TO PUMP DOWN	.38220	JOB	
7	PMU-1-8032	INSPECT SIGHT GLASS	.01580	JOB	
8	VT-1	CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM REPAIR	.62145 1.89450	JOB JOB	
9	4210	CHECK FOR LEAKS	.19000	JOB	
10	4207	CHECK SAFETY DEVICES	.12600	JOB	
11	PMQ-20-II	DRAIN WATER FROM AIR TANK	.01520	JOB	
12	PMG-40-I	LUBRICATE AIR COMPRESSOR	.01210	JOB	
13	VT-15	REMOVE AND INSTALL DRYER	1.83999	JOB	
VT-53 = 5.42334 HRS PER JOB					

VT-54 CLEAN, INSPECT, ADJUST AND LUBRICATE WOOD COOLING TOWER (25-99 TON).
--INCLUDES REMOVE AND INSTALL PANELS; CLEAN INSIDE TOWER AND COMPONENTS WITH WATER HOSE, BRUSH AND/OR CLOTH; INSPECT PAN AND MOTOR; ADJUST MOTOR AND FLOAT; LUBRICATE PAN, MOTOR AND WATER PUMP.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.14240	JOB	
2	PWMU-1-8011	REMOVE AND INSTALL PANEL	.14640	JOB	
3	PWMU-1-8012	REMOVE AND INSTALL SLAT	.28480	JOB	
4	PWMU-1-8006	TIGHTEN FLANGE NUT	.05360	JOB	
5	PWV-2-I	CLEAN INSIDE TOWER WITH WATER HOSE	.18480 .13200	JOB JOB	
6	PWV-2-II	CLEAN INSIDE TOWER BY SCRAPING, BRUSHING AND WIPING	.82184 .67848	JOB JOB	
7	PWG-40-IV	CLEAN PAN	.04911	JOB	
8	PWG-40-I	LUBRICATE PAN	.01210	JOB	
9	PWG-36-II	CLEAN, LUBRICATE AND ADJUST MOTOR	.04810	JOB	
10	PWMU-1-8011	REMOVE AND INSTALL BELT	.07320	JOB	
11	PWMU-1-8028	CLEAN WATER PUMP	.06440	JOB	
12	PWG-40-I	LUBRICATE WATER PUMP	.01210	JOB	
13	PWMU-1-8013	REMOVE AND INSTALL FLOAT	.04620	JOB	
14	PWMU-1-8026	CLEAN FLOAT	.01640	JOB	
15	S601	ADJUST FLOAT	.04000	JOB	
16	PWV-2-IV	PREPARE TO CRAIN OR FILL TOWER	.08732	JOB	

VT-54 • 2.11524 HRS PER JOB

VT-55 CLEAN, INSPECT, ADJUST AND LUBRICATE AIR HANDLING UNIT (25-99 TON).
--INCLUDES REMOVE AND INSTALL PANELS; CLEAN CENTRIFUGAL (SQUIRREL CAGE) PAN, COOLING AND HEATING COILS AND AIR PLENUM; INSPECT PAN AND MOTOR; ADJUST PAN MOTOR PULLEYS AND LUBRICATE PAN BEARINGS.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.42720	JOB	
2	PWMU-1-8013	REMOVE AND INSTALL PANEL	.13860	JOB	
3	PWG-40-II	SENSORY INSPECT SQUIRREL CAGE PAN AND MOTOR	.08420	JOB	
4	PWG-40-III	CLEAN SQUIRREL CAGE PAN	.77524	JOB	
5	PWMU-1-8031	CLEAN COOLING AND HEATING COILS	2.46600	JOB	
6	PWV-2-I	CLEAN AIR PLENUM (AVG. 183 SQ. FT.)	.18600 .10800	JOB JOB	
7	PWG-40-I	GREASE PAN BEARINGS	.03025	JOB	
8	S607	ADJUST PAN MOTOR PULLEYS	.10200	JOB	

VT-55 • 4.31831 HRS PER JOB

VT-56		CLEAN, INSPECT, ADJUST AND LUBRICATE EVAPORATIVE CONDENSER OR METAL COOLING TOWER (3-9 TON). --INCLUDES REMOVE AND INSTALL PANELS; DRAIN AND FILL CONDENSER; CLEAN INSIDE CABINET AND COMPONENT WITH WATER HOSE, BRUSH AND/OR CLOTH; INSPECT MOTOR; ADJUST MOTOR AND FLOAT; LUBRICATE FAN AND MOTOR BEARINGS.		
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS V3
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.21362	JOB
2	PWMU-1-8011	REMOVE AND INSTALL PANEL	.14640	JOB
3	PWV-2-I	CLEAN INSIDE CABINET WITH HOSE (AVG. 48 SQ. FT.)	.18480 .02880	JOB JOB
4	PWV-2-II	CLEAN INSIDE CABINET BY SCRAPING, BRUSHING AND WIPING. (AVG. 20 SQ. FT.)	.02184 .20560	JOB JOB
5	PWG-40-XV	CLEAN SLOWER FAN	.04911	JOB
6	PdG-40-I	LUBRICATE FAN	.01210	JOB
7	PWG-34-II	CLEAN, LUBRICATE, INSPECT AND ADJUST MOTOR	.04810	JOB
8	PWMU-1-8011	REMOVE AND INSTALL BELT	.03660	JOB
9	PWMU-1-8028	CLEAN WATER PUMP	.08440	JOB
10	PWG-40-I	LUBRICATE WATER PUMP	.01210	JOB
11	PWMU-1-8013	REMOVE AND INSTALL SPRAY NOZZLE	.40200	JOB
12	PWMU-1-8026	CLEAN SPRAY NOZZLE	.16400	JOB
13	PWMU-1-8013	REMOVE AND INSTALL FLOAT	.04620	JOB
14	PWMU-1-8026	CLEAN FLOAT	.01640	JOB
15	S601	ADJUST FLOAT	.04000	JOB
16	PWG-20-II	DRAIN AND FILL CONDENSER	.22800	JOB
VT-56 =		.00204 HRS PER JOB		

VT-57		CLEAN, INSPECT, ADJUST AND LUBRICATE AIR HANDLING UNIT (100-250 TON). --INCLUDES REMOVE AND INSTALL PANELS; CLEAN CENTRIFUGAL (SQUIRREL CAGE) FAN AND MOTOR, COOLING COILS AND AIR PLENUM; INSPECT FAN AND MOTOR; ADJUST FAN MOTOR PULLEY; LUBRICATE FAN BEARINGS.		
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS V3I
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.56968	JOB
2	PWMU-1-8013	REMOVE AND INSTALL PANEL	.18480	JOB
3	PWG-40-XI	SENSORY INSPECT SQUIRREL CAGE FAN AND MOTOR	.08420	JOB
4	PWG-40-XIV	CLEAN SQUIRREL CAGE FAN	1.83756	JOB
5	PWMU-1-8031	CLEAN COOLING COILS	3.56200	JOB
6	PWV-2-I	CLEAN AIR PLENUM (AVG. OF 520 SQ. FT.)	.18680 .31200	JOB JOB
7	PWG-40-I	GREASE FAN BEARINGS	.03825	JOB
8	S607	ADJUST FAN MOTOR PULLEY	.10280	JOB
VT-57 =		6.86921 HRS PER JOB		

VT-58 CLEAN, INSPECT, ADJUST AND LUBRICATE AIR HANDLING UNIT (100-250 TON).
 --INCLUDES REMOVE AND INSTALL PANELS; CLEAN CENTRIFUGAL (SQUIRREL CAGE) FAN, COOLING AND HEATING COILS AND AIR PLENUM; INSPECT FAN AND MOTOR; ADJUST FAN MOTOR PULLEY; LUBRICATE FAN BEARINGS.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
00	*****	*****	*****	*****	
1	PWU-1-8000	REMOVE AND INSTALL SCREWS	.36960	JOB	
2	PWU-1-8013	REMOVE AND INSTALL PANEL	.19480	JOB	
3	PWC-40-II	SENSORY INSPECT SQUIRREL CAGE FAN AND MOTOR	.08420	JOB	
4	PWC-40-REV	CLEAN SQUIRREL CAGE FAN	1.83736	JOB	
5	PWU-1-8031	CLEAN COOLING AND HEATING COILS	7.12490	JOB	
6	PWV-2-I	CLEAN AIR PLENUM (AVG. OF 525 SQ. FT.)	.18680 .31200	JOB JOB	
7	PWC-40-I	GREASE FAN BEARINGS	.03020	JOB	
8	SC07	ADJUST FAN MOTOR PULLEY	.10200	JOB	

VT-58 = 10.43121 HRS PER JOB

VT-59 CLEAN, INSPECT, ADJUST AND LUBRICATE WOOD COOLING TOWER (300-999 TON).
 --INCLUDES REMOVE AND INSTALL PANELS; CLEAN INSIDE CP TOWER, FAN, MOTOR, WATER PUMP AND FLOAT WITH WATER HOSE, BRUSH AND/OR CLOTH; INSPECT; ADJUST MOTOR AND FLOAT; LUBRICATE FAN, MOTOR, WATER PUMP; ADD OIL TO GEAR BOX.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
00	*****	*****	*****	*****	
1	PWU-1-8000	REMOVE AND INSTALL SCREW	.14240	JOB	
2	PWU-1-8011	REMOVE AND INSTALL PANEL	.14640	JOB	
3	PWU-1-8012	REMOVE AND INSTALL SLAT	.28480	JOB	
4	PWU-1-8006	TIGHTEN PLANGE NUT	.09360	JOB	
5	PWV-2-I	CLEAN INSIDE CP TOWER WITH WATER HOSE	.18480 1.00800	JOB JOB	
6	PWV-2-II	CLEAN INSIDE CP TOWER BY SCRAPING, BRUSHING AND HIPING	.02104 7.71800	JOB JOB	
7	PWC-40-IV	CLEAN FAN	.14733	JOB	
8	PWC-40-I	LUBRICATE FAN	.01813	JOB	
9	PWC-34-II	CLEAN, LUBRICATE, AND ADJUST MOTOR	.14430	JOB	
10	PWU-1-8011	REMOVE AND INSTALL BELT	.07320	JOB	
11	PWU-1-8028	CLEAN WATER PUMP	.08440	JOB	
12	PWC-40-I	LUBRICATE WATER PUMP	.01210	JOB	
13	PWU-1-8013	REMOVE AND INSTALL FLOAT	.04620	JOB	
14	PWU-1-8026	CLEAN FLOAT	.01640	JOB	
15	SC01	ADJUST FLOAT	.04000	JOB	
16	PWV-2-IV	PREPARE TO DRAIN OR FILL TOWER	.17464	JOB	
17	PWU-1-8000	REMOVE AND INSTALL GEAR BOX PLUG	.09343	JOB	
18	PWC-40-VI	ADD OIL TO GEAR BOX	.02142	JOB	

VT-59 = 10.38938 HRS PER JOB

VT-60 RECURRING MAINTENANCE--INSPECT, ADJUST AND
LUBRICATE AIR HANDLING UNIT (25-250 TON SYSTEM)--
INCLUDES REMOVE AND INSTALL PANEL; INSPECT PAN AND
MOTOR; ADJUST BELT TENSION; LUBRICATE BEARINGS;
REPLACE FILTER; AND FILL OUT INSPECTION REPORT.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-0000	REMOVE AND INSTALL SCREW	.56460	JOB	
2	PMU-1-0012	REMOVE AND INSTALL PANEL	.07120	JOB	
3	PMG-40-II	SENSORY INSPECT PAN AND MOTOR	.08420	JOB	
4	PMG-40-I	GREASE BEARINGS	.03025	JOB	
5	5607	ADJUST BELT TENSION	.10200	JOB	
6	PMU-1-0010	REMOVE AND INSTALL DISPOSABLE FILTER	.15720	JOB	
7	PMG-40-III	FILL OUT INSPECTION REPORT	.91375	JOB	

VT-60 = 1.02020 HRS PER JOB

VT-61 CLEAN, LUBRICATE, ADJUST AND INSPECT EVAPORATIVE
CONDENSER OR METAL COOLING TOWER (25-49 TON SYS.)
-INCLUDES DRAINING AND FILLING.-- DOES NOT INCLUDE
ACID CLEANING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-0000	REMOVE AND INSTALL SCREW	.21360	JOB	
2	PMU-1-0011	REMOVE AND INSTALL PANEL	.21960	JOB	
3	PMV-2-I	CLEAN INSIDE CABINET WITH WATER HOSE	.10600	JOB	
			.04000	JOB	
4	PMV-2-II	CLEAN INSIDE OF CABINET BY SCRAPING, BRUSHING AND WIPING	.02104	JOB	
			.26720	JOB	
5	PMG-40-TRIV	CLEAN BLOWER PAN	.77526	JOB	
6	PMG-40-I	LUBRICATE BLOWER PAN	.02420	JOB	
7	PMG-34-II	CLEAN, LUBRICATE, INSPECT AND ADJUST MOTOR	.09620	JOB	
8	PMU-1-0011	REMOVE AND INSTALL BELT	.07320	JOB	
9	PMU-1-0029	CLEAN WATER PUMP	.08440	JOB	
10	PMG-40-I	LUBRICATE WATER PUMP	.01210	JOB	
11	PMU-1-0013	REMOVE AND INSTALL NOZZLES	1.38600	JOB	
12	PMU-1-0026	CLEAN NOZZLES	.49200	JOB	
13	PMU-1-0013	REMOVE AND INSTALL FLOAT	.04620	JOB	
14	PMU-1-0026	CLEAN PLJAT	.01640	JOB	
15	5601	ADJUST FLOAT	.04000	JOB	
16	PMU-1-0011	REMOVE AND INSTALL RAFFLE	.21960	JOB	
17	PMG-20-II	DRAIN AND FILL CONDENSER	.68400	JOB	

VT-61 = 4.89947 HRS PER JOB

VT-62 CLEAN, LUBRICATE, ADJUST AND INSPECT AIR-COOLED CONDENSER (3-24 TON AIR CONDITIONING SYSTEM)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.17800	JOB	
2	PMU-1-8011	REMOVE AND INSTALL PANEL	.14640	JOB	
3	PMV-2-I	CLEAN INSIDE CABINET WITH WATER HOSE	.18640 .91800	JOB JOB	
4	PMV-2-II	CLEAN INSIDE CP CABINET BY SCRAPING, BRUSHING AND WIPING	.02184 .20960	JOB JOB	
5	PMG-40-IV	CLEAN PAN	.04911	JOB	
6	PMG-40-I	LUBRICATE PAN	.01210	JOB	
7	PMG-34-II	CLEAN, LUBRICATE AND ADJUST MOTOR	.04810	JOB	
8	PMU-1-8011	REMOVE AND INSTALL BELT	.07320	JOB	
VT-62 • .93919 HRS PER JOB					

VT-63 CLEAN, LUBRICATE, ADJUST AND INSPECT EVAPORATIVE CONDENSER OR METAL COOLING TOWER (100-199 SYSTEM) -INCLUDES DRAINING AND FILLING.-- DOES NOT INCLUDE ACID CLEAN.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMU-1-8000	REMOVE AND INSTALL SCREW	.32640	JOB	
2	PMU-1-8011	REMOVE AND INSTALL PANEL	.29280	JOB	
3	PMV-2-I	CLEAN INSIDE CABINET WITH WATER HOSE	.18680 .12000	JOB JOB	
4	PMV-2-II	CLEAN INSIDE CABINET BY SCRAPING, BRUSHING AND WIPING	.02184 .63736	JOB JOB	
5	PMG-40-IXIV	CLEAN BLOWER PAN	1.93815	JOB	
6	PMG-40-I	LUBRICATE PAN	.06050	JOB	
7	PMG-34-II	CLEAN, LUBRICATE AND ADJUST MOTOR	.04810	JOB	
8	PMU-1-8011	REMOVE AND INSTALL BELT	.14640	JOB	
9	PMU-1-8020	CLEAN WATER PUMP	.08440	JOB	
10	PMG-40-I	LUBRICATE WATER PUMP	.01210	JOB	
11	PMU-1-8013	REMOVE AND INSTALL NOZZLE	2.31000	JOB	
12	PMU-1-8026	CLEAN NOZZLE	.02000	JOB	
13	PMU-1-8013	REMOVE AND INSTALL FLOAT	.04620	JOB	
14	PMU-1-8026	CLEAN FLOAT	.01640	JOB	
15	5001	ADJUST FLOAT	.04000	JOB	
16	PMU-1-8011	REMOVE AND INSTALL BAPPLE	.36600	JOB	
17	PMQ-20-II	FILL AND DRAIN CONDENSER	1.92000	JOB	
VT-63 • 8.98744 HRS PER JOB					

VT-64 CLEAN, LUBRICATE, ADJUST AND INSPECT AIR-COOLED
CONDENSER (25-45 TON AIR CONDITIONING SYSTEM)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.24920	JOB	
2	PWMU-1-8011	REMOVE AND INSTALL PANEL	.14640	JOB	
3	PWV-1-I	CLEAN INSIDE OF CABINET WITH WATER	.18680 .06000	JOB JOB	
4	PWV-2-II	CLEAN INSIDE CABINET BY SCRAPING, BRUSHING AND WIPING	.02184 1.02800	JOB JOB	
5	PWG-40-IV	CLEAN PAN	.04911	JOB	
6	PWG-40-I	LUBRICATE PAN	.01210	JOB	
7	PWG-34-II	CLEAN, LUBRICATE AND ADJUST MOTOR	.04810	JOB	
8	PWMU-1-8011	REMOVE AND INSTALL BELT	.07320	JOB	
9	PWA-9-II	MATERIAL HANDLING	.41430	JOB	

VT-64 * 2.28911 HRS PER JOB

VT-65 REMOVE AND INSTALL 100-DISPOSABLE TYPE FILTERS
FROM OVERHEAD PLENUMS.--AVG. 10-PLENUMS PER 100
FILTERS. LADDER USE INCLUDED.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWMU-1-8000	REMOVE AND INSTALL WING NUT OR SCREW	1.06900	JOB	
2	PWMU-1-8022	REMOVE AND INSTALL PANEL	2.09600	JOB	
3	PWMU-1-8010	REMOVE AND INSTALL 100 DISPOSABLE FILTERS AVG. 10 PLENUMS PER 100 FILTERS	2.62000	JOB	
4	PWA-9-II	MATERIAL HANDLING	.20710	JOB	
5	PWMU-1-8052	GET, ASCEND, DESCEND, AND ASIDE LADDER	.20700	JOB	

VT-65 * 6.15810 HRS PER JOB

VT-66

PUNCH TUBES IN SHELL AND TUBE WATER-COOLED CONDENSER OR CHILLED WATER EVAPORATOR (700-800 TON SYS.) --INCLUDES DRAIN AND FILL, REMOVE AND INSTALL END PLATES, AND FABRICATE AND INSTALL GASKETS. USE LADDER OR SCAFFOLDING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMQ-19-VIII	REMOVE AND INSTALL PIPE FITTING	.54868	JOB	
2	PMQ-20-II	GRAIN AND FILL TUBES	1.82000	JOB	
3	PMU-1-8952	REMOVE AND INSTALL LARGE NUT	1.52600	JOB	
4	PMU-10-XIII	REMOVE AND INSTALL END PLATES	1.13560	JOB	
5	PMV-13-II	PUNCH CLEAN TUBE UP TO 12 FEET LONG	.02400 6.42200	JOB JOB	
6	PMV-13-II	GRY TUBE WITH RAG	.02400 6.42200	JOB JOB	
7	PMU-19-II	CUT 2 GASKETS	.01964 .10908	JOB JOB	
8	PMU-19-K5	PUNCH 32 HOLES IN GASKET	.00201 .23648	JOB JOB	
9	PMU-1-8022	INSTALL GASKET	.20560	JOB	
10	PMA-5-II	MATERIAL HANDLING	.41436	JOB	
11	PMU-1-8052	GET, ASCEND, DESCEND, AND ASIDE LADDER	.04140	JOB	
VT-66 = 14.72301 HRS PER JOB					

VT-67

REMOVE AND INSTALL VALVE PLATES ON COMPRESSOR IN OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	VT-2	RUN COMPRESSOR TO PUMPDOWN	.38220	JOB	
2	PMU-1-8952	REMOVE AND INSTALL COMPRESSOR HEAD BOLTS	.52320	JOB	
3	9519	REMOVE HEAD PLATE COVER	.65622	JOB	
4	PMU-1-8000	REMOVE AND INSTALL VALVE PLATE BOLTS	.28480	JOB	
5	9519	REMOVE VALVE PLATE	.05622	JOB	
6	8928	REMOVE AND INSTALL GASKET ON VALVE PLATE OR HEAD COVER	.09200	JOB	
7	2983	INSTALL VALVE PLATE OR HEAD COVER	.00832	JOB	
8	PMV-1-XVIII	PULL VACUUM ON SYSTEM	1.32348	JOB	
9	VT-1	CHARGE OPEN (CENTRAL COMPRESSION) AIR CONDITIONING SYSTEM	.62149 .37890	JOB JOB	
10	PMV-1-II	PUT SYSTEM INTO OPERATION	.95211	JOB	
VT-67 = 4.63889 HRS PER JOB					

VT-68 REMOVE AND INSTALL DOOR GASKET ON DOMESTIC REPRIG-
ERATOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8000	REMOVE AND INSTALL SCREWS	.78320	JOB	
2	PWMU-1-8021	REMOVE AND INSTALL DOOR PANEL	.04900	JOB	
3	PWMU-1-8011	REMOVE AND INSTALL GASKET	.07320	JOB	
4	9601	ADJUST PANEL AND GASKET TO MOLES	.16000	JOB	
5	9604	ALIGN AND ADJUST DOOR	.07100	JOB	
6	4208	CHECK DOOR FOR FIT	.04200	JOB	
7	PWMU-1-8027	CLEAN DOOR	.03590	JOB	

VT-68 = 1.21430 HRS PER JOB

VT-69 REMOVE AND INSTALL BELT ON WATER COOLER.--INCLUDES
REMOVE AND INSTALL ACCESS PANEL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8000	REMOVE AND INSTALL SCREW	.03560	JOB	
2	PWMU-1-8010	REMOVE AND INSTALL PANEL	.02620	JOB	
3	PWMU-1-8006	LOOSEN AND TIGHTEN BASE BOLTS	.05360	JOB	
4	PWMU-1-8010	REMOVE AND INSTALL BELT	.05240	JOB	
5	9600	ADJUST TENSION ON BELT	.05200	JOB	
6	PWMU-1-8005	PLUG AND UNPLUG UNIT	.00400	JOB	
7	4206	CHECK OPERATION	.00800	JOB	

VT-69 = .23180 HRS PER JOB

VT-70

SECURE SYSTEM; DRAIN AND FILL CRANKCASE; DISASSEMBLE AND ASSEMBLE; CLEAN; INSPECT; AND EVACUATE COMPRESSOR (10-25 TON AIR CONDITIONING SYSTEM) --DOES NOT INCLUDE PUMP DOWN, REMOVAL AND/OR INSTALLATION OF COMPRESSOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PMJ-14-1V	OPEN AND CLOSE VALVES	.03384	JOB	
2	PMU-1-8552	REMOVE AND INSTALL VALVE BOLTS	.17450	JOB	
3	PMU-1-8021	REMOVE AND INSTALL SERVICE VALVE AND GASKETS	.19600	JOB	
4	PMU-1-8552	REMOVE AND INSTALL DRAIN PLUG	.02180	JOB	
5	PMU-1-VCI	DRAIN AND FILL CRANK CASE	.07887 .02496	JOB JOB	
6	PMU-1-8552	REMOVE AND INSTALL HEAD BOLTS	.43600	JOB	
7	PMU-1-9011	REMOVE AND INSTALL PLATE AND GASKET	.14640	JOB	
8	PMU-1-8000	REMOVE AND INSTALL VALVE PLATE SCREW	.03560	JOB	
9	PMU-1-8021	REMOVE AND INSTALL VALVE PLATE AND GASKET	.09600	JOB	
10	PMU-1-8552	REMOVE AND INSTALL CASE PLATE BOLTS	.26160	JOB	
11	PMU-1-9011	REMOVE AND INSTALL CASE PLATE AND GASKET	.14640	JOB	
12	PMU-1-8552	REMOVE AND INSTALL SEAL PLATE BOLTS	.13080	JOB	
13	PMU-1-8011	REMOVE AND INSTALL FLYWHEEL SHAFT KEY	.07320	JOB	
14	PMU-1-8021	REMOVE AND INSTALL SEAL PLATE, BELLOW AND GASKET	.14700	JOB	
15	PMU-1-8013	REMOVE AND INSTALL SHAFT COLLAR	.04620	JOB	
16	PMU-1-8552	REMOVE AND INSTALL THRUST NUT	.02180	JOB	
17	PMU-1-8013	REMOVE AND INSTALL THRUST BEARING AND WASHERS	.09240	JOB	
18	PMU-1-8552	REMOVE AND INSTALL CONNECTING ROD BOLTS	.08720	JOB	
19	PMU-1-8010	REMOVE AND INSTALL BEARING CAP AND SHIMS	.10480	JOB	
20	PMU-1-8552	REMOVE AND INSTALL SEAL BEARING BOLTS	.17440	JOB	
21	PMU-1-8010	REMOVE AND INSTALL SEAL BEARING, PLATE AND GASKET	.07860	JOB	
22	PMU-1-8021	REMOVE AND INSTALL CRANKSHAFT	.04300	JOB	
23	PMU-1-8021	REMOVE AND INSTALL PISTON AND ROD ASSEMBLY	.09800	JOB	
24	PMU-1-8021	REMOVE AND INSTALL PISTON RINGS	.29400	JOB	
25	PMU-1-8021	REMOVE AND INSTALL WRIST PIN	.09800	JOB	
26	PMU-1-8027	CLEAN PARTS	.71800	JOB	
27	4201	INSPECT PARTS	.33600	JOB	
28	VT-2	CONNECT, OPERATE AND DISCONNECT VACUUM PUMP	.76440	JOB	
29	PMU-1-II	MATERIAL HANDLING	.20718	JOB	

VT-70 • 5.17824 HRS PER JOB

VT-71

SECURE SYSTEM; DRAIN AND FILL CRANKCASE; DISASSEMBLE AND ASSEMBLE; CLEAN; INSPECT; AND EVACUATE COMPRESSOR (30-100 TON AIR CONDITIONING SYSTEM) --DOES NOT INCLUDE PUMP DOWN, REMOVAL AND/OR INSTALLATION OF COMPRESSOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-14-IV	OPEN AND CLOSE SERVICE VALVES	.03384	JOB	
2	PMU-1-8552	REMOVE AND INSTALL SERVICE VALVE BOLTS	.17440	JOB	
3	PMU-1-8021	REMOVE AND INSTALL VALVE AND GASKET	.19600	JOB	
4	PMU-1-8552	REMOVE AND INSTALL DRAIN PLUG	.02180	JOB	
5	PMU-3-VII	DRAIN AND REFILL CRANKCASE	.37887 .02895	JOB JOB	
6	PMU-1-8552	REMOVE AND INSTALL HEAD BOLTS	1.30800	JOB	
7	PMU-1-8011	REMOVE AND INSTALL HEAD AND GASKET	.43320	JOB	
8	PMU-1-8000	REMOVE AND INSTALL VALVE PLATE SCREW	.10680	JOB	
9	PMU-1-8021	REMOVE AND INSTALL VALVE PLATE AND GASKET	.23400	JOB	
10	PMU-1-8552	REMOVE AND INSTALL BASE PLATE BOLTS	.91560	JOB	
11	PMU-1-8011	REMOVE AND INSTALL BASE PLATE AND GASKET	.14640	JOB	
12	PMU-1-8552	REMOVE AND INSTALL SEAL PLATE BOLT	.17440	JOB	
13	PMU-1-8011	REMOVE AND INSTALL PLYWHEEL SHAFT KEY	.37320	JOB	
14	PMU-1-8021	REMOVE AND INSTALL SEAL PLATE, BELLINGS, AND GASKET	.14700	JOB	
15	PMU-1-8013	REMOVE AND INSTALL SHAFT COLLAR	.74620	JOB	
16	PMU-1-8552	REMOVE AND INSTALL THRUST NUT	.02190	JOB	
17	PMU-1-8013	REMOVE AND INSTALL THRUST BEARING AND WASHER	.09240	JOB	
18	PMU-1-8552	REMOVE AND INSTALL CONNECTING ROD BOLTS	.26160	JOB	
19	PMU-1-8010	REMOVE AND INSTALL BEARING CAP AND SHIM	.31440	JOB	
20	PMU-1-8552	REMOVE AND INSTALL SEAL BEARING BOLTS	.26160	JOB	
21	PMU-1-8010	REMOVE AND INSTALL SEAL BEARING, PLATE AND GASKET	.37860	JOB	
22	PMU-1-8021	REMOVE AND INSTALL CRANKSHAFT	.04900	JOB	
23	PMU-1-8021	REMOVE AND INSTALL PISTON AND ROD ASSEMBLY	.29400	JOB	
24	PMU-1-8013	REMOVE AND INSTALL PISTON RINGS	.83160	JOB	
25	PMU-1-8013	REMOVE AND INSTALL WRIST PIN	.27720	JOB	
26	PMU-1-8027	CLEAN PARTS	1.00520	JOB	
27	4201	INSPECT PARTS	.57600	JOB	
28	VT-2	CONNECT, OPERATE AND DISCONNECT VACUUM PUMP	.76440	JOB	
29	PMU-3-II	MATERIAL HANDLING	.31877	JOB	
VT-71 = 9.32323 HRS PER JOB					

VT-72

REPLACE SEALS AND BEARINGS IN WATER PUMP WITH
3-HP MOTOR.
--INCLUDES SECURE SYSTEM; REMOVE AND INSTALL PUMP;
DISASSEMBLE AND ASSEMBLE; ACTIVATE SYSTEM.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWU-1-8005	TURN POWER OFF AND ON	.00400	JOB	
2	PNQ-14-IV	CLOSE AND OPEN VALVES	.03384	JOB	
3	PWU-1-8552	REMOVE AND INSTALL DRAIN PLUG	.02180	JOB	
4	PWU-1-8012	SECURE WATER LINES IN POSITION	.03560	JOB	
5	PWU-1-8552	REMOVE AND INSTALL STRAINER SECTION	.17440	JOB	
6	PWU-1-8552	REMOVE AND INSTALL SHOCK ABSORBER	.17440	JOB	
7	PWU-1-8000	REMOVE AND INSTALL BOLTS IN HOUSING	.17800	JOB	
8	PWU-1-8011	REMOVE AND INSTALL HOUSING AND GASKET	.14440	JOB	
9	PWU-1-8552	REMOVE AND INSTALL MOUNTING BOLTS	.08720	JOB	
10	PWU-1-8004	LOOSEN AND TIGHTEN COUPLING SCREWS	.02480	JOB	
11	PWU-1-8013	REMOVE AND INSTALL COUPLING	.04420	JOB	
12	PWU-1-8552	REMOVE AND INSTALL IMPELLER NUT	.02180	JOB	
13	PWU-1-8021	REMOVE AND INSTALL IMPELLER	.04900	JOB	
14	PWU-1-8013	REMOVE AND INSTALL SEALS	.09240	JOB	
15	PWU-1-8552	REMOVE AND INSTALL BEARING BOLTS	.13080	JOB	
16	PWU-1-8011	REMOVE AND INSTALL SHAFT BEARINGS	.14440	JOB	
17	PWA-3-II	MATERIAL HANDLING	.20710	JOB	
VT-72 = 1.57622 HRS PER JOB					

VT-73

REMOVE AND INSTALL CENTRIFUGAL (SQUIRREL CAGE)
PAN AND MOTOR

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWV-3-I	REMOVE AND INSTALL CENTRIFUGAL (SQUIRREL CAGE) PAN	.23983	JOB	
2	PWV-3-II	REMOVE AND INSTALL DOUBLE CENTRIFUGAL (SQUIRREL CAGE) PANS	.42367	JOB	
3	PWV-3-III	REMOVE AND INSTALL CENTRIFUGAL PAN MOTOR	1.05927	JOB	
4	PWU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.01700	JOB	
5	PWA-3-II	MATERIAL HANDLING	.10359	JOB	
VT-73 = 1.84336 HRS PER JOB					

VT-74 REMOVE AND INSTALL AIR COOLING UNIT PROPELLER TYPE
FAN AND MOTOR

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-3-IV	REMOVE AND INSTALL FAN MOTOR	1.29409	JOB	
2	PMV-3-V	REMOVE AND INSTALL FAN	.51312	JOB	
3	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.01700	JOB	
4	PWA-5-II	MATERIAL HANDLING	.10359	JOB	

VT-74 = 1.92780 HRS PER JOB

VT-75 REMOVE AND INSTALL FAN AND MOTOR IN WATER TOWER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-3-VI	REMOVE AND INSTALL FAN MOTOR	2.34273	JOB	
2	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.08500	JOB	
3	PWA-5-II	MATERIAL HANDLING	.10359	JOB	

VT-75 = 2.53132 HRS PER JOB

VT-76 REMOVE WINDOW AIR CONDITIONER (UP TO 1/2 TON)
FROM RAISABLE WINDOW

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	2235	UNPLUG UNIT	.00099	JOB	
2	2648	TIE UP ELECTRICAL CORD	.00185	JOB	
3	PMU-1-8005	RAISE AND LOWER WINDOW	.00400	JOB	
4	PMU-1-8010	REMOVE WEATHERSTRIPPING	.01310	JOB	
5	PMU-1-8010	REMOVE FILLER PANEL	.02620	JOB	
6	PMU-1-8553	LOOSEN LEVELING SCREW	.01740	JOB	
7	PMU-1-8021	REMOVE UNIT FROM WINDOW	.02450	JOB	
8	PWA-5-II	MATERIAL HANDLING	.20718	JOB	
9	PMU-1-8052	GET, ASCEND, DESCEND, AND ASIDE LADDER	.02070	JOB	
10	PMG-40-KII	FILL OUT RECORD SHEET	.01185	JOB	

VT-76 = .32777 HRS PER JOB

VT-77 INSTALL WINDOW AIR CONDITIONER (UP TO 1/2 TON)
 IN RAISABLE WINDOW

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8005	RAISE AND LOWER WINDOW	.00400	JOB	
2	PWMU-1-8021	REMOVE UNIT FROM CARTON	.02450	JOB	
3	PWMU-1-8021	POSITION UNIT IN WINDOW	.02450	JOB	
4	PWMU-1-8552	INSTALL LEVELING ARM	.08720	JOB	
5	PWMU-1-8553	ADJUST AND TIGHTEN LEVELING SCREW	.01740	JOB	
6	PWMU-1-8010	INSTALL FILLER PANEL	.02620	JOB	
7	PWMU-1-8010	INSTALL WEATHERSTRIPPING	.01310	JOB	
8	2234	PLUG IN UNIT	.00125	JOB	
9	4211	CHECK OPERATION	.29200	JOB	
10	PWA-5-II	MATERIAL HANDLING	.20710	JOB	

VT-77 = .69733 HRS PER JOB

VT-200 ASSIST BOILER INSPECTOR IN EXTERNAL INSPECTION OF
 FIRE TUBE BOILER, 3,348 TO 6,696 LB./HR. (100 TO
 200 MP)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-14-I	EXTERNALLY INSPECT FIRE TUBE BOILER	.38283	JOB	

VT-200 = .38283 HRS PER JOB

VT-201 ASSIST BOILER INSPECTOR IN EXTERNAL INSPECTION OF
 WATER TUBE BOILER, 16,740 TO 33,480 LB./HR. (500
 TO 1000 MP)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-14-II	EXTERNALLY INSPECT WATER TUBE BOILER	.46372	JOB	

VT-201 = .46372 HRS PER JOB

VT-202 ASSIST BOILER INSPECTOR IN INTERNAL INSPECTION OF
 FIRE TUBE BOILER, 3,348 TO 6,696 LB./HR. (100 TO
 200 MP)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-14-III	INTERNALLY INSPECT FIRE TUBE BOILER	.67065	JOB	

VT-202 = .67065 HRS PER JOB

VT-203 ASSIST BOILER INSPECTOR IN INTERNAL INSPECTION OF
WATER TUBE BOILER, 16,740 TO 33,480 LB./HR. (500
TO 1000 HP)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-14-IV	INTERNALLY INSPECT WATER TUBE BOILER	1.42617	JOB	

VT-203 = 1.42617 HRS PER JOB

VT-204 ASSIST BOILER INSPECTOR IN OPERATIONAL TEST OF
FIRE TUBE BOILER, 3,348 TO 6,696 LB./HR. (100 TO
200 HP)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-14-VII	TEST OPERATION OF FIRE TUBE BOILER	.53314	JOB	

VT-204 = .53314 HRS PER JOB

VT-205 ASSIST BOILER INSPECTOR IN OPERATIONAL TEST OF
WATER TUBE BOILER, 16,740 TO 33,480 LB./HR. (500
TO 1000 HP)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-14-VIII	TEST OPERATION OF WATER TUBE BOILER	.97561	JOB	

VT-205 = .97561 HRS PER JOB

VT-206 ASSIST BOILER INSPECTOR IN HYDROSTATIC INSPECTION
OF FIRE TUBE BOILER, 3,348 TO 6,696 LB./HR. (100
TO 200 HP)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-14-V	HYDROSTATIC INSPECT FIRE TUBE BOILER	1.48028	JOB	

VT-206 = 1.48028 HRS PER JOB

VT-207 ASSIST BOILER INSPECTOR IN HYDROSTATIC INSPECTION
OF WATER TUBE BOILER, 16,740 TO 33,480 LB./HR.
(500 TO 1000 HP)

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-14-VI	HYDROSTATIC INSPECT WATER TUBE BOILER	2.43572	JOB	

VT-207 = 2.43572 HRS PER JOB

NY-100 • 1-01348 W42 FEB 1960

77-200 - 1,00900 -001 000 100

WT-210 • 2.52174 PLS PER JCS

VT-211 • 6.32561 MRS PER JOI

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	W
1	PMW-11-II	OPEN OR CLOSE FIRE BOX DOOR	.09100	JOB	

VT-213 * .09100 MRS PER JOB

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V'
1	WT-214	REMOVE OR INSTALL ASM PIT DOOR ON FIRE TUBE OR WATER TUBE BOILER	.09180	JOB	
WT-214 = .09180 MRS PER JOB					

VT-215		REMOVE OR INSTALL ACCESS PASS DOOR ON FIRE TUBE OR WATER TUBE BOILER		
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS
01	PUV-11-11	OPEN OR CLOSE ACCESS PASS DOOR	.09100	JOB
VT-215 =		.09100 MRS PER JOB		

79

VT-217 REMOVE OR INSTALL SUPERHEATER DOOR ON WATER TUBE BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
00	*****	*****	*****	*****	*****
1	PWN-10-11	INSTALL OR REMOVE SUPERHEATER DOOR	.09414	JOB	

VT-217 * .09414 HRS PER JOB

VT-218 REMOVE OR INSTALL PRECIPITATOR DOOR ON WATER TUBE BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
00	*****	*****	*****	*****	*****
1	PWN-10-12	REMOVE OR INSTALL DOOR BOLTS	.25536	JOB	
2	PWN-10-13	REMOVE OR INSTALL DOOR BOLTS	.25536	JOB	
3	PWN-10-VIII	REMOVE OR INSTALL STEEL PLATE	.06863	JOB	
4	PWHL-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.00175	JOB	

VT-218 * .58110 HRS PER JOB

VT-219 REMOVE OR INSTALL ACCESS DOOR ON FIRE TUBE OR WATER TUBE BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
00	*****	*****	*****	*****	*****
1	PWV-11-II	OPEN OR CLOSE ACCESS DOOR	.09180	JOB	

VT-219 * .09180 HRS PER JOB

VT-220 REMOVE OR INSTALL CLEAN OUT DOOR ON FIRE TUBE OR WATER TUBE BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
00	*****	*****	*****	*****	*****
1	PWV-11-VIII	REMOVE OR INSTALL CLEAN OUT DOOR	.02538	PLUG	

VT-220 * .02538 HRS PER PLUG

VT-221 REMOVE OR INSTALL PREPHOLE DOOR ON FIRE TUBE OR WATER TUBE BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
00	*****	*****	*****	*****	*****
1	PWV-11-VIII	REMOVE OR INSTALL PREPHOLE DOOR	.02538	PLUG	

VT-221 * .02538 HRS PER PLUG

VT-222 REMOVE OR INSTALL BOLTED INSPECTION PLATES ON PIPE
TUBE OR WATER TUBE BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PWN-11-IV	REMOVE OR INSTALL INSPECTION PLATES (BOLTED)	.09723	COVER	

VT-222 * .09723 HRS PER COVER

VT-223 REMOVE OR INSTALL STEEL SHEET STRIP ON PIPE TUBE
OR WATER TUBE BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PWN-10-VI	REMOVE OR INSTALL STEEL SHEET STRIP	.01265	JOB	

VT-223 * .01265 HRS PER JOB

VT-224 REMOVE OR INSTALL FIREBRICK TOP INSULATION ON BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PWN-10-IX	REMOVE OR INSTALL FIREBRICK TOP INSULATION	.00165	JOB	

VT-224 * .00165 HRS PER JOB

VT-225 REMOVE OR INSTALL FIREBRICK TOP ON BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PWN-10-X	REMOVE OR INSTALL FIREBRICK TOP	.03618	JOB	

VT-225 * .03618 HRS PER JOB

VT-226 REMOVE OR INSTALL FIREBRICK

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PWN-10-VI	REMOVE OR INSTALL FIREBRICK	.01265	JOB	

VT-226 * .01265 HRS PER JOB

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
00	*****	*****	*****	*****	
1	PMW-11-VIII	REMOVE OR INSTALL SMALL PLUG	.02530	PLUG	
VT-227 = .02530 MRS PER PLUG					

VT-227 = .02530 MRS PER PLUG

VT-218 REMOVE MANHOLE COVER ON FIRE TUBE OR WATER TUBE BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-11-IV	REMOVE MANHOLE COVER	.09723	COVER	

VT-220 - 09723 HRS PER COVER

VT-229 REMOVE HANDHOLE COVER ON FIRE TUBE OR WATER TUBE BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
00	*****	*****	*****	*****	
01	PMV-11-VI	REMOVE HANDHOLE COVER	.03468	COVER	

UT-229 * .05460 MRS PER COVER

VT-230 INSTALL MANHOLE COVER ON FIRE TUBE OR WATER TUBE
 SCILLER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
01	PHV-11-V	INSTALL MANHOLE COVER	2.0614	COVER	

VT-230 • .20414 MRS PER COVER

VT-231 INSTALL MANHOLE COVER ON FIRE TUBE OR WATER TUBE
BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-11-VII	INSTALL HANDHOLE COVER	.11690	COVER	

VT-231 = .11690 MMS PER COVER

VT-232		PREPARE TO DRAIN BOILER			
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-2-IV	PREPARE TO DRAIN BOILER	.08732	JOB	
VT-232 =		.08732 HRS PER JOB			

VT-233		FILL BOILER AND INSPECT FOR LEAKS			
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-11-IX	FILL BOILER AND INSPECT FOR LEAKS	.63164	JOB	
VT-233 =		.63164 HRS PER JOB			

VT-234		CLEAN FIRESIDE OF LIGHTLY SLAGGED WATER TUBE BOILER.--INCLUDES: REMOVING SLAG AND LOOSE CINDERS, CLEANING FIREBOX (4'X 10'X 15'), TWO PASSES, AND 146 TUBES (BY SCRAPING).-- DOES NOT INCLUDE ERECTING OR DISMANTLING SCAFFOLDING, VACUUMING TOP OF FIREBOX, CLEANING SUPERHEATER TUBES OR HEADER, AIR PREHEATER OR PRECIPITATOR.			
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMU-1-8557	ENTER AND LEAVE MANHOLES 7 TIMES	.06500	JOB	
2	PMS-2-III	REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOWER DRUM	.02800	JOB	
3	PMS-2-IV	LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE	.42840	JOB	
4	PMA-5-II	MATERIAL HANDLING	.93231	JOB	
5	PMS-2-III	RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION DISCHARGE	.37296	JOB	
6	PMV-2-II	SCRAPE AND BRUSH 30% OF FIREBOX WALLS AND CEILING (470 SF TOTAL) (141 SF SCRAPPED)	.02184 1.44948	JOB JOB	
7	PMV-2-II	SCRAPE CLEAN 330 SF OF TUBES IN FIREBOX, PASSES AND VACUUM PASSES	.02184 3.39240	JOB JOB	
8	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.01020	JOB	
VT-234 =		7.52403 HRS PER JOB			

VT-235

CLEAN FIRESIDE OF HEAVILY SLAGGED WATER TUBE BOILER.--INCLUDES REMOVING SLAG AND LOOSE CINDERS, CLEANING FIREBOX (4'X 10'X 15'), TWO PASSES, AND 110 TUBES (BY SCRAPING).-- DOES NOT INCLUDE ERECTING OR DISMANTLING SCAFFOLDING, VACUUMING TOP OF FIREBOX, CLEANING SUPERHEATER TUBES OR HEADER, AIR PREHEATER OR PRECIPITATOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWNU-1-8557	ENTER AND LEAVE MANHOLES 8 TIMES	.07520	JOB	
2	PWS-2-III	REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOWER DRUM	1.65760	JOB	
3	PWS-2-IV	LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE	1.76120	JOB	
4	PWA-3-II	MATERIAL HANDLING	1.55385	JOB	
5	PWS-2-III	RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION DISCHARGE	.87024	JOB	
6	PWV-2-II	SCRAPE AND BRUSH 70% OF FIREBOX WALLS AND CEILING (470 SF TOTAL) (329 SF SCRAPED)	.02184 3.38212	JOB JOB	
7	PWV-2-II	SCRAPE CLEAN 50% OF TUBES IN FIREBOX, PASSES AND VACUUM PASSES	.02184 5.23252	JOB JOB	
8	PWNU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.01360	JOB	

VT-235 = 14.59001 HRS PER JOB

VT-236

CLEAN FIRESIDE OF LIGHTLY SLAGGED WATER TUBE BOILER.--INCLUDES REMOVING SLAG AND LOOSE CINDERS, CLEANING FIREBOX (8'X 13'X 20'), TWO PASSES, AND 182 TUBES (BY SCRAPING).-- DOES NOT INCLUDE ERECTING OR DISMANTLING SCAFFOLDING, VACUUMING TOP OF FIREBOX, CLEANING SUPERHEATER TUBES OR HEADER, AIR PREHEATER OR PRECIPITATOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWNU-1-8557	ENTER AND LEAVE MANHOLES 10 TIMES	.09400	JOB	
2	PWS-2-III	REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOWER DRUM	2.52784	JOB	
3	PWS-2-IV	LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE	2.42760	JOB	
4	PWA-3-II	MATERIAL HANDLING	2.79693	JOB	
5	PWS-2-III	RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION DISCHARGE	1.57472	JOB	
6	PWV-2-II	SCRAPE AND BRUSH 30% OF FIREBOX WALLS AND CEILING (780 SF TOTAL) (234 SF SCRAPED)	.02184 2.40552	JOB JOB	
7	PWV-2-II	SCRAPE CLEAN TUBES IN FIREBOX, PASSES AND VACUUM PASSES (360 SF)	.02184 3.70080	JOB JOB	
8	PWNU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.15300	JOB	

VT-236 = 15.72409 HRS PER JOB

VT-237

CLEAN FIRESIDE OF LIGHTLY SLAGGED WATER TUBE BOILER.--INCLUDES REMOVING SLAG AND LOOSE CINDERS, CLEANING FIREBOX (10'X 16'X 20'), TWO PASSES, AND 317 TUBES (BY SCRAPING).-- DOES NOT INCLUDE ERECTING OR DISMANTLING SCAFFOLDING, VACUUMING TOP OF FIREBOX, CLEANING SUPERHEATER TUBES OR HEADER, AIR PREHEATER OR PRECIPITATOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWU-1-8557	ENTER AND LEAVE MANHOLES 12 TIMES	.11280	JOB	
2	PWS-2-III	REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOWER DRUM	3.23232	JOB	
3	PWS-2-IV	LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE	3.66320	JOB	
4	PWA-5-II	MATERIAL HANDLING	3.31488	JOB	
5	PWS-2-III	RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION DISCHARGE	1.98912	JOB	
6	PMV-2-II	SCRAPE AND BRUSH 30% OF FIREBOX WALLS AND CEILING (1000 SF TOTAL) (300 SF SCRAPE)	.02184 3.08400	JOB JOB	
7	PMV-2-II	SCRAPE CLEAN 631 SF OF TUBES IN FIREBOX, PASSES AND VACUUM PASSES.	.02184 6.48668	JOB JOB	
8	PWU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.17000	JOB	

VT-237 = 22.09868 HRS PER JOB

VT-238

CLEAN FIRESIDE OF LIGHTLY SLAGGED WATER TUBE BOILER.--INCLUDES REMOVING SLAG AND LOOSE CINDERS, CLEANING FIREBOX (14'X 20'X 30'), TWO PASSES, AND 400 TUBES (BY SCRAPING).-- DOES NOT INCLUDE ERECTING OR DISMANTLING SCAFFOLDING, VACUUMING TOP OF FIREBOX, CLEANING SUPERHEATER TUBES OR HEADER, AIR PREHEATER OR PRECIPITATOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWU-1-8557	ENTER AND LEAVE MANHOLE 12 TIMES	.11280	JOB	
2	PWS-2-III	REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOWER DRUM	3.97924	JOB	
3	PWS-2-IV	REMOVE LOOSE SLAG	4.52200	JOB	
4	PWA-5-II	MATERIAL HANDLING	4.04001	JOB	
5	PWS-2-III	RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION DISCHARGE	3.48096	JOB	
6	PMV-2-II	SCRAPE AND BRUSH 30% OF FIREBOX WALLS AND CEILING (1900 SF TOTAL) (570 SF SCRAPE)	.02184 5.85960	JOB JOB	
7	PMV-2-II	SCRAPE CLEAN 794 SF OF TUBES IN FIREBOX, PASSES AND VACUUM PASSES	.02184 8.16232	JOB JOB	
8	PWU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.17000	JOB	

VT-238 = 30.36960 HRS PER JOB

VT-239

CLEAN FIRESIDE OF HEAVILY SLAGGED WATER TUBE BOILER.--INCLUDES REMOVING SLAG AND LOOSE CINDERS, CLEANING FIREBOX (8'X 13'X 20'), TWO PASSES, AND 182 TUBES (BY SCRAPING) AND VACUUMING TOP OF FIREBOX.-- DOES NOT INCLUDE ERECTING OR DISMANTLING SCAFFOLDING, CLEANING SUPERHEATER TUBES OR HEADER, AIR PREHEATER OR PRECIPITATOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8026	KNOCK DOWN SLAG BY REACHING THROUGH EXPLOSION-PROOF DOOR WITH HAMMER	.11480	JOB	
2	PMU-1-8027	CLEAN SEVEN INSULATION BATS BY SHAVING IN FIREBOX	.25130	JOB	
3	PMU-2-I	VACUUM TOP OF FIREBOX	.18480 .06240	JOB JOB	
4	PMU-1-8557	ENTER AND LEAVE MANHOLES 10 TIMES	.00400	JOB	
5	PMU-2-III	REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOWER DRUM	5.92592	JOB	
6	PMU-2-IV	LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE	6.56880	JOB	
7	PMU-5-II	MATERIAL HANDLING	8.28720	JOB	
8	PMU-2-III	RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION DISCHARGE	3.68816	JOB	
9	PMU-2-II	SCRAPE AND BRUSH 70% OF FIREBOX WALLS AND CEILING (780 SF TOTAL) (546 SF SCRAPED)	.02184 9.61288	JOB JOB	
10	PMU-2-II	SCRAPE CLEAN 837 SF OF TUBES IN FIREBOX, PASSES AND VACUUM PASSES	.02184 8.60436	JOB JOB	
11	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.15300	JOB	

VT-239 • 39.59329 HRS PER JOB

VT-240

CLEAN FIRESIDE OF HEAVILY SLAGGED WATER TUBE
BOILER.--INCLUDES REMOVING SLAG AND LOOSE CINDERS,
CLEANING FIREBOX(10'X 16'X 20'), TWO PASSES, AND
420 TUBES (BY SCRAPING) AND VACUUMING TOP OF FIRE-
BOX.-- DOES NOT INCLUDE ERECTING OR DISMANTLING
SCAFFOLDING, CLEANING SUPERHEATER TUBES OR HEADER,
AIR PREHEATER OR PRECIPITATOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8026	KNOCK DOWN SLAG BY REACHING THROUGH EXPLOSION- PROOF DOOR WITH HAMMER	.11480	JOB	
2	PMU-1-8027	CLEAN INSULATION BATS BY SHAKING IN FIREBOX	.32310	JOB	
3	PMV-2-I	VACUUM TOP OF FIREBOX	.18680 .09600	JOB JOB	
4	PMU-1-8557	ENTER AND LEAVE MANHOLES	.11280	JOB	
5	PMS-2-III	REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOWER DRUM	7.94208	JOB	
6	PMS-2-IV	LOAD LOOSE SLAG INTO WHEELBARROW AND REMOVE	8.47280	JOB	
7	PMA-3-II	MATERIAL HANDLING	7.46566	JOB	
8	PMS-2-III	RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION DISCHARGE LINE	4.64128	JOB	
9	PMV-2-II	SCRAPE AND BRUSH 708 OF FIREBOX WALLS AND CEILING (1000 SF TOTAL) (700 SF SCRAPED)	.02184 7.19600	JOB JOB	
10	PMV-2-II	SCRAPE CLEAN 1932 SF OF TUBES IN FIREBOX AND PASSES AND VACUUM PASSES	.02184 19.86096	JOB JOB	
11	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.20400	JOB	

VT-240 = 56.45995 HRS PER JOB

VT-241

CLEAN FIRESIDE OF HEAVILY SLAGGED WATER TUBE BOILER.--INCLUDES REMOVING SLAG AND LOOSE CINDERS, CLEANING FIREBOX(14'X 20'X 30'), TWO PASSES, AND 600 TUBES (BY SCRAPING) AND VACUUMING TOP OF FIREBOX.-- DOES NOT INCLUDE ERECTING OR DISMANTLING SCAFFOLDING, CLEANING SUPERHEATER TUBES OR HEADER, AIR PREHEATER OR PRECIPITATOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8026	KNOCK DOWN SLAG BY REACHING THROUGH EXPLOSION-PROOF DOOR WITH HAMMER	.26240	JOB	
2	PWMU-1-8027	CLEAN INSULATION SATS BY SHAKING IN FIREBOX	.43080	JOB	
3	PWV-2-I	VACUUM TOP OF FIREBOX	.18680 .16800	JOB JOB	
4	PWMU-1-8557	ENTER AND LEAVE MANHOLE	.14100	JOB	
5	PWS-2-III	REMOVE SLAG AND LOOSE CINDERS FROM PASSES OVER LOWER DRUM	9.28256	JOB	
6	PWS-2-IV	REMOVE LOOSE SLAG	10.47200	JOB	
7	PWA-5-II	MATERIAL HANDLING	9.53028	JOB	
8	PWS-2-III	RAKE LOOSE CINDERS FROM FIREBOX FLOOR INTO SUCTION DISCHARGE	8.12224	JOB	
9	PWV-2-II	SCRAPE AND BRUSH TOP OF WALLS AND CEILINGS IN FIREBOX (1900 SF TOTAL) (1330 SF SCRAPED)	.02184 13.67240	JOB JOB	
10	PWV-2-II	SCRAPE CLEAN 2778 SF OF TUBES IN FIREBOX, PASSES AND VACUUM PASSES	.02184 28.55784	JOB JOB	
11	PWMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.23800	JOB	

VT-241 = 81.10799 HRS PER JOB

VT-242

CLEAN WATERSIDE OF WATER TUBE BOILER.-- INCLUDES WASHING INSIDE OF DRUM (3'1.5"X 20' LONG) AND RUNNING WATER (UNDER HIGH PRESSURE) IN 800 TUBE OPENINGS.-- DOES NOT INCLUDE TURBINING TUBES OR REMOVING OR REINSTALLING INTERNAL BAPPLING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8557	ENTER AND LEAVE DRUM MANHOLE	.01880	JOB	
2	PWV-2-I	CLEAN INSIDE DRUM BY HOISING DOWN	.18680 .18960	JOB JOB	
3	PWV-2-I	WASH TUBE OPENINGS IN BOILER BY FLUSHING WITH WATER	.18680 .48000	JOB JOB	
4	PWA-5-I	MATERIAL HANDLING	.03453	JOB	
5	PWMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.05100	JOB	

VT-242 = 1.14753 HRS PER JOB

VT-243 CLEAN WATERSIDE OF WATER TUBE BOILER.-- INCLUDES WASHING AND SCRAPING DRUM (3" I.D. X 10' LONG), TURBINING 60 TUBES (1" TO 3" DIA. X 10" TO 20" LONG). DOES NOT INCLUDE REMOVING OR REINSTALLING INTERNAL BAPPLING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8552	CONNECT AND DISCONNECT HOSE BIBS	.04360	JOB	
2	PWMU-1-8012	UNWIND AND WIND HOSE SECTIONS	.03560	JOB	
3	PWMU-1-8557	ENTER AND LEAVE DRUM MANHOLE	.07520	JOB	
4	PMQ-14-IV	TURN VALVE ON AND OFF	.06768	JOB	
5	PMV-13-XI	PUSH 3/4" DIA. TURBINING AIR HOSE IN AND PULL OUT 60 (1" TO 3" DIA.) TUBES 10" TO 20" LONG	.19410 1.08000	JOB JOB	
6	PWMU-1-8011	REMOVE AND INSTALL TURBINING HEAD	.29280	JOB	
7	PMV-2-I	CLEAN INSIDE DRUM BY HOISING DOWN	.18680 .05700	JOB JOB	
8	PMV-2-II	SCRAPE 50% OF DRUM INTERIOR	.02184 .49344	JOB JOB	
9	PMA-5-II	MATERIAL HANDLING	.10359	JOB	
10	PWMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.00680	JOB	

VT-243 = 2.65844 HRS PER JOB

VT-244 CLEAN WATERSIDE OF WATER TUBE BOILER.-- INCLUDES WASHING AND SCRAPING DRUM (3" I.D. X 10' LONG) TURBINING 110 TUBES (1" TO 3" DIA. X 10" TO 20" LONG). DOES NOT INCLUDE REMOVING OR REINSTALLING INTERNAL BAPPLING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8552	CONNECT AND DISCONNECT HOSE BIBS	.04360	JOB	
2	PWMU-1-8012	UNWIND AND WIND HOSES	.03560	JOB	
3	PWMU-1-8557	ENTER AND LEAVE DRUM MANHOLE	.08460	JOB	
4	PMQ-14-IV	TURN VALVE ON AND OFF	.07614	JOB	
5	PMV-13-X	PUSH 3/4" DIA. TURBINING AIR HOSE IN AND PULL OUT 110 (1" TO 3") TUBES 10" TO 20" LONG	.19410 4.62000	JOB JOB	
6	PWMU-1-8011	REMOVE AND INSTALL TURBINING HEAD	.36400	JOB	
7	PMV-2-I	CLEAN INSIDE DRUM BY HOISING DOWN	.18680 .05700	JOB JOB	
8	PMV-2-II	SCRAPE 50% OF DRUM INTERIOR	.02184 .49344	JOB JOB	
9	PMA-5-II	MATERIAL HANDLING	.10359	JOB	
10	PWMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.01020	JOB	

VT-244 = 6.29290 HRS PER JOB

VT-245 CLEAN WATERSIDE OF WATER TUBE BOILER.-- INCLUDES
WASHING AND SCRAPING DRUM (3" I.D. X 20' LONG) AND
TURBINING 98 TUBES (2 1/2" TO 4" DIA. X 30' TO 50'
LONG).-- DOES NOT INCLUDE REMOVING OR REINSTALLING
INTERNAL BAPPLING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8552	CONNECT AND DISCONNECT HOSE BIBS	.04360	JOB	
2	PMU-1-8012	UNWIND AND WIND HOSES	.03560	JOB	
3	PMU-1-8557	ENTER AND LEAVE DRUM MANHOLE	.09400	JOB	
4	PMQ-14-IV	TURN VALVE ON AND OFF	.07614	JOB	
5	PMV-13-II	PUSH 1 1/4" DIA. TURBINING AIR HOSE IN AND PULL OUT 98 (2 1/4" TO 4" DIA.) TUBES, 30' TO 50' LONG	.02408 1.29360	JOB JOB	
6	PMU-1-8011	REMOVE AND INSTALL TURBINING HEAD	.36600	JOB	
7	PMV-2-I	CLEAN INSIDE DRUM BY HOISING DOWN	.18680 .11400	JOB JOB	
8	PMV-2-II	SCRAPE 50% OF DRUM INTERIOR	.02184 .97660	JOB JOB	
9	PMA-3-II	MATERIAL HANDLING	.10359	JOB	
10	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.08500	JOB	

VT-245 = 3.42084 HRS PER JOB

VT-246 CLEAN WATERSIDE OF WATER TUBE BOILER.--INCLUDES
WASHING AND SCRAPING DRUM (3" I.D. X 20' LONG) AND
TURBINING 141 TUBES (2 1/2" TO 4" DIA. X 30' TO 50'
LONG).-- DOES NOT INCLUDE REMOVING OR REINSTALLING
INTERNAL BAPPLING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8552	CONNECT AND DISCONNECT HOSE BIBS	.04360	JOB	
2	PMU-1-8012	UNWIND AND WIND HOSES	.03560	JOB	
3	PMU-1-8557	ENTER AND LEAVE DRUM MANHOLE	.10340	JOB	
4	PMQ-14-IV	TURN VALVE ON AND OFF	.08460	JOB	
5	PMV-13-X	PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF 141 (2 1/2" TO 4") TUBES, 30' TO 50' LONG	.19410 5.92200	JOB JOB	
6	PMU-1-8011	REMOVE AND INSTALL TURBINING HEAD	.36600	JOB	
7	PMV-2-I	CLEAN INSIDE DRUM BY HOISING DOWN	.18680 .11400	JOB JOB	
8	PMV-2-II	SCRAPE 50% OF DRUM INTERIOR	.02184 .97660	JOB JOB	
9	PMA-3-II	MATERIAL HANDLING	.10359	JOB	
10	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.10200	JOB	

VT-246 = 8.25412 HRS PER JOB

VT-247

CLEAN WATERSIDE OF WATER TUBE BOILER.-- INCLUDES WASHING AND SCRAPING DRUM (3'I.D. X 20' LONG) AND TURBINING 240 TUBES (2 1/2" TO 4" DIA. X 30" TO 50" LONG).-- DOES NOT INCLUDE REMOVING OR REINSTALLING INTERNAL BAPPLING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8552	CONNECT AND DISCONNECT HOSE BIBS	.04360	JOB	
2	PWMU-1-8012	UNWIND AND WIND HOSES	.03560	JOB	
3	PWMU-1-8557	ENTER AND LEAVE DRUM MANHOLE	.11280	JOB	
4	PWQ-14-IV	TURN VALVE ON AND OFF	.10152	JOB	
5	PWV-13-X	PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF 240 (2 1/2" TO 4") TUBES 30" TO 50" LONG	.19410 10.08000	JOB JOB	
6	PWMU-1-8011	REMOVE AND INSTALL TURBINING HEADS	.36600	JOB	
7	PWV-2-I	CLEAN INSIDE DRUM BY HOSEING DOWN	.18680 .11400	JOB JOB	
8	PWV-2-II	SCRAPE 50% OF DRUM INTERIOR	.02184 .97660	JOB JOB	
9	PWA-5-II	MATERIAL HANDLING	.10359	JOB	
10	PWMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.11900	JOB	

VT-247 = 12.45545 HRS PER JOB

VT-248

CLEAN WATERSIDE OF WATER TUBE BOILER.-- INCLUDES WASHING AND SCRAPING DRUM (3'I.D. X 20' LONG) AND TURBINING 321 TUBES (1 1/2" TO 4" DIA. X 30" TO 50" LONG).-- DOES NOT INCLUDE REMOVING OR REINSTALLING INTERNAL BAPPLING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8552	CONNECT AND DISCONNECT HOSE BIBS	.04360	JOB	
2	PWMU-1-8012	UNWIND AND WIND HOSES	.03560	JOB	
3	PWMU-1-8557	ENTER AND LEAVE DRUM MANHOLE	.14100	JOB	
4	PWQ-14-IV	TURN VALVE ON AND OFF	.11844	JOB	
5	PWV-13-X	PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF 321 (2 1/2" TO 4") TUBES 30" TO 50" LONG	.19410 13.48200	JOB JOB	
6	PWMU-1-8005	REMOVE AND INSTALL TURBINING HEAD	.02400	JOB	
7	PWV-2-I	CLEAN INSIDE OF DRUM BY HOSEING DOWN	.18649 .11400	JOB JOB	
8	PWV-2-II	SCRAPE 50% OF DRUM INTERIOR	.02184 .97660	JOB JOB	
9	PWA-5-II	MATERIAL HANDLING	.10359	JOB	
10	PWMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.13600	JOB	

VT-248 = 15.57757 HRS PER JOB

VT-249

CLEAN WATERSIDE OF WATER TUBE BOILER.-- INCLUDES
WASHING AND SCRAPING DRUM (5' I.D. X 20' LONG) AND
TURBINING 475 TUBES (2 1/2" TO 4" DIA. X 30' TO 50'
LONG).-- DOES NOT INCLUDE REMOVING OR REINSTALLING
INTERNAL BAPPLING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8552	CONNECT AND DISCONNECT HOSE BIDS	.04360	JOB	
2	PMU-1-8012	UNWIND AND WIND HOSES	.03560	JOB	
3	PMU-1-8557	ENTER AND LEAVE DRUM MANHOLE	.18800	JOB	
4	PMQ-14-IV	TURN VALVE ON AND OFF	.13228	JOB	
5	PMV-13-X	PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF 475 (2 1/2" TO 4") TUBES 30' TO 50' LONG	.19410 19.95000	JOB JOB	
6	PMU-1-8005	REMOVE AND INSTALL TURBINE HEAD	.02800	JOB	
7	PMV-2-I	CLEAN INSIDE DRUM BY HOISING	.18680 .18960	JOB JOB	
8	PMV-2-II	SCRAPE 50% OF DRUM INTERIOR	.02184 1.62424	JOB JOB	
9	PMA-5-II	MATERIAL HANDLING	.10339	JOB	
10	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.15300	JOB	

VT-249 = 22.87064 HRS PER JOB

VT-250

CLEAN WATERSIDE OF WATER TUBE BOILER.-- INCLUDES
WASHING AND SCRAPING DRUM (5' I.D. X 20' LONG) AND
TURBINING 590 TUBES (2 1/2" TO 4" DIA. X 30' TO 50'
LONG).-- DOES NOT INCLUDE REMOVING OR REINSTALLING
INTERNAL BAPPLING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8552	CONNECT AND DISCONNECT HOSE BIDS	.04360	JOB	
2	PMU-1-8012	UNWIND AND WIND HOSES	.03560	JOB	
3	PMU-1-8557	ENTER AND LEAVE DRUM MANHOLE	.10340	JOB	
4	PMQ-14-IV	TURN VALVE ON AND OFF	.16920	JOB	
5	PMV-13-X	PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF 590 (2 1/2" TO 4") TUBES 30' TO 50' LONG	.19410 24.78000	JOB JOB	
6	PMU-1-8011	REMOVE AND INSTALL TURBINING HEAD	.58560	JOB	
7	PMV-2-I	CLEAN INSIDE DRUM BY HOISING DOWN	.18680 .18960	JOB JOB	
8	PMV-2-II	SCRAPE 50% OF DRUM INTERIOR	.02184 1.62424	JOB JOB	
9	PMA-5-II	MATERIAL HANDLING	.20718	JOB	
10	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.15300	JOB	

VT-250 = 28.29415 HRS PER JOB

VT-251

CLEAN WATERSIDE OF WATER TUBE BOILER.-- INCLUDES WASHING AND SCRAPING DRUM (5' I.D. X 20' LONG) AND TURBINING 732 TUBES (2 1/2" TO 4" DIA. X 30" TO 50" LONG).-- DOES NOT INCLUDE REMOVING OR REINSTALLING INTERNAL BAFFLING.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8552	CONNECT AND DISCONNECT HOSE BIBS	.04360	JOB	
2	PWMU-1-8012	UNWIND AND WIND HOSES	.03560	JOB	
3	PWMU-1-8557	ENTER AND LEAVE DRUM MANHOLE	.22560	JOB	
4	PMQ-14-IV	TURN VALVE ON AND OFF	.16920	JOB	
5	PMV-13-X	PUSH 1 1/2" TURBINING AIR HOSE IN AND PULL OUT OF 732 (2 1/2" TO 4") TUBES 30" TO 50" LONG	.19410 30.74400	JOB JOB	
6	PWMU-1-8005	REMOVE AND INSTALL TURBINING HEADS	.03200	JOB	
7	PMV-2-I	CLEAN INSIDE DRUM BY HOISING DOWN	.18680 .18960	JOB JOB	
8	PMV-2-II	SCRAPE 50% OF DRUM INTERIOR	.02184 1.62424	JOB JOB	
9	PWA-5-II	MATERIAL HANDLING	.20718	JOB	
10	PWMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.17000	JOB	

VT-251 • 33.84375 HRS PER JOB

VT-252

CLEAN FIRESIDE OF AIR PREHEATER.-- INCLUDES WASHING 432 TUBES (2" DIA. X 20' LONG) WITH 1 1/2" WATER HOSE AND CLEANING "SMOKE" BOX UNDER AIR PREHEATER TUBES USING AIR HOSE AND SHOVEL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8552	CONNECT AND DISCONNECT HOSE TO BIBS	.04360	JOB	
2	PWMU-1-8012	UNWIND AND WIND HOSE SECTIONS	.03560	JOB	
3	PMQ-14-IV	TURN VALVE ON AND OFF	.01692	JOB	
4	PWMU-1-8010	PUSH WATER HOSE IN AND PULL OUT OF 432 (2") TUBES 20' LONG	11.31840	JOB	
5	PWMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.13600	JOB	
6	PWMU-1-8557	ENTER AND LEAVE "SMOKE" BOX	.01880	JOB	
7	PMV-2-I	HOSE 150 SP OF FLY ASH OUT OF "SMOKE" BOX	.18680 .09000	JOB JOB	
8	PMV-2-III	SHOVEL HARDENED FLY ASH OUT OF "SMOKE" BOX	.16576	JOB	
9	PWA-5-II	MATERIAL HANDLING	.18359	JOB	

VT-252 • 12.11547 HRS PER JOB

VT-253

CLEAN FIRESIDE OF AIR PREHEATER.-- INCLUDES WASH-
ING 675 TUBES (2 1/2" DIA. X 30" LONG) WITH 1 1/2"
WATER HOSE AND CLEANING "SMOKE" BOX UNDER AIR PRE-
HEATER TUBES USING AIR HOSE AND SHOVEL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8552	CONNECT AND DISCONNECT HOSE BIBS	.04360	JOB	
2	PMU-1-8012	UNWIND AND WIND HOSES	.03560	JOB	
3	PMQ-14-IV	TURN VALVE ON AND OFF	.01692	JOB	
4	PMU-1-8010	PUSH WATER HOSE IN AND OUT OF 675 (2 1/2"DIA.) TUBES 30" LONG	17.68500	JOB	
5	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.17000	JOB	
6	PMU-1-8557	ENTER AND LEAVE "SMOKE" BOX	.01880	JOB	
7	PMV-2-I	HOSE FLY ASH OUT OF "SMOKE" BOX * AVG. OF 250 SQ. FT.	.18680 .15000	JOB JOB	
8	PM5-2-III	SHOVEL HARDENED FLY ASH OUT OF "SMOKE" BOX	.58016	JOB	
9	PMA-5-II	MATERIAL HANDLING	.20718	JOB	
10	PMQ-14-IV	TURN VALVE ON AND OFF	.01692	JOB	

VT-253 = 19.11097 HRS PER JOB

VT-254

CLEAN FIRESIDE OF AIR PREHEATER.--INCLUDES WASHING
1024 TUBES (2 1/2" DIA. X 30" LONG) WITH 1 1/2"
WATER HOSE AND CLEANING "SMOKE" BOX UNDER AIR PRE-
HEATER TUBES USING AIR HOSE AND SHOVEL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8552	CONNECT AND DISCONNECT HOSE BIBS	.04360	JOB	
2	PMU-1-8012	UNWIND AND WIND HOSES	.03560	JOB	
3	PMQ-14-IV	TURN VALVE ON AND OFF	.03384	JOB	
4	PMU-1-8010	PUSH WATER HOSE IN AND PULL OUT OF 1024 (2 1/2") TUBES 30" LONG	26.82880	JOB	
5	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.20400	JOB	
6	PMU-1-8557	ENTER AND LEAVE "SMOKE" BOX	.01880	JOB	
7	PMV-2-I	HOSE FLY ASH OUT OF "SMOKE" BOX * AVG. OF 200 SQ. FT.	.18680 .12000	JOB JOB	
8	PM5-2-III	SHOVEL HARDENED FLY ASH OUT OF "SMOKE" BOX	.45584	JOB	
9	PMA-5-II	MATERIAL HANDLING	.20718	JOB	

VT-254 = 28.13445 HRS PER JOB

VT-255 CLEAN FIRESIDE OF PRECIPITATOR.-- INCLUDES PUSHING AN AIR HOSE DOWN 36 TUBES (4" DIA. X 8" LONG) AND BLOWING OUT THE COMPARTMENT AT TOP OF TUBES.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PMQ-14-IV	TURN VALVE ON AND OFF	.00846	JOB	
2	PMU-1-8557	ENTER AND LEAVE PRECIPITATOR OPENING	.01800	JOB	
3	PMV-13-VII	PUSH AIR HOSE IN AND PULL OUT OF 36 (4") TUBES 8" TO 12" LONG	.19410 1.03680	JOB JOB	
4	PMV-2-I	BLOW CLEAN INSIDE PRECIPITATOR COMPARTMENT * AVG. OF 90 SQ. FT.	.18680 .05400	JOB JOB	
5	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.06800	JOB	
6	PMA-5-II	MATERIAL HANDLING.	.20718	JOB	
VT-255 = 1.77414 HRS PER JOB					

VT-256 CLEAN SUPERHEATER HAVING 120 TUBES IN PASSES OVER LOWER DRUM USING SCRAPER, AND CLEAN HEADER BOX BY VACUUMING 250 SQ. FT. OF FINE FLY ASH.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PMV-2-I	VACUUM SUPERHEATER BOX CONTAINING 250 SF OBTAIN- ABLE AREA	.18680 .19000	JOB JOB	
2	PMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.06800	JOB	
3	PMA-5-II	MATERIAL HANDLING	.20718	JOB	
4	PMU-1-8557	ENTER AND LEAVE MANHOLE	.02820	JOB	
5	PMV-2-II	SCRAPE CLEAN SUPERHEATER TUBES IN PASS OVER LOWER DRUM	.02184 3.87556	JOB JOB	
VT-256 = 4.53758 HRS PER JOB					

VT-257 CLEAN 8" LONG FIRE TUBES IN FIRE TUBE BOILER WITH SCRAPER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
00	*****	*****	*****	*****	*****
1	PMV-13-I	CLEAN BOILER TUBES 8" LONG WITH SCRAPER	.02408 .00880	JOB TUBE	
VT-257 = .02408 HRS PER JOB + .00880 HRS PER TUBE					

VT-258 CLEAN 8" LONG FIRE TUBES IN FIRE TUBE BOILER WITH PNEUMATIC TURBINING TOOL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-13-VI	CLEAN BOILER TUBES 8" LONG WITH PNEUMATIC TURBINING TOOL	.19410 .00960	JOB TUBE	

VT-258 = .19410 HRS PER JOB + .00960 HRS PER TUBE

VT-259 CLEAN 12" LONG FIRE TUBES IN FIRE TUBE BOILER WITH SCRAPER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-13-VI	CLEAN BOILER TUBES 12" LONG WITH SCRAPER	.02408 .01320	JOB TUBE	

VT-259 = .02408 HRS PER JOB + .01320 HRS PER TUBE

VT-260 CLEAN 12" LONG FIRE TUBES IN FIRE TUBE BOILER WITH PNEUMATIC TURBINING TOOL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-13-VII	CLEAN BOILER TUBES 12" LONG WITH PNEUMATIC TURBINING TOOL	.19410 .01440	JOB TUBE	

VT-260 = .19410 HRS PER JOB + .01440 HRS PER TUBE

VT-261 CLEAN 16" LONG FIRE TUBES IN FIRE TUBE BOILER WITH SCRAPER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-13-VIII	CLEAN BOILER TUBES 16" LONG WITH SCRAPER	.02408 .01760	JOB TUBE	

VT-261 = .02408 HRS PER JOB + .01760 HRS PER TUBE

VT-262 CLEAN 16" LONG FIRE TUBES IN FIRE TUBE BOILER WITH PNEUMATIC TURBINING TOOL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-13-VIII	CLEAN BOILER TUBES 16" LONG WITH PNEUMATIC TURBINING TOOL	.19410 .01920	JOB TUBE	

VT-262 = .19410 HRS PER JOB + .01920 HRS PER TUBE

VT-263 CLEAN 20" LONG FIRE TUBES IN FIRE TUBE BOILER WITH
PNEUMATIC TURSINING TOOL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-13-IX	CLEAN BOILER TUBES 20" LONG WITH PNEUMATIC TURSINING TOOL.	.19410	JOB	
			.02400	TUBE	

VT 263 = .19410 HRS PER JOB + .02400 HRS PER TUBE

VT-264 CLEAN (1) TUBE SHEET COMPARTMENT IN FIRE TUBE
BOILER WITH VACUUM CLEANER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-13-IV	CLEAN TUBE SHEET COMPARTMENT	.74708	COMPARTMT	

VT-264 = .74708 HRS PER COMPARTMT

VT-265 CLEAN FIRE BOX IN FIRE TUBE BOILER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-13-V	CLEAN FIRE BOX	.44148	JOB	

VT-265 = .44148 HRS PER JOB

VT-266 CLEAN INTERIOR OF DRUM OF FIRE TUBE BOILER (1,205
LB./HR. OR 36 HP).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-2-I	WASH INTERIOR OF DRUM	.18680	JOB	
			.24300	JOB	
2	4210	INSPECT DRUM	.30000	JOB	
3	PMV-11-IV	REMOVE MANHOLE COVER	.09723	JOB	
4	PMV-11-V	INSTALL MANHOLE COVER	.28614	JOB	
5	PMA-S-I	MATERIAL HANDLING	.06906	JOB	

VT-266 = 1.10223 HRS PER JOB

VT-267 CLEAN INTERIOR OF DRUM OF FIRE TUBE BOILER (4,109 LB./HR. OR 125 HP).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-2-I	WASH INTERIOR OF DRUM	.18680	JOS	
			.61500	JOB	
2	4210	INSPECT DRUM	.37500	JOS	
3	PMV-11-IV	REMOVE MANHOLE COVER	.09723	JOS	
4	PMV-11-V	INSTALL MANHOLE COVER	.20614	JOS	
5	PMA-5-I	MATERIAL HANDLING	.06906	JOS	

VT-267 = 1.54923 HRS PER JOS

VT-268 CLEAN INTERIOR OF DRUM OF FIRE TUBE BOILER (5,854 LB./HR. OR 175 HP).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-2-I	WASH INTERIOR OF DRUM	.18680	JOS	
			1.11340	JOS	
2	4210	INSPECT DRUM	.45000	JOB	
3	PMV-11-IV	REMOVE MANHOLE COVER	.09723	JOS	
4	PMV-11-V	INSTALL MANHOLE COVER	.20614	JOS	
5	PMA-5-I	MATERIAL HANDLING	.06906	JOS	

VT-268 = 2.12283 HRS PER JOB

VT-269 CLEAN INTERIOR OF DRUM OF FIRE TUBE BOILER (6,696 LB./HR. OR 200 HP).

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-2-I	WASH INTERIOR OF DRUM	.18680	JOS	
			1.54860	JOB	
2	4210	INSPECT DRUM	.52500	JOB	
3	PMV-11-IV	REMOVE MANHOLE COVER	.09723	JOS	
4	PMV-11-V	INSTALL MANHOLE COVER	.20614	JOS	
5	PMA-5-I	MATERIAL HANDLING	.10359	JOS	

VT-269 = 2.66736 HRS PER JOB

VT-270 REMOVE BOILER TUBE (UP TO 4" O.D. X 20' LONG) THROUGH MANHOLE OR HANDHOLE (WITHOUT CUTTING INTO SECTIONS) AND INSTALL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-15-IV	REMOVE BOILER TUBE UP TO 20' LONG AND 4" O.D. THROUGH MANHOLE/HANDHOLE WITHOUT CUTTING TUBE INTO SECTIONS	.28186	TUBE	
2	PMV-15-V	INSTALL BOILER TUBE UP TO 20' LONG AND 4" O.D.	.61214	TUBE	

VT-270 = .89400 HRS PER TUBE

VT-271 REMOVE BOILER TUBE (UP TO 4" O.D. X 20' LONG) THROUGH MANHOLE (CUTTING INTO SECTIONS) AND INSTALL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-15-III	REMOVE BOILER TUBE UP TO 20' LONG AND 4" O.D. THROUGH MANHOLE BY CUTTING INTO SMALLER PIECES	.32211	TUBE	
2	PMV-15-V	INSTALL BOILER TUBE UP TO 20' LONG AND 4" O.D.	.61214	TUBE	

VT-271 = .93425 MRS PER TUBE

VT-272 REMOVE AND INSTALL BOILER TUBE (UP TO 4" O.D. X 20' LONG) THROUGH OWN HOLE.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-15-II	REMOVE BOILER TUBE UP TO 20' LONG AND 4" O.D. THROUGH OWN HOLE	.40156	TUBE	
2	PMV-15-V	INSTALL BOILER TUBE UP TO 20' LONG AND 4" O.D. THROUGH OWN HOLE	.61214	TUBE	

VT-272 = 1.01370 MRS PER TUBE

VT-273 REMOVE AIR PREHEATER TUBE (WITHOUT CUTTING INTO SECTIONS) AND INSTALL.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-15-IV	REMOVE BOILER TUBE UP TO 20' LONG AND 4" O.D. WITHOUT CUTTING INTO SECTIONS	.28166	JOB	
2	PMV-15-VII	INSTALL AIR PREHEATER TUBE UP TO 20' LONG AND 4" O.D. USING HOIST	.64270	JOB	

VT-273 = .92436 MRS PER JOB

VT-274 REMOVE AND INSTALL TUBE SHEET COMPARTMENT DOOR AND DOOR FRAME.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PMV-15-I	REMOVE AND INSTALL TUBE SHEET COMPARTMENT DOOR AND DOOR FRAME	.80609	JOB	

VT-274 = .80608 MRS PER JOB

VT-275 INSTALL BOILER TUBE (UP TO 4" O.D. X 20' LONG)
USING MOIST.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-15-VI	INSTALL BOILER TUBE UP TO 20' LONG AND 4" O.D. USING MOIST	.71638	JOB	

VT-275 = .71638 HRS PER JOB

VT-276 REMOVE AND INSTALL PUSH NIPPLES ON A CAST IRON LOW
PRESSURE SECTIONAL BOILER.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMQ-14-IV	OPEN AND CLOSE SMALL VALVE	.11844	JOB	
2	PMQ-14-IV	OPEN AND CLOSE SMALL VALVE	.11844	JOB	
3	PMU-1-8552	REMOVE AND INSTALL FLANGE NUT	.78480	JOB	
4	PMU-1-8552	REMOVE AND INSTALL FLANGE BOLT	.78480	JOB	
5	PMU-1-8013	REMOVE AND INSTALL GASKET	.32340	JOB	
6	PMQ-4-VI	REMOVE AND INSTALL UNION	.49744	JOB	
7	PMQ-4-I	REMOVE AND INSTALL PIPE SECTIONS LESS THAN 2" LONG	.43836	JOB	
8	PMU-1-8552	REMOVE AND INSTALL DRAIN NUT	.08720	JOB	
9	PMU-1-8552	REMOVE AND INSTALL DRAIN BOLT	.08720	JOB	
10	PMN-10-IX	REMOVE AND INSTALL BOILER SECTION	.00332	JOB	
11	PMU-1-8021	REMOVE AND INSTALL NIPPLE	.14700	JOB	

VT-276 = 2.39039 HRS PER JOB

VT-277 CLEAN AND INSPECT UNIT HEATER IN PLACE.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8558	CLIMB UP AND DOWN SCAFFOLD	.05680	JOB	
2	PMQ-14-II	MOVE SCAFFOLD	.00992 .00935	JOB JOB	
3	PMU-1-9000	REMOVE AND INSTALL SCREW	.17800	JOB	
4	PMU-1-8021	REMOVE AND INSTALL PANEL	.04900	JOB	
5	PMQ-40-II	LUBRICATE MOTOR	.01172	JOB	
6	PMU-1-8028	CLEAN MOTOR	.08440	JOB	
7	PMU-1-8028	WIRE BRUSH COILS	.08440	JOB	
8	PMU-1-8028	CLEAN HOUSING	.08440	JOB	
9	4202	INSPECT FOR LEAKS	.01200	JOB	

VT-277 = .57999 HRS PER JOB

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	PWB-6-II	LOWER AND RAISE UNIT WITH BLOCK AND TACKLE	.64368	J09	
2	PWB-4-I	LASH AND UNLASH UNIT	.20584	J08	
3	PWMU-1-8552	REMOVE AND INSTALL MOUNTING NUTS	.08720	J09	
4	PWMU-1-8552	REMOVE AND INSTALL MOUNTING BOLTS	.08720	J09	
5	PWG-4-VI	REMOVE AND INSTALL UNION	.24972	J09	
6	PWG-4-VI	REMOVE AND INSTALL VALVE	.06218	J08	
7	PWG-4-VI	REMOVE AND INSTALL NIPPLE	.12436	J09	
8	PWG-4-VI	REMOVE AND INSTALL STRAINER	.06218	J09	
9	PWG-14-IV	OPEN AND CLOSE VALVE	.01692	J09	
10	PWA-5-II	POSITION UNIT	.20719	J09	
11	PWMU-1-8558	CLIMB UP AND DOWN SCAFFOLD	.11360	J09	
12	PWG-14-II	MOVE SCAFFOLD	.00992 .01122	J08 J09	
13	PWMU-1-8552	REMOVE AND INSTALL BOLT	.09910	J09	
14	PWMU-1-8000	REMOVE AND INSTALL SCREW	.17800	J09	
15	PWMU-1-8021	REMOVE AND INSTALL PANEL	.04900	J09	
16	PWG-40-II	LUBRICATE MOTOR	.01172	J09	
17	PWMU-1-8031	CLEAN MOTOR	.13700	J09	
18	PWMU-1-8028	WIRE BRUSH COILS	.08440	J08	
19	PWMU-1-8031	CLEAN HOUSING	.13700	J09	
20	4211	INSPECT FOR LEAKS	.29200	J09	
21	PWA-5-II	MATERIAL HANDLING	.41436	J08	
VT-278 • 3.28157 HRS PER J09					

VT-279 REMOVE OLD UNIT HEATER AND INSTALL NEW.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V39
1	PNB-8-II	LOWER AND RAISE UNIT WITH BLOCK AND TACKLE	.64348	HEATER	
2	PNB-4-I	LASH AND UNLASH UNIT	.20584	HEATER	
3	PMU-1-8552	REMOVE AND INSTALL MOUNTING NUTS	.08720	HEATER	
4	PMU-1-8552	REMOVE AND INSTALL MOUNTING BOLTS	.08720	HEATER	
5	PMQ-4-VI	REMOVE AND INSTALL UNION	.24872	HEATER	
6	PMQ-4-VI	REMOVE AND INSTALL VALVE	.06218	HEATER	
7	PMQ-4-VI	REMOVE AND INSTALL NIPPLE	.12436	HEATER	
8	PMQ-4-VI	REMOVE AND INSTALL STRAINER	.06218	HEATER	
9	PMQ-14-IV	OPEN AND CLOSE VALVE	.01692	HEATER	
10	PMA-5-II	POSITION UNIT	.20718	HEATER	
11	PMU-1-8558	CLIMB UP AND DOWN SCAFFOLD	.11360	HEATER	
12	PMQ-14-II	MOVE SCAFFOLD	.20992	HEATER	
			.20933	HEATER	
13	4211	INSPECT FOR LEAKS	.24200	HEATER	
14	PMA-52-I	LAY OUT STOCK FOR HANGER	.80160	HEATER	
15	PMQ-2-I	CUT STOCK FOR HANGER	.14868	HEATER	
16	PWC-15-III	DRILL HOLES	.03080	HEATER	
			.10148	HEATER	
17	PMU-1-8021	INSTALL HANGERS	.09200	HEATER	
18	PMA-5-II	MATERIAL HANDLING	.41436	HEATER	
VT-279 = 3.76504 HRS PER HEATER					

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
VT-280		REMOVE, DISASSEMBLE, CLEAN, INSPECT, TEST, REPAIR, ASSEMBLE, AND INSTALL ANY SIZE UNIT HEATER. INCLUDES REPAIR AN AVERAGE OF TWO LEAKS. USE OF SCAFFOLDING IS INCLUDED BUT ERECTION AND DISMANTLING IS NOT.			
1	PWB-8-II	LOWER AND RAISE UNIT WITH BLOCK AND TACKLE	.84348	JOB	
2	PWB-4-I	LASH AND UNLASH UNIT	.20384	JOB	
3	PWMU-1-8512	REMOVE AND INSTALL MOUNTING NUTS	.08720	JOB	
4	PWMU-1-8552	REMOVE AND INSTALL MOUNTING BOLTS	.08720	JOB	
5	PWQ-4-VI	REMOVE AND INSTALL UNION	.24872	JOB	
6	PWQ-4-VI	REMOVE AND INSTALL VALVE	.06218	JOB	
7	PWQ-4-VI	REMOVE AND INSTALL NIPPLE	.12436	JOB	
8	PWQ-4-VI	REMOVE AND INSTALL STRAINER	.06218	JOB	
9	PWQ-14-IV	OPEN AND CLOSE VALVE	.01692	JOB	
10	PWA-5-II	POSITION UNIT	.20718	JOB	
11	PWMU-1-8538	CLIMB UP AND DOWN SCAFFOLD	.11360	JOB	
12	PWQ-14-II	MOVE SCAFFOLDING	.00992	JOB	
			.00935	JOB	
13	PWMU-1-8552	REMOVE AND INSTALL BOLTS	.08720	JOB	
14	PWMU-1-8000	REMOVE AND INSTALL SCREWS	.17800	JOB	
15	PWMU-1-8011	REMOVE AND INSTALL PANEL	.07320	JOB	
16	PWMU-1-8011	REMOVE AND INSTALL MOTOR SUPPORT	.07320	JOB	
17	PWMU-1-8022	REMOVE AND INSTALL MOTOR AND FAN	.20560	JOB	
18	PWG-4C-II	LUBRICATE MOTOR	.01172	JOB	
19	PWMU-1-8031	CLEAN MOTOR	.13700	JOB	
20	PWMU-1-8028	WIRE BRUSH COILS	.16880	JOB	
21	PWMU-1-8026	CLEAN SMALL PARTS	.16400	JOB	
22	PWMU-1-8031	CLEAN HOUSING	.13700	JOB	
23	PWQ-4-I	REMOVE AND INSTALL FITTING	.14412	JOB	
24	PWQ-4-I	CONNECT AND DISCONNECT TEST LINES	.07308	JOB	
25	PWQ-14-IV	TURN STEAM ON AND OFF	.02538	JOB	
26	PWQ-4-VI	REMOVE AND INSTALL NIPPLE	.24872	JOB	
27	PWQ-4-VI	REMOVE AND INSTALL REDUCER	.12436	JOB	
28	PWQ-4-VI	REMOVE AND INSTALL ELBOW	.12436	JOB	
29	4205	INSPECT FOR LEAKS DURING REPAIR	.16900	JOB	
30	4211	INSPECT FOR LEAKS AFTER REPAIR	.29200	JOB	
31	PWEA-6-VI	SOLDER LEAKS IN ANY SIZE HEATING UNIT PIPES AS REQUIRED	.16060	JOB	
			.08090	JOB	
32	PWMU-1-8026	CLEAN AREA AROUND LEAKS	.03280	JOB	
33	PWQ-17-I	CUT OFF SECTION OF PIPE	.16857	JOB	
34	PWEA-6-VI	SEAL ENDS OF PIPE	.16060	JOB	
			.04040	JOB	
35	PWA-5-II	MATERIAL HANDLING	.41436	JOB	
VT-220		5.39497 HRS PER JOB			

VT-281 INSTALL GAS OR OIL-FIRED WALL-TYPE FURNACE.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWA-5-II	MATERIAL HANDLING	.10359	JOB	
2	PWMU-1-8022	POSITION FURNACE	.10280	JOB	
3	PWQ-4-VI	CONNECT UNIONS	.03109	JOB	
4	PWMU-1-8010	INSTALL GRILLS AND PANELS	.05240	JOB	
5	PWMU-1-8000	INSTALL FASTENER	.09340	JOB	
6	4209	CHECK OPERATION	.16700	JOB	
7	PWQ-14-IV	TURN VALVE ON AND OFF	.00846	JOB	
8	PWMU-1-8021	CONNECT VENT STACK	.02450	JOB	
9	PWMU-1-8000	INSTALL SCREWS	.01780	JOB	

VT-281 = .56104 HRS PER JOB

VT-282 CLEAN ONE GAS-FILLED WALL FURNACE.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWQ-14-I	TURN VALVE OFF AND ON	.01270	JOB	
2	PWQ-4-VI	DISCONNECT AND CONNECT UNION	.06218	JOB	
3	PWMU-1-8010	REMOVE AND INSTALL PANEL AND GRILL	.10480	JOB	
4	PWMU-1-8000	REMOVE AND INSTALL FASTENER	.10680	JOB	
5	PWMU-1-8031	CLEAN FURNACE AND WALL OPENINGS	.13700	JOB	
6	4209	CHECK OPERATION	.16700	JOB	

VT-282 = .59048 HRS PER JOB

VT-283 REMOVE AND INSTALL GAS OR OIL FIRED WALL FURNACE

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWA-5-II	MATERIAL HANDLING	.20718	JOB	
2	PWQ-14-IV	TURN VALVE ON AND OFF	.00846	JOB	
3	PWQ-4-VI	DISCONNECT AND CONNECT UNION	.06218	JOB	
4	PWMU-1-8013	REMOVE AND INSTALL PANEL AND GRILL	.18480	JOB	
5	PWMU-1-8000	REMOVE AND INSTALL FASTENERS	.10680	JOB	
6	PWMU-1-8022	REMOVE AND INSTALL FURNACE	.20560	JOB	
7	4211	CHECK OPERATION	.29200	JOB	

VT-283 = 1.06702 HRS PER JOB

VT-284		INSTALL NEW UNIT HEATER			
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V39
1	PWB-6-II	RAISE UNIT WITH BLOCK AND TACKLE	.32174	JCB	
2	PWB-4-I	LASH AND UNLASH UNIT	.10292	JCB	
3	PWMU-1-8552	INSTALL MOUNTING BOLTS	.04360	JCB	
4	PWMU-1-8552	INSTALL MOUNTING NUTS	.04357	JCB	
5	PWQ-4-VI	INSTALL UNION	.12436	JCB	
6	PWQ-4-VI	INSTALL VALVE	.06219	JCB	
7	PWQ-4-VI	INSTALL NIPPLE	.06219	JCB	
8	PWQ-4-VI	INSTALL STRAINER	.02109	JCB	
9	PWQ-14-IV	OPEN VALVE	.00846	JCB	
10	PWQ-5-II	POSITION UNIT	.23301	JCB	
11	PWMU-1-3558	CLIMB UP AND DOWN SCAFFOLD	.04260	JCB	
12	PWQ-14-II	MOVE SCAFFOLD	.00792	JCB	
			.01122	JCB	
13	PWEA-52-I	LAY OUT STOCK FOR HANGER	.80160	JCB	
14	PWQ-2-I	CUT STOCK FOR HANGERS	.14863	JCB	
15	PWC-15-III	DRILL HOLES	.03080	JCB	
			.10148	JCB	
16	PWMU-1-8021	INSTALL HANGERS	.09800	JCB	
17	4211	INSPECT FOR LEAKS	.29200	JCB	
18	PWA-5-II	MATERIAL HANDLING	.20719	JCB	
VT-284 = 2.77661 HRS PER JOB					

VT-285		CLEAN ONE OIL-FIRED FORCED HOT AIR WALL FURNACE.			
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWQ-14-IV	OPEN AND CLOSE VALVE	.00846	JCB	
2	PWQ-20-II	DRAIN OIL	.03040	JCB	
3	PWMU-1-9000	REMOVE AND INSTALL FASTENERS	.07120	JCB	
4	PWQ-4-VI	DISCONNECT AND CONNECT	.06218	JCB	
5	PWMU-1-8021	REMOVE AND INSTALL BURNER	.04900	JCB	
6	PWMU-1-8013	DISASSEMBLE AND ASSEMBLE BURNER PARTS	.13480	JCB	
7	PWMU-1-8026	CLEAN PARTS	.04920	JCB	
8	PWMU-1-8030	CLEAN BURNER	.06790	JCB	
9	PWMU-1-8030	CLEAN PIPESCX	.06790	JCB	
10	PWMU-1-8030	CLEAN HOT AIR DUCT	.06790	JCB	
11	PWMU-1-8013	REMOVE AND INSTALL FILTER	.04620	JCB	
12	3600	LIGHT BURNER AND ADJUST FLAME	.01300	JCB	
13	PWMU-1-8027	CLEAN MOTOR	.03590	JCB	
14	PWG-40-II	LUBRICATE MOTOR	.01172	JCB	
15	4209	CHECK AND INSPECT	.16700	JCB	
VT-285 = .93276 HRS PER JOB					

VT-236

DISASSEMBLE, CLEAN, INSPECT AND ASSEMBLE APARTMENT
SIZE OIL-FIRED SPACE HEATER (2 1/2" X 2 1/2" X 4")
OR OIL-FIRED FLOOR FURNACE.-- DOES NOT INCLUDE
CLEANING CHIMNEY OR CARBURETOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8010	REMOVE AND INSTALL Baffles	.02620	JOB	
2	PMU-1-8027	CLEAN INSIDE HEATER	.10770	JOB	
3	PMU-1-8027	CLEAN OUTSIDE HEATER	.07180	JOB	
4	PMU-1-IV	TURN OIL TANK VALVE OFF AND ON	.03384	JOB	
5	PMU-1-8552	DISCONNECT AND CONNECT OIL LINE TO FILTER	.02180	JOB	
6	PMU-1-8552	REMOVE AND INSTALL NUT ON FILTER CONTAINER	.02180	JOB	
7	PMU-1-8026	CLEAN FILTER	.01640	JOB	
8	PMU-1-9000	REMOVE AND INSTALL SCREWS ON CARBURETOR TOP	.07120	JOB	
9	PMU-1-8552	REMOVE AND INSTALL OIL LINE FROM HEATER TO CARBURETOR	.04360	JOB	
10	PMU-1-8552	REMOVE AND INSTALL STRAINER	.02180	JOB	
11	4208	CHECK AND INSPECT	.04200	JOB	
12	PMU-3-I	MATERIAL HANDLING	.06906	JOB	
VT-236 =			.54720	HRS PER JOB	

VT-287

DISASSEMBLE, CLEAN, INSPECT AND ASSEMBLE APARTMENT
SIZE OIL-FIRED SPACE HEATER (2 1/2" X 2 1/2" X 4")
OR OIL-FIRED FLOOR FURNACE.--INCLUDES CLEANING
CHIMNEY AND CARBURETOR.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMU-1-8000	REMOVE AND INSTALL SCREW IN PIPE	.03560	JOB	
2	PMU-1-8011	REMOVE AND INSTALL PIPE FROM HEATER TO CHIMNEY	.07320	JOB	
3	PMU-3-II	CARRY PIPE TO BE CLEANED AND RETURN	.10350	JOB	
4	PMU-1-8027	CLEAN PIPE	.07180	JOB	
5	PMU-1-8052	CLIMB UP AND DOWN LADDER	.04140	JOB	
6	PMU-1-8027	CLEAN CHIMNEY	.07180	JOB	
7	PMU-1-8010	REMOVE AND INSTALL Baffles	.02620	JOB	
8	PMU-1-8027	CLEAN INSIDE HEATER	.10770	JOB	
9	PMU-1-8027	CLEAN OUTSIDE HEATER	.07180	JOB	
10	PMU-1-IV	TURN OIL TANK VALVE OFF AND ON	.03384	JOB	
11	PMU-1-8552	DISCONNECT AND CONNECT OIL LINE TO FILTER	.02180	JOB	
12	PMU-1-8552	REMOVE AND INSTALL NUT ON FILTER CONTAINER	.02180	JOB	
13	PMU-1-8026	CLEAN FILTER	.01640	JOB	
14	PMU-1-8000	REMOVE AND INSTALL FOUR SCREWS ON CARBURETOR TOP	.07120	JOB	
15	PMU-1-8552	REMOVE AND INSTALL OIL LINE FROM HEATER TO CARBURETOR	.04360	JOB	
16	PMU-1-8552	REMOVE AND INSTALL STRAINER	.02180	JOB	
17	PMU-1-8552	REMOVE AND INSTALL OIL LINE FROM HEATER TO OIL STORAGE	.02180	JOB	
18	4208	CHECK AND INSPECT	.04200	JOB	
19	PMU-3-I	MATERIAL HANDLING	.06906	JOB	
VT-287 =			.96639	HRS PER JOB	

VT-288 INSTALL 30-GALLON GAS-FIRED HOT WATER HEATER AND
FILL TANK.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWA-5-II	MATERIAL HANDLING	.10359	JOB	
2	PWMU-1-8022	POSITION HEATER	.10280	JOB	
3	PMQ-4-VI	CONNECT UNIONS	.09327	JOB	
4	4209	CHECK OPERATION	.14700	JOB	
5	PMQ-14-IV	TURN VALVE ON AND OFF	.00846	JOB	
6	PWMU-1-8021	CONNECT VENT STACK	.07450	JOB	
7	PWMU-1-8000	ATTACH SCREWS	.01780	JOB	
8	2147	FILL TANK	.08100	JOB	

VT-288 = .59842 HRS PER JOB

VT-289 REMOVE AND INSTALL 30-GALLON GAS-FIRED HOT WATER
HEATER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWA-5-II	MATERIAL HANDLING	.20718	JOB	
2	PMQ-4-VI	DISCONNECT AND CONNECT UNION	.18654	JOB	
3	PWMU-1-8022	REMOVE AND INSTALL HEATER	.20560	JOB	
4	PMQ-14-IV	TURN VALVE ON AND OFF	.00846	JOB	
5	PMQ-20-II	DRAIN AND FILL 30-GALLON TANK	.45600	JOB	
6	4209	CHECK OPERATION	.16700	JOB	

VT-289 = 1.23078 HRS PER JOB

VT-290 CLEAN 30-GALLON GAS-FIRED HOT WATER HEATER

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMQ-14-IV	CLOSE AND OPEN VALVE	.30846	JOB	
2	PWMU-1-8030	CLEAN AND ADJUST MAIN BURNER, PILOT AND THERMO- COUPLE	.20370	JOB	
3	PWMU-1-8027	CLEAN COMBUSTION CHAMBER AND BOTTOM OF TANK	.03590	JOB	
4	PMQ-20-II	FLUSH OUT HEATER	.45600	JOB	
5	4208	CHECK OPERATION OF SAFETY PILOT	.04200	JOB	
6	5600	LIGHT MAIN BURNER AND ADJUST FLAME	.01300	JOB	
7	4210	ASCERTAIN THAT HEATER CUTS OFF AT CORRECT TEMPERATURE	.07500	JOB	
8	4208	CHECK OPERATION OF RELIEF VALVE	.04200	JOB	

VT-290 = .87606 HRS PER JOB

VT-291

DISASSEMBLE, CLEAN, LUBRICATE, INSPECT, AND REASSEMBLE APARTMENT SIZE GAS UNIT HEATER (2 1/2" X 2 1/2" X 3"). INCLUDES CLEANING CHIMNEY.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8005	DISCONNECT AND CONNECT ELECTRIC PLUG FROM RECEPTACLE	.00400	JOB	
2	PWMU-1-8013	REMOVE AND INSTALL TOP FRONT COVER	.04620	JOB	
3	PWMU-1-8006	TURN GAS VALVE OFF AND ON	.01340	JOB	
4	PWMU-1-8000	REMOVE AND INSTALL SCREWS	.03560	JOB	
5	PWMU-1-8010	REMOVE BOTTOM FRONT COVER	.01310	JOB	
6	PWMU-1-8005	REMOVE AND INSTALL FILTER	.00400	JOB	
7	PWMU-1-8000	DISCONNECT AND CONNECT THERMALCOUPLING AT MAIN LINE	.01780	JOB	
8	PWMU-1-8000	DISCONNECT AND CONNECT PILOT COUPLING AT MAIN LINE	.01780	JOB	
9	PWMU-1-8000	REMOVE AND INSTALL SCREWS TO PILOT LIGHT ASSEMBLY	.03560	JOB	
10	PWMU-1-8010	REMOVE AND INSTALL PILOT LIGHT ASSEMBLY	.02620	JOB	
11	PWMU-1-8000	LOOSEN AND TIGHTEN TWO THUMB SCREWS	.03560	JOB	
12	PWMU-1-8010	REMOVE AND INSTALL BURNERS	.05240	JOB	
13	PWMU-1-8030	KNOCK SOOT FROM SIDE WALLS	.06790	JOB	
14	PWMU-1-8030	VACUUM AND WIPE UNIT	.06790	JOB	
15	PWG-40-II	OIL MOTOR AND PAN	.02344	JOB	
16	PWMU-1-8000	DISCONNECT AND CONNECT SOLENOID VALVE NUT	.01780	JOB	
17	PWMU-1-8005	REMOVE AND INSTALL VALVE FROM SOLENOID	.00400	JOB	
18	PWMU-1-8026	CLEAN VALVE AND WIPE WITH OIL	.01640	JOB	
19	PWMU-1-8000	REMOVE AND INSTALL PILOT LINE	.01780	JOB	
20	PWMU-1-8000	REMOVE AND INSTALL FITTING TO PILOT LIGHT NOZZLE	.01780	JOB	
21	PWMU-1-8026	CLEAN NOZZLE	.01640	JOB	
22	PWMU-1-8010	REPLACE BOTTOM FRONT COVER	.01310	JOB	
23	9600	LIGHT PILOT AND ADJUST	.01300	JOB	
24	4209	TURN ON BURNERS AND CHECK FOR PAN TO COME ON	.16700	JOB	
VT-291 =		.74423 HRS PER JOB			

VT-292 CLEAN, INSPECT AND LUBRICATE COLD WATER BLOWER UNIT WITH 2-CENTRIFUGAL (SQUIRREL CAGE) FANS (8" DIA.).
--INCLUDES DISASSEMBLE AND ASSEMBLE; VACUUM AND WIPE INSIDE UNIT AND BLOWER ASSEMBLY; INSPECT; AND LUBRICATE BLOWER BEARINGS.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V39
1	PWMU-1-8000	REMOVE AND INSTALL SCREWS	.03560	JOB	
2	PWMU-1-8021	REMOVE AND INSTALL FRONT COVER	.04900	JOB	
3	PWMU-1-8005	DISCONNECT AND CONNECT ELECTRIC PLUG FROM RECEPTACLE	.00400	JOB	
4	PWMU-1-8552	REMOVE AND INSTALL MOUNTING BOLTS AND NUTS	.08720	JOB	
5	PWMU-1-8021	REMOVE AND INSTALL FRAME AND BLOWER ASSEMBLY	.04900	JOB	
6	PWMU-1-8012	REMOVE AND INSTALL FILTER	.01790	JOB	
7	PWMU-1-8027	VACUUM AND WIPE INSIDE UNIT	.03590	JOB	
8	PWMU-1-8030	VACUUM AND WIPE BLOWER ASSEMBLY	.08790	JOB	
9	PWG-40-II	LUBRICATE BLOWER	.01172	JOB	
VT-292 =			.35612	HRS PER JOB	

VT-293 CLEAN, INSPECT, ADJUST AND LUBRICATE BLOWER UNIT WITH 4-CENTRIFUGAL (SQUIRREL CAGE) FANS (8" DIA.).
--INCLUDES DISASSEMBLE AND ASSEMBLE; VACUUM AND WIPE INSIDE UNIT, BLOWER AND COVERS; INSPECT; MAKE ADJUSTMENTS; LUBRICATE MOVING PARTS.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V39
1	PWMU-1-8000	REMOVE AND INSTALL SCREWS	.05340	JOB	
2	PWMU-1-8021	REMOVE AND INSTALL FRONT COVER	.04900	JOB	
3	PWMU-1-8005	TURN MOTOR OFF AND ON WITH KEY	.00400	JOB	
4	PWMU-1-8000	LOOSEN AND TIGHTEN SCREWS	.07120	JOB	
5	PWMU-1-8010	REMOVE AND INSTALL COVER PLATES	.05240	JOB	
6	PWMU-1-8552	REMOVE AND INSTALL THUMB SCREWS TO TOP COVER	.08720	JOB	
7	PWMU-1-8021	REMOVE AND INSTALL TOP COVER	.04900	JOB	
8	PWMU-1-8005	REMOVE AND INSTALL ELECTRIC PLUG FROM RECEPTACLE	.00400	JOB	
9	PWMU-1-8000	REMOVE AND INSTALL NUTS AND BOLTS ON BLOWER UNIT	.07120	JOB	
10	PWMU-1-8011	REMOVE AND INSTALL BLOWER UNIT	.14640	JOB	
11	2581	INSPECT BLOWER, ALL MOVING PARTS AND SURROUNDING AREA	.00464	JOB	
12	PWMU-1-8000	REMOVE AND INSTALL TWO BRACKET SCREWS	.03560	JOB	
13	PWMU-1-8012	TURN MOTOR TO OIL AND RETURN	.01780	JOB	
14	PWMU-1-8000	REMOVE AND INSTALL TWO OIL PLUG COVER SCREWS	.03560	JOB	
15	PWG-40-II	OIL MOTOR AT TWO LOCATIONS	.01172	JOB	
16	PWMU-1-8012	REMOVE AND INSTALL BOTTOM FILTER	.01780	JOB	
17	PWMU-1-8000	REMOVE AND INSTALL 3 THUMB SCREWS TO OUTSIDE VENT	.01780	JOB	
18	PWMU-1-8013	REMOVE AND INSTALL PLATE TO VENT	.04620	JOB	
19	PWMU-1-8013	REMOVE AND INSTALL FILTER TO OUTSIDE VENT	.04620	JOB	
20	PWMU-1-8028	VACUUM AND WIPE INSIDE UNIT, BLOWER, AND COVERS	.08440	JOB	
21	PWM-3-I	OIL DAMPER AND MOVING PARTS	.00354	JOB	
VT-293 =			.93261	HRS PER JOB	

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PWMU-1-8000	REMOVE AND INSTALL SCREWS IN THERMOSTAT COVER TO REMOVE COVER	.03560	JOB	
2	PWMU-1-8005	REMOVE AND INSTALL THERMOSTAT COVER	.00400	JOB	
3	PWMU-1-9000	REMOVE AND INSTALL COVER SCREW TO NEEDLE VALVE	.01780	JOB	
4	PWMU-1-9006	OPEN AND CLOSE NEEDLE VALVE	.01340	JOB	
5	PWMU-1-8552	INSTALL AND REMOVE BRANCH LINE AIR GAUGE	.02180	JOB	
6	PWMU-1-8553	ADJUST THERMOSTAT	.00870	JOB	
7	PWMU-1-8000	REMOVE AND INSTALL PIN VALVE SET SCREW	.01780	JOB	
8	PWMU-1-8006	ADJUST SET SCREW	.00670	JOB	
9	PWMU-1-8010	REMOVE PIN VALVE GAUGE	.01310	JOB	
10	PWMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.00850	JOB	
11	PWMU-1-8000	REMOVE AND INSTALL SCREWS IN COVER * AVG. OF TWO SCREWS	.03560	JOB	
12	PWMU-1-8010	REMOVE AND INSTALL COVER PLATE	.02620	JOB	
13	PWMU-1-9000	REMOVE AND INSTALL SCREWS TO REHEAT AND VENTILATING THERMOSTAT * AVG OF TWO SCREWS	.03560	JOB	
14	PWMU-1-8010	REMOVE AND INSTALL THERMOSTAT COVER	.02620	JOB	
15	PWMU-1-8000	REMOVE AND INSTALL SCREW IN FILTER LINE	.01780	JOB	
16	PWMU-1-8013	REMOVE AND INSTALL AIR GAUGE IN LINE	.04620	JOB	
17	5600	BLEED AIR LINE DOWN	.01300	JOB	
18	PWMU-1-9006	ADJUST GAGE	.00670	JOB	
19	3935	WAIT FOR UNIT TO COOL	.20000	JOB	
20	PWPM-55-707	PLACE THERMOSTAT ON TOP OF UNIT AND READ	.11656	JOB	
21	PWMU-1-8006	ADJUST UNIT BY TURNING SCREW	.00670	JOB	
22	3935	WAIT FOR UNIT TO COOL	.20000	JOB	
23	PWPM-55-707	PLACE THERMOSTAT ON TOP OF UNIT AND READ	.11656	JOB	
24	PWMU-1-8556	WALK AROUND WORK AREA AND EQUIPMENT PERFORMING DUTIES	.00850	JOB	

VT-294 = 1.00302 HRS PER JOB

VT-295 HOT AIR FURNACE, GUN TYPE, (UP TO 770,000 B.T.U.)
 --OFF-SEASON MAINTENANCE

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-9-I	CLEAN FUEL OIL, RENEW ELEMENT AND GASKET	.07584	FURNACE	
2	PMV-9-II	CLEAN, INSPECT, ADJUST ELECTRODE/NOZZLE ASSEMBLY	.17234	FURNACE	
3	PMV-9-III	SERVICE FUEL UNIT - - INCLUDES FUEL OIL PUMP, FORCED DRAFT BLOWER AND MOTOR	.16876	FURNACE	
4	PMV-9-IV	SERVICE FURNACE PIRESOX AND FLUE	.41183	FURNACE	
5	PMV-9-V	SERVICE FURNACE STACK SWITCH	.00928	FURNACE	
6	PMV-9-VI	SERVICE AIR CIRCULATION FAN AND MOTOR - - UP TO 1 HP	.20958	FURNACE	
7	PMV-9-VII	CONDUCT FURNACE OPERATIONAL CHECK	.11021	FURNACE	

VT-295 = 1.23804 HRS PER FURNACE

VT-296 ANALYZE SAMPLES OF BOILER WATER FROM FIRE TUBE BOILERS THAT ARE TREATED WITH CHEMICALS.
 * AN AVG. OF 9-BOILER SAMPLES ARE ANALYZED DAILY.

NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	PMV-4-I	LAY OUT AND RETURN TO STORAGE REQUIRED EQUIPMENT	.00422	BOILER	
2	PMV-4-II	SET UP PRELIMINARY EQUIPMENT FOR TEST	.00146	BOILER	
3	PMV-4-III	SET UP AND SECURE SOLU-BRIDGE GAUGE	.00881	BOILER	
4	PMV-4-IV	PREPARE DILUTED STANNOUS CHLORIDE SOLUTION	.00673	BOILER	
5	PMV-4-V	FILL USABLE SIZE CONTAINERS WITH CONTENTS FROM LARGE CONTAINER	.02141	BOILER	
6	PMV-4-VI	PERFORM TEST TO DETERMINE SOLID CONTENT OF SAMPLE	.03409	BOILER	
7	PMV-4-VII	PERFORM TEST TO DETERMINE PHOSPHATE CONTENT OF SAMPLE	.08863	BOILER	
8	PMV-4-VIII	PERFORM TEST TO DETERMINE TANNIN CONTENT OF SAMPLE	.04250	BOILER	
9	PMV-4-IX	PERFORM TEST TO DETERMINE PRESENCE OF CAUSTICITY IN SAMPLE	.05569	BOILER	
10	PMV-4-X	WASH FRAGILE EQUIPMENT USED IN ANALYZING BOILER WATER SAMPLES AND CLEAN UP WORK AREA, COUNTER, AND SINK	.00944	BOILER	
11	PMV-4-XI	PREPARE BOILER WATER SAMPLES TO MAIL TO LABORATORY 1-TIME PER MONTH	.00037	BOILER	

VT-296 = .27255 HRS PER BOILER

VT-297		CLEAN FUEL OIL FILTER; RENEW ELEMENT AND GASKET		
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS
1	3842	WALK AROUND WORK AREA	.00300	FILTER
2	2030	CLOSE/CHECK CLOSED FUEL OIL SHUT-OFF VALVE AND OPEN	.00630	FILTER
3	2301	OBTAIN AND ASIDE WIPING CLOTH	.00320	FILTER
4	PMU-1-8000	UNCOUPLE AND ASSEMBLE FILTER HOUSING AND BASE	.01780	FILTER
5	PMU-1-8005	DISENGAGE AND FIT UP FILTER HOUSING--FILTER ELEMENT INCLUDED	.00400	FILTER
6	3293	REMOVE AND DISCARD FILTER GASKET	.00039	FILTER
7	3293	REMOVE AND DISCARD FILTER ELEMENT	.00039	FILTER
8	3159	DUMP REMAINING OIL FROM FILTER HOUSING	.00170	FILTER
9	3231	WIPE FILTER HOUSING CLEAN WITH FILTER CLOTH	.00412	FILTER
10	2896	OBTAIN BOX CONTAINING NEW FILTER ELEMENT AND GASKET	.00250	FILTER
11	6184	OPEN BOX AND REMOVE FILTER ELEMENT AND GASKET	.00484	FILTER
12	6196	INSERT NEW FILTER ELEMENT IN HOUSING	.00049	FILTER
13	3738	PLACE NEW GASKET ON FILTER HOUSING	.00097	FILTER
14	6180	WIPE UP SPILLED FUEL OIL	.00199	FILTER
15	2581	INSPECT FILTER FOR LEAKS	.01392	FILTER
16	3231	WIPE TOOL WITH CLOTH	.00824	FILTER
VT-297 =		.07584 HRS PER FILTER		

VT-298		CLEAN, INSPECT, ADJUST ELECTRODE/NOZZLE ASSEMBLY			
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	3842	WALK AROUND WORK AREA	.00300	ASSEMBLY	
2	2901	OBTAIN AND ASIDE WIPING CLOTH	.00520	ASSEMBLY	
3	PMMU-1-8000	REMOVE AND INSTALL SCREW	.03560	ASSEMBLY	
4	PMMU-1-8005	REMOVE AND INSTALL ACCESS PANEL OR SWING HINGED TRANSFORMER ASIDE AND BACK IN PLACE	.00400	ASSEMBLY	
5	PMMU-1-8000	BREAK AND MAKE UP NOZZLE LINE CONNECTION (NERRULE OR FLARE NUT)	.01730	ASSEMBLY	
6	PMMU-1-8005	REMOVE AND INSTALL HOLD-DOWN DEVICE FOR NOZZLE LINE (LOCK NUT, SET SCREW, LOCK LEVER, ETC.)	.01340	ASSEMBLY	
7	6190	DETACH AND ATTACH ELECTRODE LEAD (SPRING CLIP)	.00112	ASSEMBLY	
8	PMMU-1-8005	MANEUVER ELECTRODE/NOZZLE ASSEMBLY OUT OF AND INTO AIR TUBE	.01600	ASSEMBLY	
9	PMMU-1-8000	REMOVE AND INSTALL BURNER NOZZLE (WITH STRAINER)	.01730	ASSEMBLY	
10	6190	EXTRACT AND INSERT BURNER NOZZLE STRAINER	.00224	ASSEMBLY	
11	2580	INSPECT NOZZLE AND NOZZLE STRAINER	.00565	ASSEMBLY	
12	1134	CLEAN NOZZLE WITH WIRE BRUSH	.00239	ASSEMBLY	
13	3197	WASH NOZZLE STRAINER WITH FUEL OIL	.03414	ASSEMBLY	
14	0629	CLEAN ELECTRODE WITH EMPTY CLOTH	.02552	ASSEMBLY	
15	2580	INSPECT ELECTRODES FOR PROPER GAP AND CLEARANCE	.00566	ASSEMBLY	
16	0913	ADJUST ELECTRODES ELECTRODE, AVG. 1-TIME OUT OF 2	.00290	ASSEMBLY	
17	3231	WIPE TOOLS WITH CLOTH	.00324	ASSEMBLY	
18	6180	WIPE UP SPILLED FUEL OIL	.00199	ASSEMBLY	
VT-298		.17254 HRS PER ASSEMBLY			

VT-299		SERVICE FUEL UNIT--INCLUDES FUEL OIL PUMP, FORCED DRAFT BLOWER AND MOTOR			
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38
1	3842	WALK AROUND WORK AREA	.00060	UNIT	
2	2901	OBTAIN AND ASIDE WIPING CLOTH	.01040	UNIT	
3	PMMU-1-8000	REMOVE AND INSTALL CAP SCREW (PUMP HEAD)	.14240	UNIT	
4	PMMU-1-8005	DISASSEMBLE AND FIT UP PUMP HEAD	.00400	UNIT	
5	3293	REMOVE PUMP HEAD GASKET	.00039	UNIT	
6	3293	REMOVE STRAINER FROM PUMP HEAD	.00039	UNIT	
7	2896	OBTAIN CARTON CONTAINING NEW STRAINER AND GASKET	.00050	UNIT	
8	6184	REMOVE STRAINER AND GASKET FROM CARTON	.00097	UNIT	
9	3197	CLEAN EXISTING STRAINER AND GASKET	.00331	UNIT	
10	6196	INSTALL STRAINER IN PUMP HOUSING	.00049	UNIT	
11	3738	PLACE GASKET ON PUMP HOUSING	.00097	UNIT	
12	3152	LUBRICATE PUMP/FORCED DRAFT BLOWER MOTOR	.00236	UNIT	
13	6180	WIPE UP SPILLED OIL	.00199	UNIT	
VT-299		.16876 HRS PER UNIT			

VT-300		SERVICE FURNACE FIREBOX AND FLUE			
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	3842	WALK AROUND WORK AREA	.03000	JOB	
2	3862	OBTAIN AND ASIDE SMALL HAND TOOL	.00684	JOB	
3	2901	OBTAIN AND ASIDE WIPING CLOTH	.00320	JOB	
4	PMU-1-8000	REMOVE AND INSTALL SCREW (ACCESS PANEL)	.01560	JOB	
5	PMU-1-8012	LIFT OFF ACCESS PANEL AND PLACE PANEL IN POSITION	.01780	JOB	
6	PMU-1-8000	REMOVE AND INSTALL NUT (FIREBOX PORT COVER)	.03560	JOB	
7	PMU-1-8011	REMOVE AND INSTALL FLUE CLEAN-OUT COVER, 9 INCH DIA., FRICTION FIT	.07320	JOB	
8	5862	ATTACH AND REMOVE VACUUM CLEANER HOSE	.00494	JOB	
9	0937	CONNECT AND DISCONNECT VACUUM CLEANER ELECTRICAL CORD	.01186	JOB	
10	3240	LOOSEN ATTACHED RESIDUE IN FLUE WITH SCRAPER	.00819	JOB	
11	2939	SCOOP OUT AMASSED MATERIAL IN FLUE	.00498	JOB	
12	3912	START AND STOP VACUUM CLEANER	.01552	JOB	
13	5170	VACUUM OUT REMAINDER OF LOOSE RESIDUE IN FLUE	.01983	JOB	
14	3240	LOOSEN ATTACHED RESIDUE IN FIREBOX WITH SCRAPER	.01636	JOB	
15	2938	SCOOP OUT AMASSED MATERIAL IN FIREBOX	.01644	JOB	
16	5169	VACUUM OUT REMAINDER OF LOOSE MATERIAL IN FIREBOX	.08592	JOB	
17	1134	CLEAN PORT COVERS	.00952	JOB	
18	2404	CUT ASBESTOS ROPE TO LENGTH FOR FIREBOX PORT COVER GASKET	.00018	JOB	
19	0127	FIT FIREBOX PORT COVER GASKET	.00150	JOB	
20	3231	WIPE HAND TOOL WITH CLOTH	.01236	JOB	
VT-300 =		.41183 HRS PER JOB			

VT-301		SERVICE FURNACE STACK SWITCH			
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V30
1	3862	OBTAIN AND ASIDE SMALL HAND TOOL	.00456	SWITCH	
2	2901	OBTAIN AND ASIDE WIPING CLOTH	.00416	SWITCH	
3	PMU-1-8000	REMOVE AND INSTALL SCREW (STACK SWITCH COVER)	.01780	SWITCH	
4	6192	REMOVE AND INSTALL STACK SWITCH COVER	.00118	SWITCH	
5	4200	CHECK MOVEMENT OF RELAY MANUALLY	.01000	SWITCH	
6	2580	INSPECT CONTACTS, WIRING, CONNECTIONS AND RELAYS FOR UNSATISFACTORY CONDITIONS	.01415	SWITCH	
7	PMU-1-8006	LOOSEN AND TIGHTEN STACK SWITCH MOUNTING SCREW	.01340	SWITCH	
8	3294	REMOVE STACK SWITCH FROM MOUNTING	.00057	SWITCH	
9	1134	CLEAN SENSING ELEMENT WITH WIRE BRUSH	.00476	SWITCH	
10	2581	INSPECT SENSING ELEMENT FOR UNSATISFACTORY CONDITION	.00928	SWITCH	
11	3286	INSTALL SWITCH IN MOUNTING	.00119	SWITCH	
12	3231	WIPE TOOLS WITH CLOTH	.00824	SWITCH	
VT-301 =		.08928 HRS PER SWITCH			

VT-302		SERVICE AIR CIRCULATION FAN AND MOTOR				
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38	
1	3842	WALK AROUND WORK AREA	.00600	JOB		
2	3862	OBTAIN AND ASIDE SMALL HAND TOOL	.00684	JOB		
3	2901	OBTAIN AND ASIDE WIPING CLOTH	.00312	JOB		
4	PWNU-1-9383	TURN FURNACE SWITCH OFF AND ON	.04230	JOB		
5	1137	UNLATCH AND LATCH ACCESS PANEL	.00102	JOB		
6	PWNU-1-8012	REMOVE AND INSTALL ACCESS PANEL (NO FASTENERS)	.01780	JOB		
7	2581	VISUALLY INSPECT INTERIOR OF CABINET, FAN, FAN MOTOR, ETC.	.00464	JOB		
8	1127	ROTATE FAN AND MOTOR BY HAND AND CHECK CONDITION OF BELT	.01770	JOB		
9	PWNU-1-8440	INSPECT, CLEAN, LUBRICATE AND ADJUST FAN MOTOR	.04810	JOB		
10	3192	LUBRICATE FAN BEARINGS	.00236	JOB		
11	2605	CHECK CONDITION OF FAN BEARING	.01906	JOB		
12	3226	WIPE DOWN CABINET INTERIOR WITH CLOTH	.04064	JOB		
VT-302		.20958 HRS PER JOB				

VT-303		CONDUCT FURNACE OPERATIONAL CHECK				
NO	REFERENCE	WORK UNIT DESCRIPTION	HOURS	UNITS	V38	
1	3842	WALK AROUND WORK AREA	.00450	CHECK		
2	3862	OBTAIN AND ASIDE SMALL HAND TOOL	.00456	CHECK		
3	2090	OPEN AND CLOSE FUEL OIL SHUT OFF VALVE	.00630	CHECK		
4	PWNU-1-9383	TURN FURNACE SWITCH/CIRCUIT BREAKER OFF AND ON	.02820	CHECK		
5	PWNU-1-8006	LOOSEN AND TIGHTEN STACK SWITCH SET SCREW	.01340	CHECK		
6	3294	REMOVE STACK SWITCH FROM MOUNTING	.00057	CHECK		
7	3286	INSTALL STACK SWITCH IN MOUNTING	.00119	CHECK		
8	2601	OBSERVE FLAME FOR PROPER BURN	.00840	CHECK		
9	5604	ADJUST FLAME	.01775	CHECK		
10	3955	INSURE STACK SWITCH CYCLES FURNACE WITHIN PROPER TIME FRAME	.02500	CHECK		
11	2392	RESET STACK SWITCH (PUSH BUTTON)	.00034	CHECK		
VT-303		.11021 HRS PER CHECK				

INDEX

DESCRIPTION	PAGES
ABSORBER	
ANNUAL MAINTENANCE.....	14
AIR CONDITIONING COMPONENTS	
MISCELLANEOUS	
REMOVE AND INSTALL.....	12-14
AIR CONDITIONING FANS AND MOTORS	
REMOVE AND INSTALL.....	13
AIR CONDITIONING SYSTEM	
PULL VACUUM.....	11
AIR CONDITIONING UNITS	
ANNUAL MAINTENANCE.....	5-6
PACKAGE-TYPE	
RECURRING MAINTENANCE.....	7
REMOVE & INSTALL COMPONENTS.....	10
SEASONAL MAINTENANCE.....	8
ANNUAL MAINTENANCE.....	6
RECURRING MAINTENANCE.....	7
PUMP DOWN, CHARGE, & EVACUATE.....	11
REMOVE & INSTALL UNITS/COMPONENTS.....	9-10
SEASONAL SHUTDOWN.....	8
WINDOW-TYPE	
RECURRING MAINTENANCE.....	7
SEASONAL SHUTDOWN.....	8
ANNUAL MAINTENANCE.....	6
AIR HANDLER SYSTEMS	
ANNUAL MAINTENANCE.....	5
RECURRING MAINTENANCE.....	7
REMOVE AND INSTALL UNITS/COMPONENTS.....	9
SHUTDOWN.....	8
ANALYZE FIRE TUBE BOILER WATER SAMPLES.....	35
ANNUAL MAINTENANCE	
AIR CONDITIONING UNITS.....	5-6
BEARINGS/SEALS	
3HP WATER PUMP MOTOR	
REPLACE.....	13
BELT	
WATER COOLER	
REMOVE AND INSTALL.....	12
BLOWERS	
CLEAN, LUBE, INSPECT.....	34
DISASSEMBLE, ASSEMBLE, REGULATE.....	34

BOILER	
FIRE TUBE	
ANALYZE WATER SAMPLES.....	35
FIRE OR WATER TUBE	
CLEAN FIRE BOXES.....	26-28
CLEAN TUBE SHEET COMPARTMENT.....	26-28
CLEAN TUBES.....	26-28
CLEAN WATERSIDE DRUM.....	26-28
OPEN OR CLOSE FIRESIDE.....	19-20
OPEN OR CLOSE WATERSIDE.....	21
REMOVE AND INSTALL TUBES.....	29-30
WATERSIDE, FILL AND INSPECT.....	21
SECTIONAL	
REMOVE AND INSTALL PUSH NIPPLES.....	31
BOILER INSPECTOR	
ASSIST INSPECTOR	
FIRE OR WATER TUBE BOILER INSPECTION.....	17-18
BOILER TUBES	
FIRE OR WATER TUBE	
REMOVE AND INSTALL.....	29-30
BOILER WATERSIDE	
FIRE OR WATER TUBE	
DRAIN.....	21
COMPRESSOR	
DISASSEMBLE, CLEAN, INSPECT, ASSEMBLE.....	14
ANNUAL MAINTENANCE.....	5
RECURRING MAINTENANCE.....	7
REMOVE AND INSTALL UNITS/COMPONENTS.....	9-10
SEASONAL SHUTDOWN.....	8
COMPRESSOR ONLY	
PUMP DOWN AIR CONDITIONING SYSTEM.....	11
CONDENSER	
AIR-COOLED	
ANNUAL MAINTENANCE.....	5-6
EVAPORATIVE	
ANNUAL MAINTENANCE.....	5-6
RECURRING MAINTENANCE.....	7
REMOVE AND INSTALL UNITS/COMPONENTS.....	9-10
SEASONAL SHUTDOWN.....	8
SHELL & TUBE WATER-COOLED	
ANNUAL MAINTENANCE.....	5-6
COOLING TOWERS	
ANNUAL MAINTENANCE.....	5-6
RECURRING MAINTENANCE.....	7
REMOVE AND INSTALL UNITS/COMPONENTS.....	9-10
SEASONAL SHUTDOWN.....	8
COVERS	
BOILER WATERSIDE	
REMOVE OR INSTALL.....	21
DOORS	
BOILER FIRESIDE	
REMOVE OR INSTALL.....	19-20

DRUM	
WATERSIDE	
FIRETUBE BOILER	
CLEAN INTERIOR.....	22
FIRE TUBE BOILER	
EXTERNAL INSPECTION	
ASSIST INSPECTOR.....	17
INTERNAL INSPECTION	
ASSIST INSPECTOR.....	17
OPERATING INSPECTION	
ASSIST INSPECTOR.....	17
HYDROSTATIC TEST INSPECTION	
ASSIST INSPECTOR.....	18
INTERNAL/EXTERNAL/HYDROSTATIC INSPECTION	
ASSIST INSPECTOR.....	18
INTERNAL/EXTERNAL INSPECTION	
ASSIST INSPECTOR.....	18
FIREBOX TOP	
BOILER FIRESIDE	
REMOVE OR INSTALL.....	20
FIREBRICK	
BOILER FIRESIDE	
REMOVE OR INSTALL.....	20
FIRESIDE	
FIRE OR WATER TUBE BOILER	
REMOVE OR INSTALL.....	19-20
FURNACE	
CLEAN, LUBE, INSPECT.....	34
DISASSEMBLE, ASSEMBLE, REGULATE.....	34
FURNACE OPERATIONAL CHECK.....	34
OFF SEASON MAINTENANCE.....	34
SERVICE FIRE BOX AND FLUE.....	34
GASKET	
REFRIGERATOR DOOR	
REMOVE AND INSTALL.....	13
GENERATOR	
ANNUAL MAINTENANCE.....	14
HEATER	
FLOOR	
CLEAN, LUBE, INSPECT.....	32-33
REMOVE, INSTALL, DISASSEMBLE AND ASSEMBLE.....	32-33
HOT WATER	
CLEAN, LUBE, INSPECT.....	32-33
REMOVE, INSTALL, DISASSEMBLE, ASSEMBLE.....	32-33
SPACE	
CLEAN, LUBE, INSPECT.....	32-33
REMOVE, INSTALL, DISASSEMBLE AND ASSEMBLE.....	32-33
UNIT	
CLEAN, LUBE, INSPECT.....	32-33
REMOVE, INSTALL, DISASSEMBLE, ASSEMBLE.....	32-33
WALL	
CLEAN, LUBE, INSPECT.....	32-33
REMOVE, INSTALL, DISASSEMBLE AND ASSEMBLE.....	32-33

INSPECTION PLATES	
BOILER FIRESIDE	
REMOVE OR INSTALL.....	19-20
MISC. AIR CONDITIONING COMPONENTS	
REMOVE AND INSTALL.....	12-14
MOTOR	
ELECTRIC UNDER 1 HP	
REMOVE AND INSTALL.....	13
PULL VACUUM ON AIR CONDITIONING SYSTEM.....	11
PUMP DOWN, CHARGE, AND EVACUATE AIR CONDITIONING UNITS.....	11
PUMP 3HP MOTOR	
REPLACE BEARINGS/SEALS.....	13
PUSH NIPPLES	
SECTIONAL BOILER	
REMOVE AND INSTALL.....	31
RECEIVER/KING VALVE	
OPEN COMPONENTS A/C SYSTEM	
REMOVE & INSTALL.....	14
RECURRING MAINTENANCE	
AIR CONDITIONING UNITS.....	7
REGULATE BLOWERS AND FURNACES.....	34
SEALS/BEARINGS	
3HP WATER PUMP	
REMOVE AND INSTALL.....	13
SEASONAL SHUTDOWN	
AIR CONDITIONING UNITS.....	8
SECTIONAL BOILER	
CAST IRON	
REMOVE & INSTALL PUSH NIPPLES.....	31
SHELL PLUG	
REMOVE OR INSTALL	
BOILER WATERSIDE.....	21
SUPERHEATER	
REMOVE AND INSTALL COMPONENTS.....	19
SUPERHEATER	
WATER TUBE BOILER	
CLEAN.....	22
TUBE SHEET COMPARTMENT	
FIRE TUBE OR WATER TUBE	
CLEAN.....	26-28
TUBE	
BOILER	
FIRE OR WATER TUBE BOILER	
CLEAN.....	26-28
REMOVE AND INSTALL.....	29-30
VALVE PLATE, AIR CONDITIONER COMPRESSOR	
REMOVE AND INSTALL.....	9
WATER SAMPLES	
FIRE TUBE BOILER	
ANALYZE.....	35

WATER TUBE BOILER	
INTERNAL/EXTERNAL INSPECTION	
ASSIST INSPECTOR.....	18
EXTERNAL INSPECTION	
ASSIST INSPECTOR.....	17
HYDROSTATIC TEST INSP.	
ASSIST INSPECTOR.....	18
INTERNAL/EXTERNAL/HYDROSTATIC INSPECTION	
ASSIST INSPECTOR.....	18
INTERNAL INSPECTION	
ASSIST INSPECTOR.....	17
OPERATING INSPECTION	
ASSIST INSPECTOR.....	17
CLEAN AIR PREHEATER.....	25
CLEAN BOILER.....	22-25
CLEAN FIRESIDE.....	22-25
CLEAN PRECIPITATOR.....	24
CLEAN SUPERHEATER.....	22
CLEAN WATERSIDE.....	22-25
WATERSIDE OPEN OR CLOSE	
FIRE OR WATER TUBE BOILER.....	21
WINDOW AIR CONDITIONING UNITS	
REMOVE AND INSTALL.....	12

Installation: _____ Service: _____
 Submitted by: _____ Date: _____

EPS Feedback sheet.

The following questions are designed to assist the NAVFAC Industrial Engineering Center in its continuing effort to improve the overall quality of standard data presented in the EPS handbooks.

1. List frequently recurring tasks which are not presently covered:

CRAFT HANDBOOK	TASK DESCRIPTION
_____	_____
_____	_____
_____	_____

2. List tasks presently covered which are never used:

CRAFT HANDBOOK	TASK DESCRIPTION
_____	_____
_____	_____
_____	_____

3. List tasks for which, in your judgment, craft time is inaccurate - indicate whether too high or too low:

CRAFT HANDBOOK	TASK DESCRIPTION	HIGH/LOW
_____	_____	_____
_____	_____	_____
_____	_____	_____

4. Identify apparent inconsistencies in present data coverage:

5. General comments (format of data presentation, etc.)

Installation: _____ Service: _____
 Submitted by: _____ Date: _____

EPS Feedback sheet.

The following questions are designed to assist the NAVFAC Industrial Engineering Center in its continuing effort to improve the overall quality of standard data presented in the EPS handbooks.

1. List frequently recurring tasks which are not presently covered:

CRAFT HANDBOOK	TASK DESCRIPTION
_____	_____
_____	_____
_____	_____

2. List tasks presently covered which are never used:

CRAFT HANDBOOK	TASK DESCRIPTION
_____	_____
_____	_____
_____	_____

3. List tasks for which, in your judgment, craft time is inaccurate - indicate whether too high or too low:

CRAFT HANDBOOK	TASK DESCRIPTION	HIGH/LOW
_____	_____	_____
_____	_____	_____
_____	_____	_____

4. Identify apparent inconsistencies in present data coverage:

5. General comments (format of data presentation, etc.)

Installation: _____ Service: _____
 Submitted by: _____ Date: _____

EPS Feedback sheet.

The following questions are designed to assist the NAVFAC Industrial Engineering Center in its continuing effort to improve the overall quality of standard data presented in the EPS handbooks.

1. List frequently recurring tasks which are not presently covered:

CRAFT HANDBOOK	TASK DESCRIPTION
_____	_____
_____	_____
_____	_____

2. List tasks presently covered which are never used:

CRAFT HANDBOOK	TASK DESCRIPTION
_____	_____
_____	_____
_____	_____

3. List tasks for which, in your judgment, craft time is inaccurate - indicate whether too high or too low:

CRAFT HANDBOOK	TASK DESCRIPTION	HIGH/LOW
_____	_____	_____
_____	_____	_____
_____	_____	_____

4. Identify apparent inconsistencies in present data coverage:

5. General comments (format of data presentation, etc.)

FOLD

Official Business
PENALTY FOR PRIVATE USE, \$300



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 12503 WASHINGTON, D.C.

POSTAGE WILL BE PAID BY: DEPARTMENT OF THE NAVY

DEPARTMENT OF THE NAVY
Atlantic Division, Code 103
Naval Facilities Engineering Command
Norfolk, Virginia 23511



FOLD