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DoD 5010.15.1-M
VOLUME VI

STANDARDIZATION OF WORK MEASUREMENT

Defense Work Measurement Standard Time Data Program

VOLUME VI

MACHINE TRADES OCCUPATIONS

November 1974

DEPARTMENT OF DEFENSE
DEFENSE INDUSTRIAL RESOURCES SUPPORT OFFICE
CAMERON STATION
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IN REPLY
REFER TO

CHANGE NO. 1
DOD 5010.15.1-M

STANDARDIZATION OF WORK MEASUREMENT
MACHINE TRADES OCCUPATIONS

I. DoD 5010.15.1-M, Volume VI, 1 Dec 75, is changed as follows:

A. Page v, Part Two, Section I, Line 1: Delete the word "three" and substitute "four."

B. Page v, Part Two, Section I: Add the following paragraph:

The Verb Index which is an alphabetical listing of the "title" line of the DWMSTDP Operation/Element Description sequenced by the verb, page D-1.

C. Add pages D-1 thru D-22 after C-23.

II. This change is an administrative addition of an index for the elements published in the volume.

III. This change sheet will be filed in front of the publication for reference purposes, after changes have been made.

RICHARD J. POWER
Director

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FOREWORD

This is one of ten volumes of DoD 5010.15.1-M published under the authority of DoD Directive 5010.15, Defense Integrated Management Engineering System (DIMES). It provides standard time data oriented to the Department of Labor occupation codes and guidelines for uniform application. Maximum use of these guidelines and standard time data is mandatory at each Department of Defense activity where Labor Performance Standards are developed and applied.

All of the included standard time data elements have been reviewed and approved by a Joint Service/Agency Standard Time Data Group prior to publication.

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STANDARD TIME DATA
FOR
MACHINE TRADES OCCUPATIONS

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DEFENSE WORK MEASUREMENT STANDARD TIME DATA PROGRAM (DWMSTDP)

MACHINE TRADES OCCUPATIONS

PART ONE - GUIDANCE

CHAPTER I - GENERAL INFORMATION

1.1 PURPOSE

This volume of Machine Trades Occupations Standard Time Data is one of ten volumes of standard time data in the 11 volume series included in DWMSTDP. Machine Trades Occupations as categorized by the Department of Labor includes those occupations concerned with feeding, tending, operating, controlling, and setting up machines to cut, bore, mill, abrade, print, and similarly work such materials as metal, paper, wood, and stone. This includes understanding machine functions, reading blueprints, making mathematical computations and exercising judgement to attain conformance to specifications. Disassembly, repair, reassembly, installation, and maintenance of machines and mechanical equipment, and weaving, knitting, spinning, and similarly working textiles are also included. This volume provides a single DoD source for Standard Time Data elements which can be used in the development of labor standards for:

1.1.1 Organizations, activities, or functional areas whose primary missions correlate to machine trades occupations, e.g., maintenance functions (aircraft, vehicles, vessels, etc.) including machine shop and mechanical equipment repair operations.

1.1.2 For machine trades operations within organizations, activities, or functional areas engaged in other than machine trades occupations, e.g., box nailing machine operator in a box assembly operation within a supply activity.

1.1.3 Elements of work performed by personnel whose primary jobs are other than machine trades, but who may actually do that type work as a part of their jobs; e.g., a sheet metal worker drilling parts to be installed with an upright drill press.

1.2 SCOPE

This publication applies to all military services and defense agencies. The data contained herein will be used to the maximum extent practicable in the development of labor performance standards in compliance with DoD Directive 5010.15.

1.3 APPLICATION

The Machine Trades Occupations Standard Time Data contained in this volume must be applied in accordance with the general information contained in the Basic Volume and the specific instructions contained in this volume.

1.4 SUBMISSION OF NEW ELEMENTS

All newly developed or existing Machine Trades Occupations Standard Time Data element(s) not now included herein will be submitted with back-up motion pattern analysis to the Defense Industrial and Management Engineering Office (DIMEO) for review and possible inclusion in the updating changes to this volume. The Basic Volume contains procedures for submitting this input.

CHAPTER II - CODING

2.1 GENERAL

The complete coding structure for a Defense Work Measurement Standard Time Data element is explained in the Basic Volume. Figure 1 highlights the Occupation Code, Work Category Code, and the Work Sub-Category Code of a Machine Trades element.

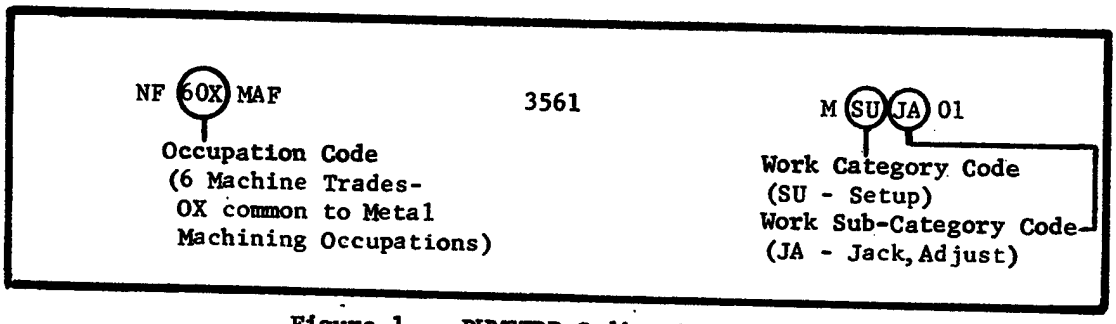

Figure 1. - DWMSTDP Coding Structure

2.2 TYPES OF CODES

2.2.1 Occupation Codes

The Occupation Codes for standard time data elements in this volume conform to the numeric codes of Machine Trades Occupations listed in the U.S. Department of Labor Dictionary of Occupational Titles. All Department of Labor Machine Trades Occupations are shown in Figure 2. Figure 3 identifies the work ascribed to the specific occupations contained in this volume. There are occasions when a standard time data element may have common application to two or more Divisions of the total 6__ Machine Trades Occupational Category. If this is the case, an X is used in the Occupation Division position (second numeric) and the Group position (third numeric), e.g., 6XX. If the common application occurs only within the Occupation Division, an X is used in the Group position only (third numeric), e.g., 60X, 62X.

2.2.2 Work Category Code

The two position Work Category Code encircled in Figure 1 further identifies the various types of work performed within the occupation groups. This classification category indicates the major action being performed or major equipment involved in the standard time data element. Figure 4 lists and defines the work categories used in coding Machine Trades Occupations standard time data.

2.2.3 Work Sub-Category Code

The two position Work Sub-Category Code encircled in Figure 1 is a sub-division of the Work Category Code and identifies the object, process, or condition associated with the action or equipment. This code is generally oriented to a noun-verb relationship, e.g., JA is the code for "Jack, Adjust" in the element description header line. However, if the noun-verb sequence in the element code causes a duplication of the code, the sequence has been modified. The noun-verb sequence will remain in the verbage of the element title whenever possible.

2.3 Fundamental Elements

Every occupation includes general purpose elements such as get, place, read or write which are fundamental to each occupation but not specific to any one. These elements are called "Universal" and are contained in Volume X - Universal Standard Time Data.

MACHINE TRADES OCCUPATION CODES

6 - MACHINE TRADES OCCUPATIONS

(Machine Trades)

60 Metal Machining Occupations (Metal Machining)

600. Machinists and related occupations (Machining and related work)
601. Toolmakers and related occupations (Toolmaking and related work)
602. Gear machining occupations (Gear machining)
603. Abrading occupations (Abrading)
604. Turning occupations (Turning)
605. Milling and planing occupations (Milling and planing)
606. Boring occupations (Boring)
607. Sawing occupations (Sawing)
609. Metal machining occupations, n.e.c. (Metal machining, n.e.c.)

61 Metalworking Occupations, N.E.C. (Metalworking, N.E.C.)

610. Hammer forging occupations (Hammer forging)
611. Press forging occupations (Press forging)
612. Forging occupations, n.e.c. (Forging, n.e.c.)
613. Sheet and bar rolling occupations (Sheet and bar rolling)
614. Extruding and drawing occupations (Extruding and drawing)
615. Punching and shearing occupations (Punching and shearing)
616. Fabricating machine occupations (Fabricating machine work)
617. Forming occupations, n.e.c. (Metal forming, n.e.c.)
619. Miscellaneous metalworking occupations, n.e.c. (Miscellaneous metalworking, n.e.c.)

62) Mechanics and Machinery Repairmen
63) (Mechanical Repairing)

620. Motorized vehicle and engineering equipment mechanics and repairmen (Motorized vehicle and engineering equipment repairing)
621. Aircraft mechanics and repairmen (Aircraft repairing) (Includes engines and components)
622. Rail equipment mechanics and repairmen (Rail equipment repairing)
623. Marine mechanics and repairmen (Marine equipment repairing)
624. Farm mechanics and repairmen (Farm machinery repairing)
625. Engine, power transmission, and related mechanics (Engine, power transmission, and related equipment repairing)
626. Metalworking machinery mechanics (Metalworking machinery repairing)
627. Printing and publishing mechanics and repairmen (Printing

Figure 2 - Machine Trades Occupation Codes

and publishing machinery repairing)
628. Textile machinery and equipment mechanics and repairmen (Textile machinery and equipment repairing)
629. Special industry machinery mechanics (Special industry machinery repairing)
630. General industry mechanics and repairmen (General industry machinery repairing)
631. Powerplant mechanics and repairmen (Powerplant machinery repairing)
632. Ordnance and accessories mechanics and repairmen (Ordnance and accessory repairing)
633. Business and commercial machine repairmen (Business and commercial machine repairing)
637. Utilities service mechanics and repairmen (Utility equipment repairing)
638. Miscellaneous occupations in machine installation and repair (Miscellaneous machine installation and repairing)
639. Mechanics and machinery repairmen, n.e.c. (Mechanical repairing, n.e.c.)

64 Paperworking Occupations
(Paperworking)

640. Paper cutting, winding, and related occupations (Paper cutting, winding, and related work)
641. Folding, creasing, scoring, and gluing occupations (Folding, creasing, scoring, and gluing)
642. Paper sewing occupations (Paper sewing)
643. Corrugating occupations (Paper corrugating)
644. Fastening occupations, n.e.c. (Paper fastening, n.e.c.)
649. Paperworking occupations, n.e.c. (Paperworking, n.e.c.)

65 Printing Occupations
(Printing)

650. Typesetters and composers (Typesetting and composing)
651. Printing press occupations (Printing press work)
652. Printing machine occupations (Printing machine work)
653. Bookbinders and related occupations (Bookbinding and related work)
654. Typecasters and related occupations (Typecasting and related work)
659. Printing occupations, n.e.c. (Printing, n.e.c.)

66 Wood Machining Occupations
(Wood Machining)

660. Cabinetmakers (Cabinetmaking)
661. Patternmakers (Patternmaking)
662. Sanding occupations (Sanding)

Figure 2 - Machine Trades Occupation Codes (Continued)

663. Shearing and shaving occupations (Shearing and shaving)
664. Turning occupations (Turning)
665. Milling and planing occupations (Milling and planing)
666. Boring occupations (Boring)
667. Sawing occupations (Sawing)
668. Chipping occupations (Chipping)
669. Wood machining occupations, n.e.c. (Wood machining, n.e.c.)

67 Occupations in Machining Stone, Clay, Glass, and Related Materials (Machining, Nonmetallic Minerals and Related Materials)

670. Stonecutters and related occupations (Stonecutting and related work)
673. Abrading occupations (Abrading and polishing)
674. Turning occupations (Turning)
675. Planing and shaping occupations, n.e.c. (Planing and shaping, n.e.c.)
676. Boring and punching occupations (Boring and punching)
677. Chipping, cutting, sawing, and related occupations (Chipping, cutting, sawing, and related work)
679. Occupations in machining stone, clay, glass, and related materials, n.e.c. (Machining, nonmetallic minerals and related materials, n.e.c.)

68 Textile Occupations
(Textile Machine Work)

680. Carding,combing, drawing, and related occupations (Carding, combing, drawing, and related work)
681. Twisting, beaming, warping, and related occupations (Twisting, beaming, warping, and related work)
682. Spinning occupations (Spinning)
683. Weavers and related occupations (Weaving and related work)
684. Hosiery knitting occupations (Hosiery knitting)
685. Knitting occupations, except hosiery (Knitting, except hosiery)
686. Punching, cutting, forming, and related occupations (Punching, cutting, forming, and related work)
689. Textile occupations, n.e.c. (Textile machine work, n.e.c.)

69 Machine Trades Occupations, N.E.C.
(Machine Work, N.E.C.)

690. Plastics, synthetics, rubber, and leather working occupations (Plastics, synthetics, rubber, and leather working)
691. Occupations in fabrication of insulated wire and cable (Insulated wire and cable fabricating)
692. Occupations in fabrication of products from assorted materials (Fabrication of products from assorted materials)

Figure 2 - Machine Trades Occupation Codes (Continued)

693. Modelmakers, patternmakers, and related occupations (Model-making, patternmaking, and related work)
694. Occupations in fabrication of ordnance, ammunition, and related products, n.e.c. (Fabrication of ordnance, ammunition, and related products, n.e.c.)
699. Miscellaneous machine trades occupations, n.e.c. (Miscellaneous machine work, n.e.c.)

n.e.c. - not elsewhere classified

Figure 2 - Machine Trades Occupation Codes (Continued)

DWMSTDP MACHINE TRADES OCCUPATIONS CODES

Code	Occupation	Work Description
600	Machinists and Related Occupations (Machining and Related Work)	Shaping metal parts by milling, turning, planing, abrading, boring, chipping, sawing, and shaving with a variety of metal-working machines. Includes laying out, job setting, fitting, assembling, and repairing.
601	Toolmakers, and Related Occupations (Toolmaking and Related Work)	The entire scope of constructing, repairing, maintaining, and calibrating machine-shop tools, jigs, fixtures, instruments, and metal-forming dies.
603	Abrading Occupations (Abrading)	Smoothing, polishing, or sharpening metal objects by the wearing away action of abrasives or machine files.
604	Turning Occupations (Turning)	Shaping metal by the paring or chipping action of rigid cutting tools applied to metal rotating in a lathe.
605	Milling and Planing Occupations (Milling and Planing)	Removing excess metal by the action of a revolving multiple-tooth cutter, thus producing flat or profiled surfaces, grooves, and slots.
606	Boring Occupations (Boring)	Piercing metal by means of rotary cutting tools advanced into the material in the direction of the tool's axis to make, enlarge, or thread holes.
607	Sawing Occupations (Sawing)	Severing or shaping metal by the reciprocal or rotary cutting action of a saw-toothed or abrasive-edged blade or disk which wears out a kerf.
609	Metal Machining Occupations, n.e.c. (Metal Machining, n.e.c.)	Shaping metal parts or products by removing excess material from stock or objects not elsewhere classified.
615	Punching and Shearing Occupations (Punching and Shearing)	Making holes in metal by cutting out a circular wad under pressure from a die whose hole is slightly larger than the diameter of the punch; and cutting or shearing metal by the action of a keen-edged cutting tool.

n.e.c. - not elsewhere classified

Figure 3 - Work Description of DWMSTDP Machine Trades Occupations Codes

DWMSTDP MACHINE TRADES OCCUPATIONS CODES

Code	Occupation	Work Description
616	Fabricating Machine Occupations (Fabricating Machine Work)	Shaping, fitting, and assembling metal parts.
620	Motorized Vehicle and Engineering Equipment Mechanics and Repairmen (Motorized Vehicle and Engineering Equipment Repairing)	Repairing engines and accessories, power trains, suspension systems, and other mechanical units of automobiles, trucks, tractors, buses, and trackless trolleys: graders, bulldozers, cranes, power shovels, portable air-compressors, and other gasoline- or diesel-powerer engineering equipment; motorized materials-handling equipment, such as forklifts and lumber carriers; and wheeled or tracked military vehicles, including personnel carriers, self-propelled guns, mobile rocket launchers, and tanks.
621	Aircraft Mechanics and Repairmen (Aircraft Repairing)	Repairing all types of aircraft engines, and mechanical or hydraulic systems and components of airplanes and missiles.
639	Mechanics and Machinery Repairmen, n.e.c. (Mechanical Repairing, n.e.c.)	Inspecting, maintaining, and repairing mechanical equipment not elsewhere classified.
660	Cabinetmakers (Cabinetmaking)	The complete cycle of cutting, shaping, and assembling prepared parts of complex wood products, such as store fixtures, office equipment, and home furniture. A cabinetmaker would operate a variety of machines, such as the bandsaw, jointer, mortiser, tenoner, molder, gainer, and variety machine. Workers who are primarily concerned with one or a limited number of machine phases would be classified according to their specialty.
664	Turning Occupations (Turning)	Shaping wood by the paring or chipping action of rigid cutting tools applied to wood rotating on a lathe.
665	Milling and Planing Occupations (Milling and Planing)	Cutting a smooth surface on rough wood stock and reducing it to desired thickness by the action of rotating cutting tools mounted on a machine.

n.e.c. - not elsewhere classified

Figure 3 - Work Description of DWMSTDP Machine Trades Occupations Codes (Continued)

DWMSTDP MACHINE TRADES OCCUPATIONS CODES

Code	Occupation	Work Description
666	Boring Occupations (Boring)	Piercing wood by means of rotary cutting tools advanced into the wood in the direction of the tool's axis to make, enlarge, or thread holes.
667	Sawing Occupations	Severing or shaping wood by the reciprocal or rotary cutting action of a blade which wears out a kerf.
669	Wood Machining Occupations, n.e.c. (Wood Machining, n.e.c.)	Shaping wooden parts or products by removing excess material from stock or objects not elsewhere classified.
699	Miscellaneous Machine Trades Occupations, n.e.c. (Miscellaneous Machine Work, n.e.c.)	Feeding, tending, operating, controlling, and setting up machines to work various materials and products, not elsewhere classified.

n.e.c. - not elsewhere classified

Figure 3 - Work Description of DWMSTDP Machine Trades Occupations Codes (Continued)

MACHINE TRADES OCCUPATIONS WORK CATEGORY CODES

Work Category	Code	Definition
Actuate	AC	Manual manipulation of an object for engaging, disengaging, starting or stopping a device. (Examples: crank, dial, set with knob, move lever.) The process of manipulating an object by cranking, turning, or moving through a fixed part. Putting something else in action by handling a switch or control.
Clean	CL	The removal of foreign matter by chemical, mechanical, or manual process. (Examples: ultrasonic cleaning, abrasive cleaning, use of solvent, rubbing, wiping, sweeping.)
Clamp	CP	The actions required to accomplish the nonmanual holding of object(s) with a clamp when required for repairing, modifying, manufacturing or assembly operations. (Examples: "C", cleco, spring, hose, cable, conduit clamps, etc.)
Equipment - Metalworking	EM	The operation or preparation for operation of any powered stationary-mounted metal working machine or equipment used for the act or process of making or changing an object of metal. (Examples: metal lathe, milling machine, powered hacksaw)
Equipment- Woodworking	EW	The operation or preparation for operation of any powered stationary-mounted woodworking machine or equipment used for the act or process of making things out of wood. (Examples: ripsaw, planer, wood shaper, wood lathe, electric jigsaw)
Gauge and Measure	GM	The procedure by which the size amount extent, or capacity of an item is determined. (Examples: bisect, gauge, square, weigh.)

Figure 4 - Major Categories of Work Used in Coding Machine Trades Occupations Data

Work Category	Code	Definition
Identify	ID	The process and motions required to stamp, tab, label, or mark documents, cards, folders, or objects to provide for locating, recognizing or comparing.
		The actions necessary to recognize, match, or compare similar characteristics.
Inspect and Test	IT	The procedure or action by which an item is subjected to comparisons or measurements to determine its qualities for use. (Examples: use of bore indicating gauge, use of feeler gauge use of micrometers, eye times, check mandrel for run-out.)
Job Preparation	JP	The actions required to prepare an object(s), work place, or employee(s), or any combination of the three for ensuing work. NOTE: Excluded from this category are layout, packaging, and machine setup.
Materials Handling Devices	MH	The process of locating, relocating, positioning, and aligning mechanical devices such as conveyors, pallet jacks, hoists, carts, slings etc., for the purpose of moving objects or moving the device out of the way.
Machine Time	MT	The elapsed time for a machine which is under the command of an operator, operating under automatic control, to complete an operation necessary to a product. (Example: lower/raise pallet pit platform - 66.7 TMU/FT.)
Non-threaded Fastener	NF	The permanent or semi-permanent holding or locking of mating objects by other than threads or clamping actions.
Object Handling	OH	The process of manually moving an object for the purpose of changing its location or alignment. The movement path may or may not be fixed.
Setup	SU	The initial preparation of machinery and/or powered equipment necessary to perform work on an object and/or the subsequent "Tear Down."

Figure 4 - Major categories of Work Used in Coding Machine Trades Occupations Data (Continued)

Work Category	Code	Definition
Threaded Fastener	TF	Tightening or loosening a threaded object--bolt nut, screw, or handknob by hand. (Examples: fingerturn per thread, spin, tighten or loosen moderate pressure)
Tool Use, Hand Operated - Man-powered	TL	The use of preparation for use of any nonpowered implement, instrument or utensil held in the hand and used for cutting, hitting, digging, rubbing, etc. (Examples: knife, saw, hammer, shovel, rake, prybar, needle for sewing).
Tool, Use, Hand Held - Powered	TP	The use or preparation for use of any hand held tool which derives its primary power for operation from a source other than the operator or user. (Examples: electric portable saw, portable pneumatic wrench.)
Vising	VS	The action required to accomplish the nonmanual holding of object(s) with a vise, while repairs, modifications, or manufacturing operations are being performed. (Examples: tighten or loosen vise, rotate vise, quick acting vise).

Figure 4 - Major Categories of Work Used in Coding Machine Trades Occupations Data (Continued)

DEFENSE WORK MEASUREMENT STANDARD TIME DATA PROGRAM (DWMSTDP)

MACHINE TRADES OCCUPATIONS

PART TWO - STANDARD TIME DATA

SECTION I - INDEXES

This provides four indexes as follows:

The Occupation Code Index which includes the page location for each Code in both the Element Index and the Element Listing, page A-1 and A-2.

The DWMSTDP Element Index which is sequenced according to the DWMSTDP Element Code, pages B-1 through B-23.

The Noun/Verb Index which is an alphabetical listing of the "title" line of the operation/element description, pages C-1 through C-23.

The Verb Index which is an alphabetical listing of the "title" line of the DWMSTDP Operation/Element Description sequenced by the verb, page D-1.

OCCUPATION CODE INDEX

Code	Occupation	Page: DWMSTDP Element Index	Page: DWMSTDP Element Listing
6XX	Machine Trades, Common	B-1	1
60X	Metal Machining, Common	B-3	12
600	Machinists and Related Occupations (Machining and Related Work)	B-5	24
601	Toolmakers, and Related Occupations (Toolmaking and Related Work)	B-5	25
603	Abrading Occupations (Abrading)	B-5	25
604	Turning Occupations (Turning)	B-9	43
605	Milling and Planing Occupations (Milling and Planing)	B-12	70
606	Boring Occupations (Boring)	B-14	81
607	Sawing Occupations (Sawing)	B-16	87
609	Metal Machining Occupations, n.e.c. (Metal Machining, n.e.c.)	B-17	92
615	Punching and Shearing Occupations (Punching and Shearing)	B-17	93
616	Fabricating Machine Occupations (Fabricating Machine Work)	B-18	95
62X	Motorized Vehicle and Engineering Equipment Mechanics and Repairman, Common	B-18	97

OCCUPATION CODE INDEX

Code	Occupation	Page: DWMSTDP Element Index	Page: DWMSTDP Element Listing
620	Motorized Vehicle and Engineering Equipment Mechanics and Repairmen (Motorized Vehicle and Engineering Equipment Repairing)	B-18	98
621	Aircraft Mechanics and Repairmen (Aircraft Repairing)	B-20	109
639	Mechanics and Machinery Repairmen, n.e.c. (Mechanical Repairing, n.e.c.)	B-20	110
66X	Wood Machining, Common	B-21	113
660	Cabinetmakers (Cabinetmaking)	B-21	113
664	Turning Occupations (Turning)	B-21	114
665	Milling and Planing Occupations (Milling and Planing)	B-21	114
666	Boring Occupations (Boring)	B-21	115
667	Sawing Occupations (Sawing)	B-21	115
669	Wood Machining Occupations, n.e.c. (Wood Machining, n.e.c.)	B-22	116
699	Miscellaneous Machine Trades Occupations, n.e.c. (Miscellaneous Machine Work, n.e.c.)	B-22	118

DEFENSE WORK MEASUREMENT STANDARD TIME DATA
ELEMENT INDEX

OCCUPATION	QUALITY	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION	PAGE
6XX	MAD	BCLFC01	308	FILE,CLEAN TWO SIDES WITH BRUSH	1
6XX	MAA	MCLCBXX	VARIABLE	CORNER,BRUSH CLEAN,MOVE CHIPS ONE INCH	
6XX	MAA	MCLCCXX	VARIABLE	CORNER,CLEAN WITH AIR	
6XX	MAF	MCLCP01	632	PART(MEDIUM),CLEAN BEFORE INSTALLING	
6XX	MAA	MCLCS01	73	SPOT,CLEAN WITH HAND BRUSH	
6XX	TUA	MCLCS02	237	SPOT,CLEAN WITH HAND DRILL AND WIRE BRUSH, CROCUS CLOTH,EMERY CLOTH,ETC.(PROCESS TIME)	
6XX	TUA	MCLCS03	375	SPOT(OR SQUARE INCH),CLEAN WITH HAND DRILL AND WIRE BRUSH OR CROCUS CLOTH,ETC. ON ROD	
6XX	MAA	MCLOD01	816	OBJECT,DRY WITH COMPRESSED AIR,UP TO 110 SQUARE INCH SURFACE AREA	
6XX	MAA	MCLPW01	811	PART,WIPE EXCESS GREASE FROM	2
6XX	MAD	MCLPW02	78	PART,WIPE WITH HAND	
6XX	MAA	MCLSCXX	VARIABLE	SURFACE,CLEAN WITH WET CLOTH PER SQUARE FOOT	
6XX	TUA	MCLSPXX	VARIABLE	SURFACE,POLISH WITH CROCUS CLOTH,ETC.,PART CHUCKED IN HAND DRILL	
6XX	MAW	MCLTCXX	VARIABLE	TABLE,CLEAN TO REMOVE CHIPS,DUST,OR DIRT	
6XX	MAW	MCPCI01	583	CLAMP(C TYPE),INSTALL AND REMOVE	
6XX	MAA	MIDPIXX	VARIABLE	PLATE(IDENTIFICATION),INSTALL	3
6XX	MAA	MIDPRXX	VARIABLE	PLATE(IDENTIFICATION),REMOVE	
6XX	MAA	MIDPR07	7327	PLATE(IDENTIFICATION),REMOVE	
6XX	MAA	SIDPRXX	VARIABLE	PLATE(IDENTIFICATION),REPLACE	
6XX	MAA	SIDPSXX	VARIABLE	PLATE(IDENTIFICATION),STAMP AND INSTALL	
6XX	MAF	BITGF01	82	GLASS(MAGNIFYING),FOCUS OVER VERNIER FOR READING	4
6XX	MAF	MITIF01	59	INSPECT,FEEL WITH FINGERS	
6XX	MAF	MJPAR01	114	ASSEMBLY(INDICATOR),REMOVE FROM BOX	
6XX	MUA	MJPEP01	327	EMERY(OR CROCUS CLOTH),PLACE ON CLEANING ROD	
6XX	MAA	MJPER01	153	EMERY(OR CROCUS CLOTH),REMOVE STRIP UP TO 27 INCHES IN LENGTH FROM ROLL	
6XX	MAA	MJPET01	75	EMERY(OR CROCUS CLOTH),TEAR OFF USED END	
6XX	MAW	MJPHC01	197	HOSE(AIR),CONNECT AND DISCONNECT,QUICK ACTING CONNECTION	
6XX	MAW	MJPHC02	893	HOSE(AIR),CONNECT AND DISCONNECT,THREADED CONNECTION	
6XX	MAW	MJPHOXX	VARIABLE	HOSE(AIR),OBTAIN AND MOVE TO WORK AREA PREPARATORY FOR USE	5
6XX	MAF	MJPIR01	210	INDICATOR AND SWIVEL CLAMP,RETURN TO BOX	
6XX	TUA	MMHOT01	1396	OBJECT,TURN OVER,USE OF AIR HOIST REQUIRED	
6XX	MAA	MNFRIXX	VARIABLE	RING(SNAP OR SPRING RETAINER),INSTALL	
6XX	MAA	MNFRRXX	VARIABLE	RING(SNAP OR SPRING RETAINER),REMOVE	

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6XX	MAA	MNFWSXX	VARIABLE	WASHER(TAB LOCK),STRAIGHTEN OR LOCK	
6XX	MAA	MOHGI01	127	GROMMET(RUBBER),INSTALL	5
6XX	MAA	MOHPI01	179	PLUG(BUTTON),INSTALL	
6XX	MAA	MOHPRXX	VARIABLE	PART(MATING),REMOVE	6
6XX	MAO	MOHRI01	264	RING(O),INSTALL IN GROOVE UP TO 6 INCHES IN DIAMETER	
6XX	MAF	MOHRPXX	VARIABLE	PART,REMOVE FROM MACHINE AND ASIDE TO FLOOR	
6XX	MAO	TOHPFXX	TABLE	PART,FIT-MULTI ALIGNMENT REQUIRED	
6XX	MAO	TOHPRXX	TABLE	PART,REMOVE	
6XX	MAA	MSUPR01	324	PLATFORM(DRILL PRESS),RAISE OR LOWER	7
6XX	MAO	MTFTI01	276	TUBE,INSTALL IN FLANGED QUICK COUPLER-VEECO TYPE	
6XX	MAO	MTFTR01	223	TUBE,REMOVE FROM FLANGED QUICK COUPLER-VEECO TYPE	
6XX	MAF	BTLWA01	179	WRENCH,ADJUST,LARGE OPEN END	
6XX	MAW	MTLAA01	3460	ATTACHMENT(PULLING),ASSEMBLE TO GEAR	
6XX	MAF	MTLAPXX	VARIABLE	PART,ADJUST POSITION	
6XX	MAA	MTLBI01	233	BEARING(SMALL),INSTALL INTO RACE,SLIGHT PRESS FIT	8
6XX	MAA	MTLBRXX	VARIABLE	BEARING(ANNULAR),REMOVE	
6XX	MAO	MTLBR03	3380	BUSHING(OILITE),REMOVE WITH SCREW PULLER	
6XX	MAA	MTLGIXX	VARIABLE	GROMMET,INSTALL AND REMOVE WITH TOOL	
6XX	MAA	MTLGR01	2670	GEAR(SPUR ASSEMBLY),REMOVE AND INSTALL	
6XX	MAA	MTLIB01	2205	BUSHING(COMMON STRAIGHT),INSTALL-REQUIRES CHILLING BEFORE INSTALLATION	
6XX	MAF	MTLNA01	534	NUT(ANC BOLT),ASSEMBLE OR DISASSEMBLE,WHERE TWO WRENCHES ARE REQUIRED	9
6XX	MAW	MTLPAXX	VARIABLE	PULLER(GEAR),ASSEMBLE TO GEAR	
6XX	MAW	MTLPCXX	VARIABLE	PULLER(GEAR),CHANGE REACH RANGE OR REVERSE ARMS ON TWO OR THREE JAW PULLER	
6XX	MAW	MTLPDXX	VARIABLE	PULLER(GEAR),DETACH FROM GEAR	
6XX	MAA	MTLPC01	69	PART,OBTAIN AND PLACE WITH TWEEZERS,AVERAGE DISTANCE 12 INCHES	
6XX	MAA	MTLPPXX	VARIABLE	PUMP(HYDRAULIC HAND),PUMP,FIRST STROKE	
6XX	MAA	MTLPR01	153	PLUG(BUTTON),REMOVE	
6XX	MAA	MTLPSXX	VARIABLE	PART,STAKE(FIRST OR ADDITIONAL),WITH TOOL AND HAMMER	10
6XX	MAW	MTLPTXX	VARIABLE	PULLER(GEAR),TURN FORCING SCREW ONE REVOLUTION WITH WRENCH	
6XX	MAA	MTLRPXX	VARIABLE	PART(MATING),REMOVE WITH TOOL	
6XX	MAA	MTLRR01	92	RING(O,AND SEAL),REMOVE FROM GROOVE WITH TOOL	

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6XX	MAF	MTLWP01	166	WRENCH(LARGE),POSITION TO NUT OR BOLT	10
6XX	MAW	STLPAXX	VARIABLE	PUSH-PULLER,ASSEMBLE TO GEAR,OBTAIN 1/2 INCH SEPARATION,AND REMOVE PULLER FROM GEAR	11
6XX	MAA	STLPR01	332	PLUG(BUTTON TYPE),REPLACE	
6XX	MAW	STLPUXX	VARIABLE	PULLER(GEAR),USE TO PULL GEAR	
6XX	MAL	MTPTCXX	VARIABLE	TOOL(S),CONNECT AND DISCONNECT TO/FROM PNEUMATIC SOURCE	
6CX	MAA	MCLCDXX	VARIABLE	CHIPS,DIG FROM ONE LINEAR INCH OF GROOVE	12
60X	MAA	MCLCRXX	VARIABLE	CHIPS,REMOVE FROM HOLE UP TO ONE INCH DIAMETER,TWO INCHES DEEP	
60X	MAF	MCLCS01	573	SLOTS(T),CLEAN WITH CHIP PUSHER	
6CX	MAW	MCLCT01	339	TOOL,CLEAN AND LUBRICATE	
60X	MAA	MCLHCXX	VARIABLE	HOLE,CLEAN WITH ORANGEWOOD OR BOXWOOD STICK	
6CX	MAF	MCLPC01	301	PART,CLEAN GROOVES/CONCAVE CORNERS ONLY	
60X	MAF	MCLPW01	50	PART(SMALL),WIPE WITH RAG	
60X	MAO	MCLTC01	357	TABLE(MACHINE),CLEAN CHIPS,BRUSH AND SCOOP	
60X	MAW	SCLCC01	466	CENTERS(SHAFT),CLEAN AND LUBRICATE	13
6CX	MAW	MEMB001	171	BUSHING(OR PLUG),OBTAIN,INSTALL IN,AND REMOVE FROM JIG OR FIXTURE	
6CX	MAW	MEMCAXX	VARIABLE	CLAMP,ATTACH TO PART	
60X	MAO	MEMCC01	767	CHUCK(COLLET),CLOSE AND OPEN WITH WRENCH	
6CX	MAO	MEMCLXX	VARIABLE	CHUCK,LOOSEN AND TIGHTEN	14
60X	MAF	MEMCL03	1084	CHUCK(UNIVERSAL),LOOSEN OR TIGHTEN	
6CX	MAW	MEMCOXX	VARIABLE	COLLET,OPEN AND CLOSE	
60X	MAA	MEMDS01	VARIABLE	DIAL,SET	
6CX	MAA	MEMPC01	2814	PART(SYMMETRICAL),CHUCK IN 4 JAW CHUCK, ADDITIONAL PART	
60X	MAO	MEMPL01	286	PART,LOAD TO OR UNLOAD FROM HOLDING DEVICE, WEIGHT 25-50 POUNDS	
60X	MAF	MEMPP01	150	PART,POSITION TO FIRST JACK	
60X	MAO	MEMTI01	358	TOOL,INSTALL IN AND REMOVE FROM JACOBS CHUCK	15
60X	MAO	MEMTI02	429	TOOL,INSTALL IN AND REMOVE FROM TAPERED SLEEVE	
60X	MAW	MEMVLXX	VARIABLE	VISE,LOOSEN AND TIGHTEN	
60X	MAW	MEMVT01	127	VISE(CAM TYPE),TIGHTEN AND LOOSEN	
60X	FAA	TEMTMXX	TABLE	TABLE,MACHINE TIME	16
60X	MAW	MGMSA01	173	SQUARE(COMBINATION),ASSEMBLE SCALE	17
60X	MAW	MGMSP01	137	SQUARE(COMBINATION),POSITION TO GAUGE ANGLE	
60X	MAW	MGMSR01	68	SQUARE(COMBINATION),REMOVE SCALE	
60X	MAW	MGMSU01	71	SQUARE(COMBINATION),USE TO CHECK PART	

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60X	MAO	MGMTU01	254	TAPE(STEEL),USE TO MEASURE FOR EQUIPMENT LOCATION	17
60X	MAW	SGMSCXX	VARIABLE	SQUARE(COMBINATION),CHECK PART	
60X	MAF	BITMT01	85	MICROMETER,TIGHTEN AND LOOSEN LOCKNUT	
60X	MAF	BITMUXX	VARIABLE	MICROMETER(INSIDE),USE,GAUGE DIMENSION	
60X	MAW	BITMU03	724	MICROMETER(INSIDE),USE TO MEASURE DIMENSION OVER 12 INCHES	
60X	MAF	BITTGXX	VARIABLE	THREAD,GAUGE WITH RING GAUGE	
60X	MAF	MITAI01	100	INDICATOR OR SCRIBER,ADJUST TO APPROXIMATE POSITION.	18
60X	MAW	MITCU01	1427	CALIPER(VERNIER),USE TO GAUGE PART	
60X	MAW	MITCU02	1429	CALIPER(INSIDE),USE,CHECK DIMENSION WITH 24 INCH FIRM JOINT	
60X	MAF	MITGR01	118	GAUGE(THREAD),READ	
60X	MAW	MITGUXX	VARIABLE	GAUGE(SURFACE),USE TO CHECK A POINT OR TO SCRIBE A LINE	
60X	MAF	MITIMXX	VARIABLE	INDICATOR,MOVE ON/OFF GAUGE BLOCK OR PART	
60X	MAW	MITMA01	713	MICROMETER,ADJUST ANVIL TO ZERO	
60X	MAW	MITMC01	213	MICROMETER,CHECK ACCURACY WITH PIN GAUGE	
60X	MAW	MITMR01	443	MICROMETER,REMOVE AND REPLACE ANVIL	19
60X	MAO	MITPA01	1615	PROTRACTOR(BEVEL),ASSEMBLE,ADJUST,AND DISASSEMBLE	
60X	MAO	MITPC01	194	PART,CHECK WITH SQUARE OR PROTRACTOR	
60X	MAO	MITPG01	641	PART,GAUGE WITH SLIDING PARALLELS AND OUTSIDE MICROMETER	
60X	MAF	MITTM01	213	THREAD(DEPTH),MEASURE FOR ADJUSTMENT TO GAUGE	
60X	MAO	TITGUXX	TABLE	GAUGE(THREAD PLUG),USE	
60X	MAO	MJPBA01	572	BLOCKS(GAUGE),ASSEMBLE AND DISASSEMBLE	20
60X	MAW	MJPC001	62	CASE,OPEN AND CLOSE(MICROMETER CASE OR SIMILAR WITH ONE PUSH BUTTON LATCH)	
60X	MAW	MJPGS01	901	GAUGE(SURFACE),SET UP TO USE AND TAKE DOWN	
60X	MAF	MJPGS02	119	GAUGE(SURFACE),SET UP OR TAKE DOWN	
60X	MAF	MJPIA01	312	INDICATOR,ASSEMBLE TO SWIVEL BAR,SET DIRECTION OF INDICATOR POINT	21
60X	MAF	MJPIA02	219	INDICATOR,ASSEMBLE ON SURFACE GAUGE	
60X	MAO	MJPIA03	1854	INDICATOR,ASSEMBLE AND DISASSEMBLE,HEAVY DUTY MAGNETIC BASE	
60X	MAF	MJPID01	169	INDICATOR,DISASSEMBLE FROM SWIVEL BAR	
60X	MAF	MJPID02	87	INDICATOR,DISASSEMBLE FROM SURFACE GAUGE	
60X	MAF	MJPVR01	177	VERNIER,REMOVE AND REPLACE IN CASE	
60X	MAF	MMHHI01	77	HOOK,INSERT AND REMOVE FROM EYEBOLT	

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6CX	MAO	MMHPRXX	VARIABLE	PLATFORM(SHOPLIFT),RAISE OR LOWER,PER INCH	21
60X	MAO	MOHSA01	455	SLING,ATTACH TO PART AND REMOVE	22
6CX	MAO	MOHSA02	102	SLING,ATTACH TO CRANE AND REMOVE	
60X	MAW	BSULT01	210	LOCK(CAM),TIGHTEN AND LOOSEN ON HOLDING DEVICE	
6CX	MAA	MSUBI01	1787	BOLT(TEE),INSTALL AND REMOVE	
60X	MAO	MSUBI02	172	BOLT(TEE),INSTALL IN AND REMOVE FROM TABLE SLOT	
60X	MAA	MSUCI01	2602	CLAMP(AND TEE BOLT),INSTALL AND REMOVE	
6CX	MAO	MSUCR01	195	CRANK,REMOVE FROM STORAGE PIN AND PLACE ON SHAFT AND RETURN TO STORAGE PIN	
60X	MAO	MSUEI01	737	EYEBOLT,INSTALL IN AND REMOVE FROM CHUCK	
60X	MAA	MSUHL01	223	HEAD(OR VISE),LOCATE TO ANGLE	23
60X	MAF	MSUJA01	175	JACK,ADJUST TO APPROXIMATE HEIGHT,PER JACK	
6CX	MAW	MSUJI01	537	JACKSCREW,INSTALL AND REMOVE	
60X	MAF	MSUJR01	577	JAW,REMOVE FROM CHUCK,REVERSE AND REPLACE	
60X	MAF	MSUJU01	96	JACKSCREW,UNLOCK OR LOCK	
60X	MAA	MSUPC01	22039	PART(NON SYMMETRICAL),CHUCK IN 4 JAW CHUCK	
6CX	MAA	MSUPC02	8967	PART(SYMMETRICAL),CHUCK IN 4 JAW CHUCK	
60X	MAW	MSUSC01	191	SPINDLE,CHANGE SPEED,V-BELT DRIVE	
60X	MAO	MSUSU01	113	SHIM,USE UNDER PART OR CLAMP	
60X	MAW	MSUVR01	230	VISE,ROTATE	
60X	MAW	SSUKI01	1414	KEYS,INSTALL IN AND REMOVE FROM TABLE SLOTS, TWO KEYS	24
6CX	MAF	MTLBL01	88	BOLT,TIGHTEN OR LOOSEN WITH WRENCH	
60X	OBW	MTLHBXX	VARIABLE	HOLE,BURR	
6CX	OBW	TTLEFXX	TABLE	EDGE,FILE	
600	MAF	MTLPM01	169	PART,MOVE INTO OR OUT OF POSITION WITH HAMMER	
601	MAF	MEMBP01	535	BLADE(BANDSAW),POSITION ON TWO ROLLERS OF AN AUTOMATIC SHARPENING MACHINE	25
601	MAF	MEMBP02	76	BLADE(SAW),POSITION ON ARBOR OR REMOVE(FOR SHARPENING)	
601	MAF	MEMBR01	94	BLADE(SAW),REPOSITION 180 DEGREES ON ARBOR FOR SHARPENING	
601	MAF	MEMFT01	295	FLYWHEEL,TURN BY HAND ON FILER OF AUTOMATIC SAW SHARPENING MACHINE	
603	MAO	BCLHC01	994	HOUSING AND COVER(WHEEL),CLEAN WITH SCRAPER, LARGE WHEEL	
603	MAO	BCLHC02	676	HOUSING(WHEEL),CLEAN WITH SCRAPER,SMALL WHEEL	
6C3	MAO	MCLCC01	212	CHUCK,CLEAN WITH SQUEEGEE,TO THREE SQUARE FEET	
603	MAO	MCLCC02	256	CHUCK,CLEAN WITH RAG,TO THREE SQUARE FEET	

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603	MAO	MEMAS01	166	STRCKE(WHEEL OSCILLATION),ADJUST,CYLINDRICAL GRINDER	25
603	MAO	MEMCA01	164	CONTROL(CROSS FEED),ADJUST,SURFACE GRINDER	26
603	MAO	MEMCM01	90	CROSS SLIDE(WHEELHEAD),MOVE FOR OPERATION, INTERNAL GRINDER	
603	MAO	MEMCC01	286	COLLET,OPEN AND CLOSE	
603	MAO	MEMCT01	128	CHUCK(MAGNETIC),TURN ON AND OFF	
603	MAO	MEMCW01	46	CHUCK,WIPE HOLDING SURFACES OF THREE JAWS	
603	MAO	MEMDP01	112	DOG(DRIVING),PLACE ON PART AND REMOVE	
603	MAO	MEMGL01	90	GUARD(WORKHEAD),LOWER AND RAISE,INTERNAL GRINDER	
603	MAO	MEMGP01	96	GAUGE(ARNOLD),POSITION TO PART AND REMOVE	
603	MAO	MEMGR01	58	GUARD(SPLASH),REMOVE AND REPLACE,CYLINDRICAL GRINDER	
603	MAO	MEMLA01	76	LUBRICANT(CENTER),APPLY TO BOTH ENDS OF PART	27
603	MAO	MEMLE01	65	LEVER(RAPID CROSS FEED),ENGAGE OR DISENGAGE, CYLINDRICAL GRINDER	
603	MAO	MEMLP01	52	LEVER(INFEED),MOVE DOWN AND BACK,CYLINDRICAL GRINDER	
603	MAO	MEMLS01	36	LEVER(SPINDLE LOCKING),SHIFT	
603	MAO	MEMMS01	61	MOTION(HEAD),START AND STOP,BLANCHARD ROTARY GRINDER	
603	MAO	MEMMS02	44	MOTION(TABLE),START AND STOP,SURFACE GRINDER	
603	MAO	MEMMUXX	VARIABLE	MANDREL(NUT OR HYDRAULIC),USE	
603	MAO	MEMNA01	78	NOZZLE(COOLANT),ADJUST TO WORK	
603	MAO	MEMOS01	58	OSCILLATION(WHEEL),START AND STOP,CYLINDRICAL GRINDER	28
603	MAO	MEMPA01	110	PRESSURE,ADJUST ON PART BETWEEN CENTERS, CYLINDRICAL GRINDER	
603	MAO	MEMPI01	208	PART,INSTALL ON AND REMOVE FROM MANDREL	
603	MAO	MEMPP01	171	PART,PLACE BETWEEN CENTERS AND REMOVE, CYLINDRICAL GRINDER	
603	MAO	MEMRS01	43	ROTATION(WORK),START OR STOP,CYLINDRICAL GRINDER	
603	MAO	MEMSA01	98	SPEED(CHUCK),ADJUST,BLANCHARD ROTARY GRINDER	
603	MAO	MEMSC01	468	SPEED(SPINDLE),CHANGE,4-STEP PULLEY, CYLINDRICAL GRINDER	
603	MAO	MEMSI01	113	STOP(BARREL),INDEX ONE POSITION,INTERNAL GRINDER	
603	MAO	MEMSR01	224	SHAFT(OR PART),REMOVE FROM CENTERS,LENGTH-GREATER THAN 36 INCHES	29
603	MAO	MEMSS01	35	SPINDLE(WORK),START AND STOP WITH KNOB, CYLINDRICAL GRINDER	
603	MAO	MEMTFXX	VARIABLE	TABLE,FEED IN OR OUT 1/16 INCH WITH HANDWHEEL, CYLINDRICAL GRINDER	

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603	MAO	MEMTJ01	130	TABLE,JOG	29
603	MAO	MEMTMXX	VARIABLE	TABLE,MOVE WITH HAND WHEEL,CYLINDRICAL GRINDER	
603	MAO	MEMTPXX	VARIABLE	TABLE,POSITION TO GRIND,SURFACE GRINDER	
603	MAO	MEMTR01	30	TRAVERSE(TABLE),REVERSE BY HAND,CYLINDRICAL GRINDER	
603	MAO	MEMTS01	59	TRAVERSE(TABLE),START AND STOP,CYLINDRICAL GRINDER	30
603	MAO	MEMWCXX	VARIABLE	WHEEL(GRINDING),CROSSFEED TO AND FROM WORK, CYLINDRICAL GRINDER	
603	MAO	MEMWR01	248	WHEEL(GRINDING),REMOVE AND INSTALL,INTERNAL GRINDER	
603	FAA	TEMGEXX	TABLE	GRINDER,GRIND EXTERNAL	31
603	FAA	TEMGIXX	TABLE	GRINDER,GRIND INTERNAL	33
603	MAO	BJPIA01	99	INDICATOR(MAGNETIC),ATTACH TO AND REMOVE FROM WHEEL GUARD	34
603	MAO	MOHBG01	476	BAFFLE(PLYWOOD),GET AND RETURN,BLANCHARD ROTARY GRINDER	
603	MAO	MOHPL01	366	PART,LIFT FROM FLOOR TO CHUCK AND RETURN	
603	MAO	MOHWR01	152	WHEEL(GRINDING),REMOVE FROM MACHINE TABLE AND PLACE ASIDE	
603	MAO	BSUHM01	103	HOLDER(DIAMOND),MOUNT ON AND REMOVE FROM MACHINE	
603	MAO	MSUAD01	82	DRESSER(RADIUS),ADJUST	
603	MAO	MSUAG01	42	GUARD(WHEEL),ADJUST LENGTH,INTERNAL GRINDER	
603	MAO	MSUBM01	179	BASE(TRUING UNIT),MOVE,INTERNAL GRINDER	35
603	MAO	MSUBP01	225	BRACKET(DIAMOND HOLDER),PLACE ON AND REMOVE FROM MACHINE	
603	MAO	MSUBR01	136	BLOTTER,REMOVE AND REPLACE,PER BLOTTER	
603	MAO	MSUBT01	118	BELT(WHEELHEAD DRIVE),TIGHTEN AND LOOSEN, INTERNAL GRINDER	
603	MAO	MSUCA01	46	CONTROL(HEAD FEED),ADJUST,BLANCHARD ROTARY GRINDER	
603	MAO	MSUCI01	475	CENTER,INSTALL IN AND REMOVE FROM HEADSTOCK OR FOOTSTOCK	
603	MAO	MSUCL01	85	COVER(SPINDLE PULLEY),LOWER AND RAISE, CYLINDRICAL GRINDER	
603	MAO	MSUCO01	252	COVER(WHEEL),OPEN AND CLOSE,LARGE COVER	
603	MAO	MSUCP01	262	CHUCK,PLACE ON AND REMOVE FROM SPINDLE NOSE, CYLINDRICAL GRINDER	36
603	MAO	MSUCR01	144	COVER(WHEEL),REMOVE AND INSTALL	
603	MAO	MSUDA01	213	DRESSER(RADIUS OR ANGLE),ATTACH AND REMOVE, CYLINDRICAL GRINDER	
603	MAO	MSUDB01	162	DIAMOND POINT,BRING TO WHEEL	
603	MAO	MSUDI01	60	DIAMOND,INSERT IN AND REMOVE FROM HOLDER	

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603	MAO	MSUDM01	49	DOG(TABLE REVERSING),MOVE TO NEW POSITION	36
603	MAO	MSUDP01	53	DRIVER(WORK),POSITION ON HEADSTOCK,CYLINDRICAL GRINDER	
603	MAO	MSUDR01	160	DRESSER(WHEEL),REMOVE FROM MACHINE,CYLINDRICAL GRINDER	
603	MAO	MSUDS01	117	DIAMOND,SET ON RADIUS DRESSER WITH GAUGE BLOCK	37
603	MAO	MSUFM01	100	FOOTSTOCK,MOVE 12 INCHES,CYLINDRICAL GRINDER	
603	MAO	MSUFR01	119	FLANGE(BALANCE),REMOVE AND REPLACE,SURFACE GRINDER	
603	MAO	MSUGA01	122	GAUGE(ARNOLD),ADJUST DIAL TO SIZE	
603	MAO	MSUGM01	208	GAUGE(ARNOLD),MOUNT ON AND REMOVE FROM HOLDER	
603	MAO	MSUGR01	210	GUARD(TOP WHEEL),REMOVE AND REPLACE, CYLINDRICAL GRINDER	
603	MAO	MSUGR02	115	GUARD(LOWER WHEEL),REMOVE AND REPLACE, CYLINDRICAL GRINDER	
603	MAO	MSUGR03	119	GUARD(SIDE WHEEL),REMOVE AND REPLACE, CYLINDRICAL GRINDER	
603	MAO	MSUGR04	384	GUARD(REAR SPLASH),REMOVE AND REPLACE,ONE GUARD,CYLINDRICAL GRINDER	
603	MAO	MSUGS01	224	GAUGE(ARNOLD),SET TO PART	38
603	MAO	MSUHR01	159	HOLDER ASSEMBLY(DIAMOND),REMOVE FROM AND INSTALL ON RADIUS DRESSER	
603	MAO	MSUHSXX	VARIABLE	HEAD(WORK),SWIVEL 1/2 INCH TAPER PER FOOT, INTERNAL GRINDER	
603	MAO	MSUID01	88	DRESSER(RADIUS),INSTALL AND REMOVE,INTERNAL GRINDER	
603	MAO	MSUIM01	268	INDICATOR,MOUNT AND REMOVE FOR SHOULDER OR STEP GRINDING	
603	MAO	MSULA01	89	LEVERS(REVERSING PAWL),ADJUST FOR TABLE STROKE LENGTH,SURFACE GRINDER	
603	MAO	MSUMB01	197	BELT(WHEELHEAD DRIVE),MOUNT AND REMOVE, INTERNAL GRINDER	
603	MAO	MSUMC01	163	CROSS SLIDE(WHEELHEAD),MOVE FOR SETUP,INTERNAL GRINDER	
603	MAO	MSUMT01	153	TABLE,MOVE 1/2 INCH BY HAND,INTERNAL GRINDER	39
603	MAO	MSUMW01	397	WHEELHEAD,MOUNT AND REMOVE,INTERNAL GRINDER	
603	MAO	MSUNS01	134	NOZZLE(COOLANT),SWING ASIDE AND RETURN	
603	MAO	MSUPR01	330	PIN(ZERO ALIGNMENT),REMOVE AND REPLACE, HEADSTOCK UNIT,CYLINDRICAL GRINDER	
603	MAO	MSURH01	107	HOLDER(DIAMOND),REMOVE AND REPLACE,INTERNAL GRINDER	
603	MAO	MSURR01	46	RAILS,RAISE ON SIDE AND END OF MAGNETIC CHUCK	
603	MAO	MSURS01	39	RADIUS,SET ON RADIUS DRESSER	
603	MAO	MSUSA01	158	STEADY REST,ADJUST TO PART,TWO PADS	

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6C3	MAO	MSUSB01	206	SPINDLE(WHEELHEAD),BLOCK TO REMOVE AND INSTALL QUILL,INTERNAL GRINDER	39
603	MAO	MSUSL01	71	SPINDLE(WORKHEAD),LOCK AND UNLOCK,CYLINDRICAL GRINDER	40
603	MAO	MSUSM01	195	STEADY REST(OR WHEEL DRESSER),MOUNT ON CYLINDRICAL GRINDER	
603	MAO	MSUSR01	398	SEGMENTS(GRINDING WHEEL),REPLACE,TWO EACH	
603	MAO	MSUSS01	225	STOP,SET ON WHEELHEAD CROSS SLIDE HANDWHEEL, INTERNAL GRINDER	
603	MAO	MSUST01	46	SPINDLE(WORKHEAD),TURN 1/4 REVOLUTION BY HAND, CYLINDRICAL GRINDER	
603	MAO	MSUTA01	964	TABLE,ALIGN(SWIVEL),CYLINDRICAL GRINDER	
603	MAO	MSUTM01	243	TAILSTOCK,MOVE 24 INCHES,LARGE CYLINDRICAL GRINDER	
6C3	MAO	MSUTR01	103	TRIP,REGULATE FOR AUTOMATIC DIAMOND RISE, INTERNAL GRINDER	
603	MAO	MSUTSXX	VARIABLE	TRIP(TABLE),SET,CYLINDRICAL GRINDER	41
603	MAO	MSUUM01	95	UNIT(TRUING),MOVE FORWARD,INTERNAL GRINDER	
603	MAO	MSUUS01	116	UNIT(TRUING),SET FOR AUTOMATIC DIAMOND RISE, INTERNAL GRINDER	
603	TBA	MSUWD01	2458	WHEEL(INTERNAL),DRESS	
603	TAA	MSUWD02	6761	WHEEL(NEW),DRESS,TRUE UP AND OR SHAPE	
603	MAO	MSUWF01	462	WHEEL(GRINDING),FEED TO OR FROM WORK,RAPID CROSS FEED WITH HANDWHEEL,CYLINDRICAL GRINDER	
603	MAO	MSUWF02	218	WHEEL(GRINDING),FEED TO OR FROM WORK,FINE CROSS FEED WITH HANDWHEEL,CYLINDRICAL GRINDER	
603	MAO	MSUWGXX	VARIABLE	WHEEL(GRINDING),GET NEW WHEEL FROM RACK AND PLACE USED WHEEL IN RACK	
603	MAO	MSUWI01	177	WHEEL(GRINDING),INSTALL TO POT CHUCK,BLANCHARD ROTARY GRINDER	42
603	MAO	MSUWM01	497	WORKHEAD,MOVE 12 INCHES ON TABLE,CYLINDRICAL GRINDER	
603	MAO	MSUWR01	328	WHEEL(GRINDING),REMOVE AND REPLACE,LARGE WHEEL	
603	MAO	MSUWR02	125	WHEEL(GRINDING),REMOVE AND REPLACE,SMALL WHEEL	
603	MAO	MSUWR03	1382	WHEEL(GRINDING),REMOVE AND REPLACE,CYLINDRICAL GRINDER	
603	MAO	MSUWS01	100	WHEEL,CHUCK,AND HEAD FEED,START AND STOP, BLANCHARD ROTARY GRINDER	
603	MAO	MSUWT01	107	WASHER(RETAINING),TAKE OFF AND INSTALL	
6C3	MAO	MVSVC01	480	VISE,CLOSE AND OPEN	43
604	MAW	BEMDI01	121	DOG(CAM GRIP),INSTALL AND REMOVE	
604	MAO	BEMTP01	54	TOOL,PUT IN TOOL HOLDER	
604	MAO	MEMBP01	127	BLOCK(TURRET STOP),POSITION,TURRET LATHE	
604	MAW	MEMCDXX	VARIABLE	CENTER(TAIL STOCK),ENGAGE AND DISENGAGE	

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6C4	MAO	MEMCE01	82	CLUTCH(FEED OR SPINDLE),ENGAGE AND DISENGAGE	43
604	MAA	MEMCL01	306	CARRIAGE,LOCK AND UNLOCK	
604	MAO	MEMCMXX	VARIABLE	CARRIAGE,MOVE WITH HANDWHEEL	
604	MAO	MEMCM03	79	CARRIAGE,MOVE SIX INCHES BY HAND,TURRET LATHE	
604	MAF	MEMCT01	183	CHUCK(LATHE),TURN 3/4 REVOLUTION	44
604	MAO	MEMDI01	765	DOG,INSTALL ON AND REMOVE FROM PART,BENT TAIL TYPE DOG	
604	MAO	MEMDS01	179	DIAL(CROSS FEED),SET TO MARK,ENGINE LATHE	
604	MAO	MEMFA01	741	FOLLOW REST,ADJUST TO WORK	
604	MAO	MEMFC01	108	FEED,CHANGE ON CARRIAGE OR CROSS SLIDE,ENGINE LATHE	
604	MAO	MEMIS01	91	STOP(ROLL),INDEX,TURRET LATHE	
604	MAO	MEMIT01	142	TURRET(SQUARE),INDEX,ONE STATION,ENGINE LATHE	
6C4	MAO	MEMLP01	89	LONGITUDINAL STOP ROD,PLACE TO CORRECT POSITION,TURRET LATHE	
604	MAW	MEMLR01	49	LOCK,RELEASE ON CRANK TYPE CENTER	
604	MUO	MEMMCXX	VARIABLE	CROSS SLIDE,MOVE,TURRET LATHE	45
604	MAO	MEMMS01	615	MICROMETER STOP,SET ON ENGINE LATHE	
604	MUO	MEMMTXX	VARIABLE	TURRET SADDLE,MOVE,TURRET LATHE	
604	MAA	MEMPC01	1006	PART(FIRST),CHUCK IN SCROLL CHUCK OR IN A CUSHMAN COLLET CHUCK	
6C4	MAA	MEMPC02	640	PART(ADDITIONAL),CHUCK IN SCROLL CHUCK OR IN A CUSHMAN COLLET CHUCK	
604	MAA	MEMPI01	610	PART,INSERT AND REMOVE FROM COLLET	
604	MAO	MEMPP01	642	PART(CENTER OR TOOL),PUT IN AND REMOVE FROM TAILSTOCK	
604	MAO	MEMPS01	771	PART,SUSPEND BETWEEN AND REMOVE FROM CENTERS, WEIGHT TO 16 POUNDS	46
604	MAW	MEMPS02	1499	PART,SUSPEND BETWEEN AND REMOVE FROM CENTERS WEIGHT 50-500 POUNDS,HANDLED WITH A CRANE	
604	MAO	MEMRC01	271	CHASER(THREAD),REMOVE FROM AND INSTALL IN DIE HEAD,TURRET LATHE	
604	MAO	MEMSA01	153	SPINDLE(TAILSTOCK),ADVANCE ONE INCH WITH CRANK,ENGINE LATHE	
604	MAA	MEMSC01	132	SPINDLE,CHANGE SPEED,ONE LEVER	
6C4	MAO	MEMSC02	556	SPINDLE,CHANGE SPEED,ENGINE LATHE	
604	MAO	MEMSMXX	VARIABLE	SLIDE,MOVE IN OR OUT,ONE INCH,ENGINE LATHE	
6C4	MAO	MEMSM05	118	SLIDE(COMPOUND),MOVE TO WORK	
604	MAO	MEMSM06	117	SLIDE(CROSS),MOVE TO WORK	47
6C4	MAW	MEMSM07	84	SLIDE,MOVE TO GRADUATE LINE ON DIAL	
604	MAW	MEMSO01	316	STEADY REST,OPEN AND CLOSE	

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604	MAO	MEMSS01	353	SLIDE(COMPOUND),SET TO ANGLE	47
604	MAA	MEMTA01	251	TAILSTOCK,ADVANCE AND RETURN ON A 12 INCH LATHE	
604	MAA	MEMTC01	357	TOOL HOLDER,CHANGE IN QUICK CHANGE TOOL POST	
604	MAO	MEMTI01	367	TOOL HOLDER,INSTALL IN SINGLE TOOL POST	
604	MAO	MEMTM01	105	TAILSTOCK,MOVE FOUR INCHES WITH ONE REVOLUTION OF CRANK	
604	FAA	TEMLBXX	TABLE	LATHE(ENGINE),BORE HOLE	48
604	FAA	TEMLCXX	TABLE	LATHE(ENGINE),CUT OFF	50
604	FAA	TEMLDXX	TABLE	LATHE(ENGINE),DRILL HOLE	52
604	FAA	TEMLFXX	TABLE	LATHE(ENGINE),FACE FINISH CUT	55
604	FAA	TEMLRXX	TABLE	LATHE(ENGINE),FACE ROUGH CUT	57
604	FAA	TEMLYXX	TABLE	LATHE(ENGINE),EXTERNAL TURN,GROUP 1 AND 2 MATERIALS	59
604	FAA	TEMLZXX	TABLE	LATHE(ENGINE),EXTERNAL TURN GROUP 3 AND 4 MATERIALS	62
604	FAA	TEMRLXX	TABLE	LATHE(ENGINE),REAM HOLE	65
604	FAA	SEMLC01	1305	LATHE(ENGINE),CENTER DRILL	66
604	MAA	SEMTC01	893	TOOL,CHANGE AND REPOSITION,TAILSTOCK	
604	MAL	PJPPP01	574	PLATE(SURFACE),PREPARE FOR USE	
604	MAO	MSUAS01	1367	ATTACHMENT(TAPER),SET	
604	MAO	MSUBI01	1209	BAR(BORING),INSTALL IN,ADJUST,AND REMOVE FROM COMPOUND SLIDE	
604	MAO	MSUCI01	1888	COLLET,INSTALL IN AND REMOVE FROM COLLET CHUCK	67
604	MAO	MSUCK01	395	CENTER,KNOCK OUT OF SPINDLE WITH BAR	
604	MAO	MSUCS01	138	CLIP(DIAL),SET TO DESIRED READING	
604	MAO	MSUDA01	2777	DRAW BAR,ASSEMBLE TO AND DISASSEMBLE FROM COLLET,SPEED LATHE	
604	MAO	MSUFC01	326	FEED,CHANGE,TWO LEVERS	
604	MAO	MSUFC02	609	FEED,CHANGE,THREE LEVERS,ENGINE LATHE	
604	MAO	MSUFI01	2160	FOLLOW REST,INSTALL AND REMOVE	68
604	MAO	MSUFL01	2105	FACEPLATE,COLLET,OR CHUCK,LOOSEN AND TIGHTEN, CAM LOCK TYPE	
604	MAO	MSUHI01	279	HOLDER(SHANK TOOL),INSTALL ON AND REMOVE FROM HEX TURRET,TURRET LATHE	
604	MAO	MSUIC01	297	CHUCK,FACEPLATE,OR COLLET CHUCK,INSTALL AND REMOVE 50 POUNDS OR LESS	
604	MAF	MSUJPXX	VARIABLE	JAW(CHUCK),POSITION USING WRENCH	
604	MAW	MSULS01	9147	LATHE(ENGINE),SET UP WITH CENTERS	
604	MAO	MSUPR01	337	POST(TOOL),REMOVE AND INSTALL	69
604	MAO	MSURP01	201	POST(BACK TOOL HOLDER),REPLACE	

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604	MAO	MSUSI01	170	SHIM,INSTALL UNDER AND REMOVE FROM TOOL	69
604	MAO	MSUSL01	73	SPINDLE(TAILSTOCK),LOCK OR UNLOCK	
604	MAO	MSUSP01	871	STEADY REST,PLACE ON MACHINE,SECURE,AND REMOVE	
604	MAA	MSUSS01	295	STOP(CARRIAGE MICROMETER),SET	
604	MAO	MSUST01	847	TOOL(THREADING),SET TO WORK WITH CENTER GAUGE	
604	MAO	MSUSU01	340	STOP(THREAD CHASING),UNLOCK AND LOCK,ENGINE LATHE	
604	MAO	MSUTC01	132	TOOL,CHANGE IN SQUARE TURRET	70
604	MAA	MSUTI01	2942	TOOL,INSTALL AND ADJUST IN A KDK QUICK CHANGE BAR	
604	MAA	MSUTI02	4950	TOOL(THREADING),INSTALL AND ADJUST IN A KDK TOOL BAR	
604	MAO	MSUTRXX	VARIABLE	TURRET(SQUARE),REMOVE AND REPLACE	
604	MAO	MSUTS01	166	TOOL(AND HOLDER),SET FOR JOB CLEARANCE	
605	MAF	MACCEXX	VARIABLE	CRANK,ENGAGE AND DISENGAGE	
605	MAA	MEMAD01	3848	AXIS,DIAL INDICATE,ONE LONGITUDINAL OR CROSS ON MILLING MACHINE	
605	MAA	MEMAD02	12841	AXIS,DIAL INDICATE,VERTICAL ON MILLING MACHINE	71
605	MAA	MEMCE01	196	CRANK(LONGITUDINAL),ENGAGE AND DISENGAGE ON MILLING MACHINE	
605	MAA	MEMCE02	52	CRANK(CROSSFEED),ENGAGE AND DISENGAGE ON MILLING MACHINE	
605	MAA	MEMCE03	164	CRANK(VERTICAL),ENGAGE AND DISENGAGE ON MILLING MACHINE	
605	MAO	MEMCF01	79	FEED,CHANGE,SHAPER	
605	MAF	MEMCT01	220	CENTER(TAILSTOCK),TURN IN AND OUT	
605	EUA	MEMFC01	331	FEED(OR SPEED),CHANGE ON POWER CONTROLLED FEED AND SPEED DIALS,MILLING MACHINE	
605	MAA	MEMLE01	123	LEVER,ENGAGE,RAPID TRAVEL AND FEED	
605	MAA	MEMPI01	334	PART,INSTALL AND REMOVE FROM COLLET	
605	MAA	MEMSL01	238	SLIDE(CROSS),LOCK AND UNLOCK	72
605	MAO	MEMTA01	524	TOOL(BORING),ADJUST	
605	MAO	MEMTL01	362	TABLE(LONGITUDINAL),LOCK AND UNLOCK ON CINCINNATI MILLING MACHINE	
605	MAA	MEMTL02	124	TABLE(LONGITUDINAL),LOCK AND UNLOCK ON MILWAUKEE OR SIMILAR TYPES OF MILLS	
605	FAA	TEMMBXX	TABLE	MACHINE(MILLING),BORE TIME ONE INCH DIAMETER ONE INCH DEEP	
605	MAA	TEMMYXX	TABLE	MACHINE(MILLING),BORE HOLE IN GROUP 1 AND GROUP 2 MATERIAL	73
605	MAA	TEMPAXX	TABLE	MACHINE(MILLING),ALIGN PART FOR VERTICAL MILLING	74

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605	MBA	TEMPHXX	TABLE	PART,HANDLE FOR VERTICAL MILL BORING OPERATION	74
605	MAO	MJPGS01	513	GAUGE(PLANER),SET UP AND DISMANTLE	75
605	FAA	MMTMTXX	VARIABLE	MACHINE(MILLING),TRAVERSE ONE INCH	
605	FAA	MMTTM01	17	MACHINE,TRAVEL(PER INCH),RAPID LONGITUDINAL AND CROSS	
605	FAA	MMTTM02	21	MACHINE,TRAVEL(PER INCH),RAPID VERTICAL MOVEMENT	
605	MAF	BSUSP01	29	SPACER,POSITION ON OUTSIDE OF CUTTER ON KEY	
605	MAF	BSUWP01	68	WRENCH,PLACE ON AND REMOVE FROM DRAW BAR LOCK NUT	
605	MAF	BSUWP02	109	WRENCH,PLACE ON AND REMOVE FROM NUT OF THURSTON CHUCK	
605	MAF	BSUWP03	123	WRENCH,PLACE ON AND REMOVE FROM ARBOR NUT	76
605	MAF	MSUAC01	205	ARM(SUPPORT),CRANK IN OR OUT,TO 12 INCHES, MILLING MACHINE	
605	MAO	MSUAI01	1957	ADAPTER,INSTALL AND REMOVE USING HAND DRAW BOLT,HORIZONTAL MILLING MACHINE	
605	MAO	MSUAI02	2199	ADAPTER,INSTALL AND REMOVE USING HAND DRAW BOLT,VERTICAL MILLING MACHINE	
605	MUA	MSUAI03	4353	ADAPTER,INSTALL IN AND REMOVE FROM VERTICAL MILL	
605	MAF	MSUAL01	134	ADAPTER,LOOSEN BY TAPPING END OF DRAW BAR	
605	MAF	MSUAP01	98	ADAPTER,POSITION IN SPINDLE ON MILLING MACHINE	
605	MAF	MSUBP01	73	BAR(DRAW),POSITION AND ENGAGE IN ADAPTER	77
605	MAF	MSUBT01	147	BAR(DRAW),TURN IN OR OUT OF ADAPTER	
605	MAF	MSUCA01	52	CUTTER(OR ARBOR AND ADAPTER),ASSEMBLE	
605	MAF	MSUCA02	157	CUTTER(AND SLEEVE),ASSEMBLE INTO THURSTON CHUCK	
605	MAA	MSUCC01	842	COLLET,CHANGE IN COLLET CHUCK	
605	MAF	MSUCD01	151	CUTTER(OR ARBOR),DISASSEMBLE FROM ADAPTER	
605	MAF	MSUCK01	113	CENTER,KNOCK OUT OF DIVIDING HEAD	
605	MAA	MSUCMXX	VARIABLE	CUT(TRIAL),MAKE FOR BORING HOLE	78
605	MAF	MSUCP01	171	CUTTER,PLACE ON ARBOR,MILLING MACHINE	
605	MAF	MSUCR01	93	CUTTER(AND SLEEVE),REMOVE FROM THURSTON CHUCK	
605	MAF	MSUCR02	72	CUTTER,REMOVE FROM ARBOR	
605	MAF	MSUCS01	317	SPINDLE(TRAVEL),CHANGE DIRECTION	
605	MAA	MSUHA01	6017	HOLE,ALIGN TO SPINDLE,VERTICAL	79
605	MAO	MSUKI01	158	KEY,INSTALL IN AND REMOVE FROM ARBOR	
605	MAW	MSUKL01	256	KNEE,LOCK AND UNLOCK	
605	MAA	MSUKL02	598	KNEE,LOCK AND UNLOCK ON CINCINNATI VERTICAL MILL NO 3 OR SIMILAR MILLS	

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605	MAF	MSULT01	188	LOCKNUT(ARBOR SUPPORT),TIGHTEN OR LOOSEN	79
605	MAF	MSUMM01	141	MILL,MOUNT,SHELL TYPE MOUNTING(CENTER SCREW)	
605	MAF	MSUMM02	134	MILL(FACE),MOUNT,SPINDLE MOUNT(FOUR SCREWS)	
605	MAF	MSUMR01	195	MILL,REMOVE,SHELL TYPE MOUNTING(CENTER SCREW)	
605	MAF	MSUMR02	102	MILL(FACE),REMOVE,SPINDLE MOUNT(FOUR SCREWS)	
605	MAA	MSUMS01	658	MOTOR,START AND STOP	80
605	MAF	MSUNL01	86	NUT(THURSTON CHUCK),LOOSEN OR TIGHTEN WITH MALLET	
605	MAF	MSUPC01	59	CENTER,PLACE IN DIVIDING HEAD	
605	MAO	MSURJ01	145	RAM,JOG TO POSITION,SHAPER	
605	MAF	MSUSC01	390	SPEED(SPINDLE),CHANGE	
605	MAF	MSUSD01	127	SUPPORT(ARBOR),DISENGAGE FROM ONE ARM AND TURN TO REST ON ARM TO CLEAR CUTTER	
605	MAF	MSUSP01	98	SPACER(OR SHIM),PLACE ON ARBOR	
605	MAF	MSUSR01	67	SPACER(OR SHIM),REMOVE FROM ARBOR	
605	MAA	MSUSS01	280	SPINDLE,START AND STOP;ENGAGE AND DISENGAGE FEED	
605	MAF	MSUST01	158	SUPPORT(ARBOR),TURN DOWN AND ENGAGE ON SECOND ARM	81
605	MAF	MSUTS01	175	TABLE(FEED),SET,MILLING MACHINE	
605	MAA	SSUTC01	3159	TABLE,CLEAN CHIPS FROM	
605	MAF	BTLBT01	98	BAR(DRAW),TIGHTEN OR LOOSEN	
606	MAO	MCLTC01	6432	TABLE,CLEAN T-SLOTS WITH SCRAPER AND BRUSH, RACIAL DRILL PRESS	
606	MAW	MEMCI01	122	CUTTER(BACKFACING),INSTALL ON BAR AND REMOVE FROM BAR,TO 1 7/16 INCH HOLE DIAMETER	
606	MAW	MEMCI02	464	CUTTER(BACKFACING),INSTALL INTO SLOT OF BAR AND REMOVE FROM SLOT,1 7/16 INCH HOLE DIAMETER OR LARGER	
606	EUO	MEMDS01	436	DIAL(GRADUATED DEPTH),SET,RADIAL DRILL PRESS	
606	MAO	MEMFC01	158	FEED,CHANGE,RACIAL DRILL PRESS	
606	MAW	MEMFC02	233	FEED,CHANGE,RADIAL DRILL PRESS,THREE LEVERS	82
606	MAF	MEMHL01	37	HEAD,LOCK OR UNLOCK ON ARM,RADIAL DRILL PRESS	
606	MAF	MEMHM01	164	HEAD,MOVE IN OR OUT ON ARM,RADIAL DRILL PRESS	
606	MAO	MEMJC01	63	JIG BORE,CHANGE SPINDLE FEED OR SPEED	
606	MAO	MEMJM01	98	JIG BORE,MOVE TABLE WITH HAND WHEEL	
606	MAO	MEMJM02	120	JIG BORE,MOVE TABLE TO POSITION TO INDICATOR	
606	MAA	MEMOPXX	VARIABLE	PRESS(DRILL),OPERATE	
606	MAW	MEMPA01	126	PRESS(DRILL),ADJUST SPEED(LEVER CHANGE), PEDESTAL DRILL PRESS	
606	MAO	MEMPL01	130	PRESS(DRILL),LOWER OR RAISE SPINDLE,RADIAL DRILL PRESS	

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606	MAW	MEMPS01	171	PRESS(DRILL),SET DEPTH CONTROL ON SPINDLE	82
606	MAF	MEMSA01	391	SPINDLE,ALIGN OVER HOLE,RADIAL DRILL PRESS	83
606	MAO	MEMSC01	202	SPEED,CHANGE ON SPINDLE,RADIAL DRILL PRESS	
606	MAO	MEMSI01	151	SPACER(SUPER),INDEX	
606	MAO	MEMSR01	141	SPINDLE(DRILL PRESS),RAISE AND LOWER AND ALIGN JIG FOR DRILLING	
606	MBO	MEMTA01	461	TOOL,ALIGN TO BUSHING OR HOLE,RADIAL DRILL PRESS	
606	MAO	MEMTC01	826	TOOL,CHANGE IN SPINDLE,JIG BORE	
606	MAO	MEMTC02	406	TOOL,CHANGE IN SLEEVE,JIG BORE	
606	MUO	MEMTC03	287	TOOL,CHANGE IN QUICK CHANGE CHUCK,JIG BORE	
606	MUO	MEMTPXX	VARIABLE	TOOL,PLACE IN AND REMOVE FROM MAGIC CHUCK	84
606	MAO	MSUAT01	1275	TABLE(UNIVERSAL),ADJUST TO ANGLE,RADIAL DRILL PRESS	
606	MAO	MSUCA01	3112	COLLAR(STOP),ASSEMBLE OR DISASSEMBLE USING TWO SPANNER WRENCHES	
606	MAO	MSUCA02	526	COLLAR(STOP),ASSEMBLE OR DISASSEMBLE BY HAND	
606	MAO	MSUCL01	287	COLUMN,LOCK OR UNLOCK ON CINCINNATI-BICKFORD RADIAL DRILL PRESS,MANUAL LOCK	
606	MAF	MSUGP01	132	PARALLEL(FIXED),GET AND PUT ON TABLE	
606	MAO	MSUHR01	129	HEAD(SPINDLE),RAISE OR LOWER,SENSITIVE DRILL PRESS	
606	MAO	MSUJI01	307	JIG BORE,INSERT AND REMOVE KEY,TABLE SLOT	85
606	MAF	MSULP01	321	PARALLEL(FIXED),LOOSEN OR TIGHTEN	
606	MAW	MSUPA01	562	PRESS(DRILL),ADJUST SPEED(BELT CHANGE) PEDESTAL DRILL PRESS	
606	MAW	MSUPCXX	VARIABLE	PRESS(DRILL),CHANGE DEPTH STOP ON PEDESTAL DRILL PRESS	
606	MAF	MSURP01	145	PARALLEL(FIXED),REMOVE FROM TABLE	
606	MAW	MSUSP01	1740	PRESS(DRILL),SET FEED ON PEDESTAL DRILL PRESS	
606	MAO	MSUTB01	1094	TABLE(UNIVERSAL),BOLT TO BASE,RADIAL DRILL PRESS	
606	MAO	MSUTI01	300	TAP,INSTALL IN INSERT,RADIAL DRILL PRESS	
606	MAO	MSUTI02	560	TAP,INSTALL IN TAPPING ATTACHMENT,SENSITIVE DRILL PRESS	86
606	MAO	MSUTR01	531	TABLE,RAISE OR LOWER,AVERAGE OF FOUR INCHES, SENSITIVE DRILL PRESS	
606	MAW	MSUTR02	392	TABLE,RAISE OR LOWER SIX INCHES ON PEDESTAL DRILL PRESS	
606	MUO	SSUJI01	5611	JIG BORE,INDICATE ONE PLANE	
606	MUW	SSUJS01	5151	JIG BORE,SET UP	
606	MAW	SSUPGXX	VARIABLE	PLATE(ANGLE),GET,SET UP FOR USE,AND ASIDE	

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606	MAW	SSUP001	1768	PARALLELS,OBTAIN,SET UP FOR USE,AND ASIDE	86
606	MAW	SSUVS01	4570	VISE(SMALL),SET UP FOR USE	87
607	MAF	MEMAR01	81	ATTACHMENT(MITER),REPOSITION,BANDSAW	
607	MAO	MEMBC01	148	BLADE(BAND SAW),CUT WITH HAND METAL SHEARS	
607	MAO	MEMBI01	375	BAND(SAW),INSTALL ON DRIVE AND IDLER WHEELS, DO-ALL CONTOUR SAW	
607	MAO	MEMBR01	240	BLADE,REMOVE,DO-ALL CONTOUR SAW	
607	MAO	MEMBS01	59	BLADE,SET TO WORK,POWER HACKSAW	
607	MAF	MEMCE01	125	CLUTCH,ENGAGE,POWER HACKSAW	
607	MAO	MEMDC01	209	DOOR(TOP GUARD),OPEN AND CLOSE,DO-ALL CONTOUR SAW	
607	MAO	MEMDO02	236	DOOR(BOTTOM GUARD),OPEN AND CLOSE,DO-ALL CONTOUR SAW	
607	MAO	MEMFE01	65	FEED(FOOT PEDAL),ENGAGE OR DISENGAGE,DO-ALL CONTOUR SAW	88
607	MAO	MEMGA01	140	GUIDE(BLADE),ADJUST HEIGHT,DO-ALL CONTOUR SAW	
607	MAO	MEMHR01	159	HEAD(GUIDE),REMOVE AND REPLACE,DO-ALL CONTOUR SAW	
607	MAF	MEMJS01	712	JAW(VISE),SET TO ANGLE,TO 45 DEGREES	
607	MAF	MEMLR01	38	LEVER(BAND SAW),REPOSITION	
607	MAF	MEMSA01	298	STOCK(IN VISE),ALIGN TO MARK(NO STOP),POWER HACKSAW	
607	MAO	MEMTA01	245	TENSION,ADJUST ON SAW BLADE,DO-ALL CONTOUR SAW	
607	MAO	MEMTA02	90	TENSION(HAND FEED),ADJUST,DO-ALL CONTOUR SAW	
607	MAF	MEMVT01	241	VISE,TIGHTEN OR LOOSEN ON STOCK,POWER HACKSAW	
607	MAF	MEMVT02	103	VISE,TIGHTEN OR LOOSEN ON STOCK,POWER HACKSAW	89
607	MAW	SEMRB01	1173	BLADE,REMOVE AND REPLACE,POWER HACKSAW	
607	MAF	SEMRB02	609	BLADE,REMOVE AND REPLACE,POWER HACKSAW	
607	FAF	MMTMC01	2381	MATERIAL,CUT WITH POWER HACKSAW PER SQUARE INCH OF STAINLESS STEEL OR TOOL STEEL	
607	FAF	MMTMC02	1667	MATERIAL,CUT WITH POWER HACKSAW PER SQUARE INCH OF MILD STEEL OR CAST IRON	
607	FAF	MMTMC03	801	MATERIAL,CUT WITH POWER HACKSAW PER SQUARE INCH OF NON-FERROUS MATERIAL	90
607	MAF	BSUPP01	80	POINTER(DISC CUTTER),POSITION	
607	MAO	MSUAI01	98	ATTACHMENT(CUT OFF),INSTALL ON GUIDE ROD, DO-ALL CONTOUR SAW	
607	MAO	MSUAS01	217	ANGLE,SET ON CUT OFF OR MITERING ATTACHMENT, DO-ALL CONTOUR SAW	
607	MAF	MSUCA01	160	CONTROL(FEED),ADJUST,POWER HACKSAW	
607	MAO	MSULS01	509	LENGTH OF PART,SET ON AUTOMATIC INDEXING SCALE,DO-ALL POWER CUTOFF SAW	

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607	MAO	MSUPR01	419	PLATE(CUTTING SLIDE),REMOVE AND REPLACE,DO-ALL CONTOUR SAW	90
607	MAO	MSUPS01	308	PRESSURE(FEED),SET,POWER HACKSAW	91
607	MAO	MSURC01	412	RANGE(SPEED),CHANGE WITH LEVER,DO-ALL CONTOUR SAW	
607	MAO	MSUSC01	411	SPEED,CHANGE WITH CRANK,DO-ALL CONTOUR SAW	
607	MAO	MSUSC02	458	SPEED,CHANGE,POWER HACKSAW	
607	MAO	MSUSS01	385	STOP(DOWEL PIN),SET UP ON SLIDING PLATE,DO-ALL CONTOUR SAW	
607	MAO	MSUSS02	287	STOP(LIMIT),SET FOR FRAME RAISE,POWER HACKSAW	
607	MAO	MSUSS03	812	STOP(MATERIAL),SET,POWER HACKSAW	
607	MAO	MSUTT01	675	TABLE,TILT,DO-ALL CONTOUR SAW	
607	MAO	MSUWA01	339	WEIGHT(FEED BALANCE),ADJUST,DO-ALL CONTOUR SAW	
609	MAO	MEMLMXX	VARIABLE	LEVER,MOVE J&L AUTOMATIC THREAD GRINDER	92
609	MAO	MEMSS01	218	SPEED,SET WITH THREE LEVERS,J&L AUTOMATIC THREAD GRINDERS	
609	MAO	MSUCR01	1774	COVER(FRONT WHEEL),REMOVE AND REPLACE,J&L AUTOMATIC THREAD GRINDERS	
609	MAO	MSUDA01	661	DRESSER(DRUM),ATTACH TWO HOLDING SPRINGS,J&L AUTOMATIC THREAD GRINDERS	
609	MAO	MSUDI01	537	DIAMONDS,INSERT IN AND REMOVE FROM DRUM DRESSER,J&L AUTOMATIC THREAD GRINDER,THREE DIAMONDS	
609	MAO	MSUDL01	203	DRESSER(DRUM),LOCK OR UNLOCK WITH TRUING DEVICE LOCK,J&L AUTOMATIC THREAD GRINDER	
609	MAO	MSUSA01	191	SCALE(TRUING FEED),ADJUST,J&L AUTOMATIC THREAD GRINDER	
609	MAO	MSUSP01	1803	SHAFT,PLACE IN AND REMOVE FROM HUB FOR BALANCING GRINDING WHEEL ASSEMBLY,J&L AUTOMATIC THREAD GRINDERS	93
609	MAO	SSUAR01	1242	ASSEMBLY(GRINDING WHEEL AND FLANGE),REMOVE AND REPLACE ON TAPER SHAFT,J&L AUTOMATIC THREAD GRINDER	
609	MAO	SSUAS01	1296	ANGLE(HELIX),SET ONE DEGREE ON GRINDING HEAD, J&L AUTOMATIC THREAD GRINDER	
609	MAO	SSUWR01	3805	WHEEL(GRINDING),REMOVE AND REPLACE ON FLANGE	
615	MAF	MEMPE01	59	PUNCH,ENGAGE TO MATERIAL	
615	MAF	MOHPMXX	VARIABLE	PART,MOVE ADJACENT SIDE TO PUNCH	94
615	MAF	MOHPPXX	VARIABLE	PART,POSITION FOR NEXT PUNCH	
615	MAF	MSUDI01	106	DIE,INSTALL	
615	MAF	MSUPI01	94	PUNCH,INSTALL	
615	MAF	BTLHPXX	VARIABLE	HOLE,PUNCH WITH HAND PUNCH	
615	MAF	MTLPPXX	VARIABLE	PUNCH(HAND),POSITION	
615	MAA	MTLPS01	1966	PUNCH,CHASSIS,SET-UP,PUNCH ONE HOLE AND ASIDE PUNCH	

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OCCUP-ATION	QUALITY	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION	PAGE
616	MAA	MJPAI01	426	ADAPTER(PUNCH),INSTALL AND REMOVE,ARBOR PRESS	95
616	MAA	MJPFP01	136	FIXTURE,PLACE ON AND REMOVE FROM ARBOR PRESS	
616	MAA	MJPPC01	186	PLATES(ADAPTER),CHANGE ON ARBOR PRESS BASE	
616	MAA	MJPPI01	180	PUNCH,INSTALL AND REMOVE,ADAPTER ON ARBOR PRESS	
616	MAW	MJPPSXX	VARIABLE	PRESS(HYDRAULIC ARBOR),SET UP FOR USE	
616	MAW	MJPSP01	1120	PRESS,SET UP LARGE MECHANICAL ARBOR PRESS FOR USE	
616	MAW	MJPSP02	910	PRESS,SET UP SMALL MECHANICAL ARBOR PRESS FOR USE	
616	MAO	MNFPA01	1401	PART,ATTACH TO AND REMOVE FROM MANDREL BY PRESSING ON ARBOR PRESS	
616	MAA	MNFPI01	784	PART,INSTALL WITH ARBOR PRESS	96
616	MAW	MNFPPXX	VARIABLE	PARTS,PRESS ON HYDRAULIC OR MECHANICAL ARBOR PRESS	
616	MAA	MNFPR01	649	PART,REMOVE FROM MATING PART WITH ARBOR PRESS	
616	MAA	MTLBRXX	VARIABLE	BEARING(ANNULAR),REPLACE ON SHAFT	
616	MAA	MTLPI01	482	PART,INSTALL,SINGLE ALIGN,PRESS FIT PART	
62X	MAA	MITSC01	168	SPRING(COIL),CHECK AND GAUGE TENSION WITH A COMPRESSION GAUGE	97
62X	MAA	MNFPIXX	VARIABLE	PIN,INSTALL OR REMOVE	
62X	MAA	MNFPPXX	VARIABLE	PLUG(NON-THREADED),INSTALL AND REMOVE	
62X	MAA	MNFWRXX	VARIABLE	WASHER(LOCK TAB),BEND TABS WITH SCREWDRIVER	
62X	MAA	MTFCIXX	VARIABLE	CAP OR PLUG(THREADED),INSTALL OR REMOVE	
62X	MAA	MTFLR01	1660	LINE(TUBE),REMOVE FROM FITTING,SECURED WITH B-NUT FITTING	
62X	MAA	MTFLS01	1735	LINE(TUBE),SECURE TO FITTING WITH B-NUT FITTING	98
62X	MAA	MTLBC01	250	BOLT,CUT WITH BOLT CUTTER	
62X	MAA	MTLSI01	332	SPRING(HELICAL),INSTALL WITH PLIERS	
62X	MAA	MTLSR01	237	SPRING(HELICAL-COMPRESSION OR EXTENSION); REMOVE BY HAND AND PLIERS	
62X	MAA	MTLTC01	1285	TUBING,CUT WITH TUBING CUTTER	
620	FUW	BITBT01	449	BATTERY(STORAGE),TEST CELL	
620	FUW	BITPT01	223	PLUG(SPARK),TEST UNDER PRESSURE	
620	MAW	BITTT01	91	TENSION(SPRING),TEST	
620	FUW	MITCT01	1793	CONDENSER(DISTRIBUTOR),TEST ON BENCH	99
620	MAW	MITPG01	247	PLUG(SPARK),GAP AND CHECK	
620	MAW	MITTCXX	VARIABLE	TENSION(SPRING),CHECK	
620	MAW	SITAUXX	VARIABLE	AMMETER/VOLTMETER,USE(COMBINATION AMMETER AND VOLTMETER)	

OCCUPATION	QUALITY	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION	PAGE
620	FUW	SITCCXX	VARIABLE	COIL(IGNITION),CHECK ON VEHICLE(MILITARY)	99
620	FUW	SITCC04	13758	COIL(IGNITION),CHECK ON VEHICLE(COMMERCIAL)	100
620	FUW	SITCC05	11740	COIL(IGNITION),CHECK ON TEST BENCH	
620	FUW	SITCDXX	VARIABLE	DELIVERY(FUEL),CHECK AND ADJUST,AMERICAN BOSCH PSB-12BT FUEL INJECTION PUMP	
620	MUW	SITCD03	27130	DELIVERY(FUEL),CHECK AND ADJUST,AMERICAN BOSCH,PSB-6A FUEL INJECTION PUMP	
620	MAW	SITCRXX	VARIABLE	CONDENSER(IGNITER),REMOVE FROM MILITARY VEHICLE,TEST,AND REPLACE ON VEHICLE	101
620	MUW	SITCR04	3193	CONDENSER(DISTRIBUTOR),REMOVE FROM VEHICLE, TEST,AND REPLACE ON COMMERCIAL VEHICLE	
620	MAW	SITDCXX	VARIABLE	DELIVERY(FUEL),CHECK AND ADJUST,SIMMONDS FUEL INJECTION PUMP	
620	MAW	SITDTXX	VARIABLE	DISTRIBUTOR(IGNITION),TEST ON SUN UNIVERSAL DIAGNOSIS TESTER	102
620	MAW	SITGUXX	VARIABLE	GAUGE(VACUUM),USE	
620	FUW	SITHA01	18880	HIGH SPEED AND FUEL SHUTOFF,ADJUST,AMERICAN BOSCH PSB-12BT FUEL INJECTION PUMP	
620	MAW	SITLUXX	VARIABLE	LIGHT(TIMING),USE	103
620	MUW	SITNT01	4721	NOZZLE,TEST,SIMMONDS FUEL INJECTION PUMP,PER NOZZLE	
620	MAW	SITPA01	15135	PUMP(AND HOSES),ASSEMBLE,AMERICAN BOSCH PSB-12BT FUEL INJECTION PUMP	
620	MAW	SITPMXX	VARIABLE	PUMP(FUEL INJECTION),MOUNT ON TEST STAND, SIMMONDS	
620	MAW	SITPM03	4190	PUMP(FUEL INJECTION),MOUNT ON TEST STAND, AMERICAN BOSCH,PSB-6A	
620	MUW	SITPT01	9220	PUMP(FUEL INJECTION),TEST FOR FUEL LEAKAGE, AMERICAN BOSCH,PSB-6A	104
620	MUW	SITPT02	43824	PUMP(FUEL INJECTION),TEST FOR FUEL LEAKAGE,TWO HYDRAULIC HEADS,AMERICAN BOSCH,PSB-12BT	
620	MAW	SITRT01	1358	ROTOR,TEST IN GROWLER	
620	FUW	SITSH01	8880	STAND,HEAT,FUEL INJECTION PUMP TEST STAND	
620	MAW	SITSSXX	VARIABLE	STAND,SHUT DOWN AND REMOVE PUMP,FUEL INJECTION PUMP TEST STAND	
620	MAW	SITTP01	11822	PUMP,TIME,AMERICAN BOSCH,PSB-6A FUEL INJECTION PUMP	
620	MAW	SITTP02	17852	PUMP,TIME,AMERICAN BOSCH PSB-12BT,FUEL INJECTION PUMP	105
620	MAW	SITTUXX	VARIABLE	TACHOMETER(DIRECT READING),USE	
620	TUW	SITTU04	830	TACHOMETER(DIRECT READING),USE,CONVERT METER READING TO BELT SPEED	
620	MAW	SITUTXX	VARIABLE	TACHOMETER(INDIRECT READING),USE	
620	MAW	SITVC01	11990	VALVE(METERING),CALIBRATE,SIMMONDS FUEL INJECTION PUMP	

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OCCUP-ATION	QUALITY	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION	PAGE
620	MAW	SITVT01	6483	VALVE(DELIVERY),TEST,AMERICAN BOSCH PSB-6A FUEL INJECTION PUMP	106
620	MAW	SITVT02	9134	VALVE(DELIVERY),TEST,AMERICAN BOSCH PSB-12BT, FUEL INJECTION PUMP(TWO HEADS)	
620	MAW	SITVT03	4765	VALVE(BLEEDER),TEST,AMERICAN BOSCH,PSB-6A FUEL INJECTION PUMP	
620	MAW	SITVT04	725	VALVE(BLEEDER),TEST,AMERICAN BOSCH,PSB-12BT FUEL INJECTION PUMP	
620	MAW	KITATXX	VARIABLE	ALTERNATOR,TEST WITH REGULATOR	
620	MAW	KITGCXX	VARIABLE	GENERATOR(AND/OR VOLTAGE REGULATOR),CHECK WITH LOW VOLTAGE CIRCUIT TESTER	107
620	MAW	KITGTXX	VARIABLE	GENERATOR,TEST	
620	MAW	KITHTXX	VARIABLE	HARNESS(IGNITION),TEST WITH HIGH VOLTAGE TEST SET	
620	MAW	KITPCXX	VARIABLE	PLUG(SPARK),CLEAN,TEST,AND GAP	108
620	MAW	KITPTXX	VARIABLE	PUMP(FUEL INJECTION),TEST,SIMMONDS,6 OR 12 CYLINDER	
620	EUW	KITPT03	150332	PUMP(FUEL INJECTION),TEST,AMERICAN BOSCH MODEL PSB-6A	
620	MUW	KITPT04	180522	PUMP(FUEL INJECTION),TEST,AMERICAN BOSCH MODEL PSB-12BT	
620	MAW	KITRSXX	VARIABLE	REGULATOR(VOLTAGE),SET UP AND TEST	109
620	MAW	KITSCXX	VARIABLE	SPEEDOMETER,CHECK ON SPEEDOMETER TEST MACHINE	
620	MAW	KITSTXX	VARIABLE	STARTER(AUTOMOTIVE),TEST	
621	MAA	MCPCI01	1551	CLAMP(MARMAN),INSTALL	
621	MAA	MCPCI02	2606	CLAMP(WIGGINS TYPE-TWO TO SIX INCH DIAMETER), INSTALL	110
621	MAA	MCPCR01	1499	CLAMP(MARMAN-TWO TO SIX INCH DIAMETER),REMOVE	
621	MAA	MCPCR02	2090	CLAMP(WIGGINS TYPE-TWO TO SIX INCH DIAMETER), REMOVE	
621	MAA	MOHDOXX	VARIABLE	DOOR(4X6 FOOT OVEN),OPEN AND/OR CLOSE	
621	MAA	MOHOP01	394	OBJECT,PLACE IN AND REMOVE FROM OVEN,FIRST OBJECT	
621	MAA	MOHOP02	126	OBJECT,PLACE IN AND REMOVE FROM OVEN,ADDI-TIONAL OBJECT	
639	MAF	MEMBA01	162	BLADE(BED KNIFE),ALIGN TO LAWNMOWER	
639	MAF	MEMBI01	776	BLADE(BED KNIFE),INSTALL ON OR REMOVE FROM GRINDER	111
639	MAF	MEMBR01	142	BLADE(BED KNIFE),REMOVE OR REPLACE UNDER LAWNMOWER BODY	
639	MAF	MEMBS01	143	BELT,SLIP ON OR OFF PULLEY,LAWNMOWER GRINDER	
639	MAF	MEMCM01	81	CUTTER,MOVE AND POSITION TO BLADES	
639	MAF	MEMDP01	136	DEVICE(HOLDING),POSITION ON GRINDER,PER DEVICE	

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639	MAF	MEMRA01	210	ROD(CUTTING ARM),ADJUST ON LAWNMOWER SHARPENER	111
639	MAF	MEMRO01	475	ROD,OBTAIN AND ASSEMBLE TO CUTTING ARM OR DISASSEMBLE AND PLACE ASIDE	
639	MAF	MEMSS01	175	STOP,SET,LAWNMOWER GRINDER	
639	MAF	MEMTAXX	VARIABLE	TABLE(GRINDER),ADJUST HORIZONTALLY OR VERTICALLY	112
639	MAF	MEMWAXX	VARIABLE	WHEEL(GRINDING),ADJUST FEED FOR LAWNMOWER	
639	MAF	MJPHR01	605	HANDLE(LAWNMOWER),REMOVE	
639	MAF	MOHC001	86	CUTTER,OBTAIN AND MOVE	
639	MAF	MOHLL01	165	LAWNMOWER,LIFT TO BENCH	
639	MAF	MOHWA01	104	WEIGHT(SPEED),ATTACH OR DETACH TO/FROM LAWNMOWER	
639	MAF	BTLBD01	174	BLADE,DEBURR,UP TO 22 INCH LAWNMOWER	
639	MAF	BTLSL01	86	SCREW(ADJUSTING)(RUSTY),LOOSEN OR TIGHTEN WITH A SCREWDRIVER	
66X	MAF	MCPCP01	127	CLAMP(WOOD),POSITION AND TIGHTEN	113
66X	MAF	MCPCT01	93	CLAMP(CAM ACTION),TIGHTEN AND LOOSEN	
66X	MAF	MCPCT02	160	CLAMP,TIGHTEN AND LOOSEN TO HOLD BOARD	
66X	MAF	MGMMM01	584	MATERIAL,MEASURE AND MARK FOR CUTTING	
66X	MAW	BOHMPXX	VARIABLE	MATERIAL,PLACE IN WOOD VISE	
66X	MAW	BOHMRXX	VARIABLE	MATERIAL,REMOVE FROM WOOD VISE	
66X	MAW	MVSWLXX	VARIABLE	WOOD,LOAD IN AND UNLOAD FROM VISE	
660	MAF	MNFGA01	198	GLUE,APPLY,WITH BRUSH	
660	MAF	MNFNP01	135	NAIL,PRE-NAIL PRIOR TO ASSEMBLY	114
660	MAF	MNFNS01	67	NAIL,SET WITH NAIL PUNCH	
660	MAF	MOHPP01	278	PIECES,POSITION TWO FOR FASTENING	
664	MAF	MCPCA01	794	CLAMP(HOLD DOWN),ADJUST,TENON MACHINE	
665	MAF	MEWCA01	233	CUT DEPTH,ADJUST	
665	MAF	MEWFP01	403	FENCE(GUIDE),POSITION ON SPINDLE OF SHAPER	
665	MAF	MEWPS01	218	PLANER(WOOD),START AND STOP	
665	MAF	MEWTA01	210	TABLE(WOOD PLANER),ADJUST HEIGHT	
665	MAF	MEWTM01	81	TABLE,MOVE HORIZONTALLY 2 1/2 INCHES AND RETURN,MORTISE MACHINE	
665	MAF	MEWTT01	249	TEMPLATE,TACK ON TOP OF STOCK FOR SHAPER	115
666	MAF	MEWHD01	97	HOLE,DRILL OR COUNTERSINK WITH DRILL PRESS	
667	MAF	MEWBR01	653	BLADE,RAISE OR LOWER FOR CUTTING ON TABLE SAW	
667	MAF	MEWCA01	213	CARRIAGE(AUTOMATIC RIP SAW),ADJUST HEIGHT	
667	MAF	MEWFA01	134	FENCE GAUGE(AUTOMATIC RIP SAW),ADJUST	
667	MAF	MEWFS01	279	FENCE(TABLE SAW-WOOD),SET FOR WIDE CUT	

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667	MAF	MEWGS01	124	GAUGE(WIDTH-TABLE SAW),SET	115
667	MAF	MSUCR01	115	COLLAR AND DADO BLADES,REMOVE,RADIAL CIRCULAR SAW	
667	MAF	MSUDP01	47	DADO(OR NUT),PLACE ON SAW SHAFT	
667	MAF	MSUFI01	306	FENCE,INSTALL ON TABLE SAW	
667	MAF	MSUFR01	376	FENCE,REMOVE FROM TABLE SAW	116
667	MAF	MSUGI01	331	GUARD(SAFETY),INSTALL ON TABLE SAW	
667	MAF	MSUGR01	498	GUARD(SAFETY),REMOVE FROM TABLE SAW	
667	MAF	MSUSC01	378	STOP,CLAMP ON RADIAL CIRCULAR SAW BED OR TABLE	
667	MAF	MSUSR01	220	STOP,REMOVE FROM CUTOFF SAW BED	
667	MAF	MTLSS01	563	SURFACE,SMOOTH,REMOVE BURRS AND SPLINTERS	
669	MAF	MEWBC01	79	BEADING,CUT ONE PIECE ON BEADING CUTTER	
669	MAF	MEWJT01	47	JOINTER,TURN ON AND OFF	
669	MAF	MEWMC01	195	MOULDING,CUT ON MOULDING CUTTER	
669	MAF	MEWNU01	340	NUT(LOCK),UNFASTEN AND FASTEN FROM SIDE OF TOP AND BOTTOM CUTTER HEADS OF MOULDER	117
669	MAF	MEWPR01	291	PIPE(SAW DUST COLLECTOR DUCT),REMOVE AND INSTALL ON MOULDER	
669	MAF	MEWTL01	368	TAILGATE(MOULDER),LOWER AND RAISE	
669	MAF	MEWWP01	67	WORK,PREPARE TO RUN ON JOINTER	
669	MAF	MLOTR01	198	TEMPLATE(WOOD),REMOVE FROM TOP OF STOCK	
669	MAF	MOHHRXX	VARIABLE	HEADS(CUTTER),REMOVE AND INSTALL,SIDE OR TOP AND BOTTOM CUTTER HEADS ON MOULDER	
669	MAF	MSUBR01	411	BREAKER(CHIP),REMOVE AND SET ON TOP HEAD CUTTER OF MOULDER	
669	MAF	MSUBU01	523	BEARINGS(OUTBOARD),UNFASTEN AND SET ON BOTTOM AND TOP CUTTER HEADS ON MOULDER	
669	MAF	MSUHR01	319	HOOD(BLOWER),REMOVE AND INSTALL ON MOULDER, PER HOOD	118
669	MAF	MSUJAXX	VARIABLE	JOINTER,ADJUST TO REQUIRED TABLE HEIGHT	
699	MAA	MDPOD01	199	OBJECT,DIP WITH HOOK	
699	MAF	BLULA01	105	LUBRICANT,APPLY GREASE WITH A PADDLE	
699	MAA	MLUAG01	377	GREASE,APPLY TO MATING SURFACES	
699	MAW	MLUAO01	47	OIL,APPLY WITH APPLICATOR SUCH AS TOOTHPICK, NEEDLE,OR WIRE	
699	MAF	MLUBL01	236	BEARING(MOTOR),LUBRICATE	
699	MAF	MLUCS01	154	CUP(GREASE),SCREW DOWN	119
699	MUW	MLUFG01	71	FITTING,GREASE WITH AIR-OPERATED GREASE GUN	
699	MAW	MLUGA01	99	GREASE,APPLY TO SMALL BEARING OR PART BY HAND	
699	MAW	MLUGO01	49	GREASE,OBTAIN FROM CONTAINER WITH STICK OR FINGER	

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699	MAW	MLUGT01	55	GUN(SPRAY),TURN ON AND OFF	119
699	MAW	MLUGW01	49	GUN(GREASE),WIPE EXCESS GREASE FROM BARREL WITH FINGERS	
699	MAA	MLULA01	416	LUBRICANT/SEALANT,APPLY WITH TUBE AND SPREADER	
699	MAA	MLULA02	80	LUBRICANT,APPLY WITH BRUSH TO SPOT	
699	MAA	MLULA03	228	LUBRICANT,APPLY WITH BRUSH/LINEAR FOOT	120
699	MAA	MLULP01	113	LUBRICANT/SEALANT,PLACE WITH OIL CAN	
699	MAW	MLUNC01	239	NOZZLE,CHANGE ON AIR-OPERATED SPRAY GUN	
699	MAW	MLUOAXX	VARIABLE	OIL,APPLY TO HOLE OR SPOT WITH TRIGGER TYPE OIL CAN	
699	TUW	MLUOR01	248	OIL,REMOVE AND DISPOSE OF,WITH HAND OPERATED SUCTION GUN	
699	MAW	MLUSO01	38	SPIGOT,OPEN AND CLOSE,LEVER TYPE	
699	MAF	MOHBP01	399	BUCKET,POSITION AND REMOVE FROM 55 GALLON DRUM	
699	MAF	MOHBP02	282	BUCKET,POSITION TO POUR FROM	

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
ADAPTER(PUNCH),INSTALL AND REMOVE,ARBOR PRESS	426	616	MJPAI01	95
ADAPTER,INSTALL AND REMOVE USING HAND DRAW BOLT,HORIZONTAL MILLING MACHINE	1957	605	MSUAI01	76
ADAPTER,INSTALL AND REMOVE USING HAND DRAW BOLT,VERTICAL MILLING MACHINE	2199	605	MSUAI02	76
ADAPTER,INSTALL IN AND REMOVE FROM VERTICAL MILL	4353	605	MSUAI03	76
ADAPTER,LOOSEN BY TAPPING END OF DRAW BAR	134	605	MSUAL01	76
ADAPTER,POSITION IN SPINDLE CN MILLING MACHINE	98	605	MSUAP01	76
ALTERNATOR,TEST WITH REGULATOR	VARIABLE	620	KITATXX	106
AMMETER/VOLTMETER,USE(COMBINATION AMMETER AND VOLTMETER)	VARIABLE	620	SITAUXX	99
ANGLE(HELIX),SET ONE DEGREE CN GRINDING HEAD, J&L AUTOMATIC THREAD GRINDER	1296	609	SSUAS01	93
ANGLE,SET ON CUT OFF OR MITERING ATTACHMENT, DO-ALL CONTOUR SAW	217	607	MSUAS01	90
ARM(SUPPORT),CRANK IN OR OUT,TO 12 INCHES, MILLING MACHINE	205	605	MSUAC01	76
ASSEMBLY(GRINDING WHEEL AND FLANGE),REMOVE AND REPLACE ON TAPER SHAFT,J&L AUTOMATIC THREAD GRINDER	1242	609	SSUAR01	93
ASSEMBLY(INDICATOR),REMOVE FROM BOX	114	6XX	MJPAR01	4
ATTACHMENT(CUT OFF),INSTALL CN GUIDE ROD, DO-ALL CONTOUR SAW	98	607	MSUAI01	90
ATTACHMENT(MITER),REPOSITION,BANDSAW	81	607	MEMAR01	87
ATTACHMENT(PULLING),ASSEMBLE TO GEAR	3460	6XX	MTLAA01	7
ATTACHMENT(TAPER),SET	1367	604	MSUAS01	66
AXIS,DIAL INDICATE,ONE LONGITUDINAL OR CROSS ON MILLING MACHINE	3848	605	MEMAD01	70
AXIS,DIAL INDICATE,VERTICAL CN MILLING MACHINE	12841	605	MEMAD02	71
BAFFLE(PLYWOOD),GET AND RETURN,BLANCHARD ROTARY GRINDER	476	603	MOHBG01	34
BAND(SAW),INSTALL ON DRIVE AND IDLER WHEELS, DO-ALL CONTOUR SAW	375	607	MEMBI01	87
BAR(BORING),INSTALL IN,ADJUST,AND REMOVE FROM COMPOUND SLIDE	1209	604	MSUBI01	66
BAR(DRAW),POSITION AND ENGAGE IN ADAPTER	73	605	MSUBP01	77
BAR(DRAW),TIGHTEN OR LOOSEN	98	605	BTLBT01	81
BAR(DRAW),TURN IN OR OUT OF ADAPTER	147	605	MSUBT01	77
BASE(TRUING UNIT),MOVE,INTERNAL GRINDER	179	603	MSUBM01	35
BATTERY(STORAGE),TEST CELL	449	620	BITBT01	98
BEADING,CUT ONE PIECE ON BEADING CUTTER	79	669	MEWBC01	116
BEARING(ANNULAR),REMOVE	VARIABLE	6XX	MTLBRXX	8

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BEARING(ANNULAR),REPLACE ON SHAFT	VARIABLE	616	MTLBRXX	96
BEARING(MOTOR),LUBRICATE	236	699	MLUBL01	118
BEARING(SMALL),INSTALL INTO RACE,SLIGHT PRESS FIT	233	6XX	MTLBI01	8
BEARINGS(OUTBOARD),UNFASTEN AND SET ON BOTTOM AND TOP CUTTER HEADS ON MOULDER	523	669	MSUBU01	117
BELT(WHEELHEAD DRIVE),MOUNT AND REMOVE, INTERNAL GRINDER	197	603	MSUMB01	38
BELT(WHEELHEAD DRIVE),TIGHTEN AND LOOSEN, INTERNAL GRINDER	118	603	MSUBT01	35
BELT,SLIP ON OR OFF PULLEY,LAWNMOWER GRINDER	143	639	MEMBS01	111
BLADE(BAND SAW),CUT WITH HAND METAL SHEARS	148	607	MEMBC01	87
BLADE(BANDSAW),POSITION ON TWO ROLLERS OF AN AUTOMATIC SHARPENING MACHINE	535	601	MEMBP01	25
BLADE(BED KNIFE),ALIGN TO LAWNMOWER	162	639	MEMBA01	110
BLADE(BED KNIFE),INSTALL ON OR REMOVE FROM GRINDER	776	639	MEMBI01	111
BLADE(BED KNIFE),REMOVE OR REPLACE UNDER LAWNMOWER BODY	142	639	MEMBR01	111
BLADE(SAW),POSITION ON ARBOR OR REMOVE(FOR SHARPENING)	76	601	MEMBP02	25
BLADE(SAW),REPOSITION 180 DEGREES ON ARBOR FOR SHARPENING	94	601	MEMBR01	25
BLADE,DEBURR,UP TO 22 INCH LAWNMOWER	174	639	BTLBD01	112
BLADE,RAISE OR LOWER FOR CUTTING ON TABLE SAW	653	667	MEWBR01	115
BLADE,REMOVE,DO-ALL CONTOUR SAW	240	607	MEMBR01	87
BLADE,REMOVE AND REPLACE,POWER HACKSAW	1173	607	SEMRB01	89
BLADE,REMOVE AND REPLACE,POWER HACKSAW	609	607	SEMRB02	89
BLADE,SET TO WORK,POWER HACKSAW	59	607	MEMBS01	87
BLOCK(TURRET STOP),POSITION,TURRET LATHE	127	604	MEMBP01	43
BLOCKS(GAUGE),ASSEMBLE AND DISASSEMBLE	572	60X	MJPBA01	20
BLOTTER,REMOVE AND REPLACE,PER BLOTTER	136	603	MSUBR01	35
BOLT(TEE),INSTALL AND REMOVE	1787	60X	MSUBI01	22
BOLT(TEE),INSTALL IN AND REMOVE FROM TABLE SLOT	172	60X	MSUBI02	22
BOLT,CUT WITH BOLT CUTTER	250	62X	MTLBC01	98
BOLT,TIGHTEN OR LOOSEN WITH WRENCH	88	60X	MTLBL01	24
BRACKET(DIAMOND HOLDER),PLACE ON AND REMOVE FROM MACHINE	225	603	MSUBP01	35
BREAKER(CHIP),REMOVE AND SET ON TOP HEAD CUTTER OF MOULDER	411	669	MSUBR01	117
BUCKET,POSITION AND REMOVE FROM 55 GALLON DRUM	399	699	MOHBP01	120

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BUCKET,POSITION TO POUR FROM	282	699	MQHBP02	120
BUSHING(COMMON STRAIGHT),INSTALL-REQUIRES CHILLING BEFORE INSTALLATION	2205	6XX	MTLIB01	8
BUSHING(OILITE),REMOVE WITH SCREW PULLER	3380	6XX	MTLBR03	8
BUSHING(OR PLUG),OBTAIN,INSTALL IN,AND REMOVE FROM JIG OR FIXTURE	171	60X	MEMBO01	13
CALIPER(INSIDE),USE,CHECK DIMENSION WITH 24 INCH FIRM JOINT	1429	60X	MITCU02	18
CALIPER(VERNIER),USE TO GAUGE PART	1427	60X	MITCU01	18
CAP OR PLUG(THREADED),INSTALL OR REMOVE	VARIABLE	62X	MTFCIXX	97
CARRIAGE(AUTOMATIC RIP SAW),ADJUST HEIGHT	213	667	MEWCA01	115
CARRIAGE,LOCK AND UNLOCK	306	604	MEMCL01	43
CARRIAGE,MOVE SIX INCHES BY HAND,TURRET LATHE	79	604	MEMCM03	43
CARRIAGE,MOVE WITH HANDWHEEL	VARIABLE	604	MEMCMXX	43
CASE,OPEN AND CLOSE(MICROMETER CASE OR SIMILAR WITH ONE PUSH BUTTON LATCH)	62	60X	MJPC001	20
CENTER(TAIL STOCK),ENGAGE AND DISENGAGE	VARIABLE	604	MEMCDXX	43
CENTER(TAILSTOCK),TURN IN AND CUT	220	605	MEMCT01	71
CENTER,INSTALL IN AND REMOVE FROM HEADSTOCK OR FOOTSTOCK	475	603	MSUCI01	35
CENTER,KNOCK OUT OF DIVIDING HEAD	113	605	MSUCK01	77
CENTER,KNOCK OUT OF SPINDLE WITH BAR	395	604	MSUCK01	67
CENTER,PLACE IN DIVIDING HEAD	59	605	MSUPC01	80
CENTERS(SHAFT),CLEAN AND LUBRICATE	466	60X	SCLCC01	13
CHASER(THREAD),REMOVE FROM AND INSTALL IN DIE HEAD,TURRET LATHE	271	604	MEMRC01	46
CHIPS,DIG FROM ONE LINEAR INCH OF GROOVE	VARIABLE	60X	MCLCDXX	12
CHIPS,REMOVE FROM HOLE UP TO ONE INCH DIAMETER,TWO INCHES DEEP	VARIABLE	60X	MCLCRXX	12
CHUCK(COLLET),CLOSE AND OPEN WITH WRENCH	767	60X	MEMCC01	13
CHUCK(LATHE),TURN 3/4 REVOLUTION	183	604	MEMCT01	44
CHUCK(MAGNETIC),TURN ON AND OFF	128	603	MEMCT01	26
CHUCK(UNIVERSAL),LOOSEN OR TIGHTEN	1084	60X	MEMCL03	14
CHUCK,CLEAN WITH RAG,TO THREE SQUARE FEET	256	603	MCLCC02	25
CHUCK,CLEAN WITH SQUEEGEE,TO THREE SQUARE FEET	212	603	MCLCC01	25
CHUCK,FACEPLATE,OR COLLET CHUCK,INSTALL AND REMOVE 50 POUNDS OR LESS	297	604	MSUIC01	68
CHUCK,LOOSEN AND TIGHTEN	VARIABLE	60X	MEMCLXX	14
CHUCK,PLACE ON AND REMOVE FROM SPINDLE NOSE, CYLINDRICAL GRINDER	262	603	MSUCP01	36
CHUCK,WIPE HOLDING SURFACES OF THREE JAWS	46	603	MEMCW01	26

DEFENSE WORK MEASUREMENT STANDARD TIME DATA
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OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
CLAMP(AND TEE BOLT),INSTALL AND REMOVE	2602	60X	MSUCI01	22
CLAMP(CAM ACTION),TIGHTEN AND LOOSEN	93	66X	MCPCT01	113
CLAMP(C TYPE),INSTALL AND REMOVE	583	6XX	MCPCI01	2
CLAMP(HOLD DOWN),ADJUST,TENCN MACHINE	794	664	MCPCA01	114
CLAMP(MARMAN),INSTALL	1551	621	MCPCI01	109
CLAMP(MARMAN-TWO TO SIX INCH DIAMETER),REMOVE	1499	621	MCPCR01	110
CLAMP(WIGGINS TYPE-TWO TO SIX INCH DIAMETER), INSTALL	2606	621	MCPCI02	110
CLAMP(WIGGINS TYPE-TWO TO SIX INCH DIAMETER), REMOVE	2090	621	MCPCR02	110
CLAMP(WOOD),POSITION AND TIGHTEN	127	66X	MCPCP01	113
CLAMP,ATTACH TO PART	VARIABLE	60X	MEMCAXX	13
CLAMP,TIGHTEN AND LOOSEN TO HOLD BOARD	160	66X	MCPCT02	113
CLIP(DIAL),SET TO DESIRED READING	138	604	MSUCS01	67
CLUTCH(FEED OR SPINDLE),ENGAGE AND DISENGAGE	82	604	MEMCE01	43
CLUTCH,ENGAGE,POWER HACKSAW	125	607	MEMCE01	87
COIL(IGNITION),CHECK ON TEST BENCH	11740	620	SITCC05	100
COIL(IGNITION),CHECK ON VEHICLE(MILITARY)	VARIABLE	620	SITCCXX	99
COIL(IGNITION),CHECK ON VEHICLE(COMMERCIAL)	13758	620	SITCC04	100
COLLAR(STOP),ASSEMBLE OR DISASSEMBLE USING TWO SPANNER WRENCHES	3112	606	MSUCA01	84
COLLAR(STOP),ASSEMBLE OR DISASSEMBLE BY HAND	526	606	MSUCA02	84
COLLAR AND DADO BLADES,REMOVE,RADIAL CIRCULAR SAW	115	667	MSUCR01	115
COLLET,CHANGE IN COLLET CHUCK	842	605	MSUCC01	77
COLLET,INSTALL IN AND REMOVE FROM COLLET CHUCK	1888	604	MSUCI01	67
COLLET,OPEN AND CLOSE	VARIABLE	60X	MEMCOXX	14
COLLET,OPEN AND CLOSE	286	603	MEMCO01	26
COLUMN,LOCK OR UNLOCK ON CINCINNATI-BICKFORD RADIAL DRILL PRESS,MANUAL LOCK	287	606	MSUCL01	84
CONDENSER(DISTRIBUTOR),TEST ON BENCH	1793	620	MITCT01	99
CONDENSER(DISTRIBUTOR),REMOVE FROM VEHICLE, TEST,AND REPLACE ON COMMERCIAL VEHICLE	3193	620	SITCR04	101
CONDENSER(IGNITER),REMOVE FROM MILITARY VEHICLE,TEST,AND REPLACE ON VEHICLE	VARIABLE	620	SITCRXX	101
CONTROL(CROSS FEED),ADJUST,SURFACE GRINDER	164	603	MEMCA01	26
CONTROL(FEED),ADJUST,POWER HACKSAW	160	607	MSUCA01	90
CONTROL(HEAD FEED),ADJUST,BLANCHARD ROTARY GRINDER	46	603	MSUCA01	35
CORNER,BRUSH CLEAN,MOVE CHIPS ONE INCH	VARIABLE	6XX	MCLCBXX	1

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
CORNER,CLEAN WITH AIR	VARIABLE	6XX	MCLCCXX	1
COVER(FRONT WHEEL),REMOVE AND REPLACE,J&L AUTOMATIC THREAD GRINDERS	1774	609	MSUCR01	92
COVER(SPINDLE PULLEY),LOWER AND RAISE, CYLINDRICAL GRINDER	85	603	MSUCL01	35
COVER(WHEEL),OPEN AND CLOSE,LARGE COVER	252	603	MSUCO01	35
COVER(WHEEL),REMOVE AND INSTALL	144	603	MSUCR01	36
CRANK(CROSSFEED),ENGAGE AND DISENGAGE ON MILLING MACHINE	52	605	MEMCE02	71
CRANK(LONGITUDINAL),ENGAGE AND DISENGAGE ON MILLING MACHINE	196	605	MEMCE01	71
CRANK(VERTICAL),ENGAGE AND DISENGAGE ON MILLING MACHINE	164	605	MEMCE03	71
CRANK,ENGAGE AND DISENGAGE	VARIABLE	605	MACCEXX	70
CRANK,REMOVE FROM STORAGE PIN AND PLACE ON SHAFT AND RETURN TO STORAGE PIN	195	60X	MSUCR01	22
CROSS SLIDE(WHEELHEAD),MOVE FOR OPERATION, INTERNAL GRINDER	90	603	MEMCM01	26
CROSS SLIDE(WHEELHEAD),MOVE FOR SETUP,INTERNAL GRINDER	163	603	MSUMC01	38
CROSS SLIDE,MOVE,TURRET LATHE	VARIABLE	604	MEMMCXX	45
CUP(GREASE),SCREW DOWN	154	699	MLUCS01	119
CUT(TRIAL),MAKE FOR BORING HOLE	VARIABLE	605	MSUCMXX	78
CUT DEPTH,ADJUST	233	665	MEWCA01	114
CUTTER(AND SLEEVE),ASSEMBLE INTO THURSTON CHUCK	157	605	MSUCA02	77
CUTTER(AND SLEEVE),REMOVE FROM THURSTON CHUCK	93	605	MSUCR01	78
CUTTER(BACKFACING),INSTALL ON BAR AND REMOVE FROM BAR,TO 1 7/16 INCH HOLE DIAMETER	122	606	MEMCI01	81
CUTTER(BACKFACING),INSTALL INTO SLOT OF BAR AND REMOVE FROM SLOT,1 7/16 INCH HOLE DIAMETER OR LARGER	464	606	MEMCI02	81
CUTTER(OR ARBOR),DISASSEMBLE FROM ADAPTER	151	605	MSUCD01	77
CUTTER(OR ARBOR AND ADAPTER),ASSEMBLE	52	605	MSUCA01	77
CUTTER,MOVE AND POSITION TO BLADES	81	639	MEMCM01	111
CUTTER,OBTAIN AND MOVE	86	639	MOHCO01	112
CUTTER,PLACE ON ARBOR,MILLING MACHINE	171	605	MSUCP01	78
CUTTER,REMOVE FROM ARBOR	72	605	MSUCR02	78
DADO(OR NUT),PLACE ON SAW SHAFT	47	667	MSUDP01	115
DELIVERY(FUEL),CHECK AND ADJUST,AMERICAN BOSCH PSB-12BT FUEL INJECTION PUMP	VARIABLE	620	SITCDXX	100
DELIVERY(FUEL),CHECK AND ADJUST,AMERICAN BOSCH,PSB-6A FUEL INJECTION PUMP	27130	620	SITCD03	100

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
DELIVERY(FUEL),CHECK AND ADJUST,SIMMONDS FUEL INJECTION PUMP	VARIABLE	620	SITDCXX	101
DEVICE(HOLDING),POSITION ON GRINDER,PER DEVICE	136	639	MEMDP01	111
DIAL(CROSS FEED),SET TO MARK,ENGINE LATHE	179	604	MEMDS01	44
DIAL(GRADUATED DEPTH),SET,RADIAL DRILL PRESS	436	606	MEMDS01	81
DIAL,SET	VARIABLE	60X	MEMDS01	14
DIAMOND,INSERT IN AND REMOVE FROM HOLDER	60	603	MSUDI01	36
DIAMOND,SET ON RADIUS DRESSER WITH GAUGE BLOCK	117	603	MSUDS01	37
DIAMOND POINT,BRING TO WHEEL	162	603	MSUDB01	36
DIAMONDS,INSERT IN AND REMOVE FROM DRUM DRESSER,J&L AUTOMATIC THREAD GRINDER,THREE DIAMONDS	537	609	MSUDI01	92
DIE,INSTALL	106	615	MSUDI01	94
DISTRIBUTOR(IGNITION),TEST ON SUN UNIVERSAL DIAGNOSIS TESTER	VARIABLE	620	SITDTXX	102
DOG(CAM GRIP),INSTALL AND REMOVE	121	604	BEMDI01	43
DOG(DRIVING),PLACE ON PART AND REMOVE	112	603	MEMDP01	26
DOG(TABLE REVERSING),MOVE TO NEW POSITION	49	603	MSUDM01	36
DOG,INSTALL ON AND REMOVE FROM PART,BENT TAIL TYPE DOG	765	604	MEMDI01	44
DOOR(BOTTOM GUARD),OPEN AND CLOSE,DO-ALL CONTOUR SAW	236	607	MEMDO02	87
DOOR(TOP GUARD),OPEN AND CLOSE,DO-ALL CONTOUR SAW	209	607	MEMDO01	87
DOOR(4X6 FOOT OVEN),OPEN AND/OR CLOSE	VARIABLE	621	MOHDOXX	110
DRAW BAR,ASSEMBLE TO AND DISASSEMBLE FROM COLLET,SPEED LATHE	2777	604	MSUDA01	67
DRESSER(DRUM),ATTACH TWO HOLDING SPRINGS,J&L AUTOMATIC THREAD GRINDERS	661	609	MSUDA01	92
DRESSER(DRUM),LOCK OR UNLOCK WITH TRUING DEVICE LOCK,J&L AUTOMATIC THREAD GRINDER	203	609	MSUDL01	92
DRESSER(RADIUS),ADJUST	82	603	MSUAD01	34
DRESSER(RADIUS),INSTALL AND REMOVE,INTERNAL GRINDER	88	603	MSUID01	38
DRESSER(RADIUS OR ANGLE),ATTACH AND REMOVE, CYLINDRICAL GRINDER	213	603	MSUDA01	36
DRESSER(WHEEL),REMOVE FROM MACHINE,CYLINDRICAL GRINDER	160	603	MSUDR01	36
DRIVER(WORK),POSITION ON HEADSTOCK,CYLINDRICAL GRINDER	53	603	MSUDP01	36
EDGE,FILE	TABLE	60X	TTLEFXX	24
EMERY(OR CROCUS CLOTH),PLACE ON CLEANING ROD	327	6XX	MJPEP01	4
EMERY(OR CROCUS CLOTH),REMOVE STRIP UP TO 27 INCHES IN LENGTH FROM ROLL	153	6XX	MJPER01	4

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
EMERY(OR CROCUS CLOTH),TEAR OFF USED END	75	6XX	MJPET01	4
EYEBOLT,INSTALL IN AND REMOVE FROM CHUCK	737	60X	MSUEI01	22
FACEPLATE,COLLET,OR CHUCK,LOOSEN AND TIGHTEN, CAM LOCK TYPE	2105	604	MSUFL01	68
FEED(FOOT PEDAL),ENGAGE OR DISENGAGE,DO-ALL CONTOUR SAW	65	607	MEMFE01	88
FEED(OR SPEED),CHANGE ON POWER CONTROLLED FEED AND SPEED DIALS,MILLING MACHINE	331	605	MEMFC01	71
FEED,CHANGE,RADIAL DRILL PRESS	158	606	MEMFC01	81
FEED,CHANGE,RADIAL DRILL PRESS,THREE LEVERS	233	606	MEMFC02	82
FEED,CHANGE,SHAPER	79	605	MEMCF01	71
FEED,CHANGE,THREE LEVERS,ENGINE LATHE	609	604	MSUFC02	67
FEED,CHANGE,TWO LEVERS	326	604	MSUFC01	67
FEED,CHANGE ON CARRIAGE OR CROSS SLIDE,ENGINE LATHE	108	604	MEMFC01	44
FENCE(GUIDE),POSITION ON SPINDLE OF SHAPER	403	665	MEWFP01	114
FENCE(TABLE SAW-WOOD),SET FOR WIDE CUT	279	667	MEWFS01	115
FENCE,INSTALL ON TABLE SAW	306	667	MSUFI01	115
FENCE,REMOVE FROM TABLE SAW	376	667	MSUFR01	116
FENCE GAUGE(AUTOMATIC RIP SAW),ADJUST	134	667	MEWFA01	115
FILE,CLEAN TWO SIDES WITH BRUSH	308	6XX	BCLFC01	1
FITTING,GREASE WITH AIR-OPERATED GREASE GUN	71	699	MLUFG01	119
FIXTURE,PLACE ON AND REMOVE FROM ARBOR PRESS	136	616	MJPFP01	95
FLANGE(BALANCE),REMOVE AND REPLACE,SURFACE GRINDER	119	603	MSUFR01	37
FLYWHEEL,TURN BY HAND ON FILER OF AUTOMATIC SAW SHARPENING MACHINE	295	601	MEMFT01	25
FOLLOW REST,ADJUST TO WORK	741	604	MEMFA01	44
FOLLOW REST,INSTALL AND REMOVE	2160	604	MSUFI01	68
FOOTSTOCK,MOVE 12 INCHES,CYLINDRICAL GRINDER	100	603	MSUFM01	37
GAUGE(ARNOLD),ADJUST DIAL TO SIZE	122	603	MSUGA01	37
GAUGE(ARNOLD),MOUNT ON AND REMOVE FROM HOLDER	208	603	MSUGM01	37
GAUGE(ARNOLD),POSITION TO PART AND REMOVE	96	603	MEMGP01	26
GAUGE(ARNOLD),SET TO PART	224	603	MSUGS01	38
GAUGE(PLANER),SET UP AND DISMANTLE	513	605	MJPGS01	75
GAUGE(SURFACE),SET UP OR TAKE DOWN	119	60X	MJPGS02	20
GAUGE(SURFACE),SET UP TO USE AND TAKE DOWN	901	60X	MJPGS01	20
GAUGE(SURFACE),USE TO CHECK A POINT OR TO SCRIBE A LINE	VARIABLE	60X	MITGUXX	18
GAUGE(THREAD),READ	118	60X	MITGR01	18

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
GAUGE(THREAD PLUG),USE	TABLE	60X	TITGUXX	20
GAUGE(VACUUM),USE	VARIABLE	620	SITGUXX	102
GAUGE(WIDTH-TABLE SAW),SET	124	667	MEWGS01	115
GEAR(SPUR ASSEMBLY),REMOVE AND INSTALL	2670	6XX	MTLGR01	8
GENERATOR(AND/OR VOLTAGE REGULATOR),CHECK WITH LOW VOLTAGE CIRCUIT TESTER	VARIABLE	620	KITGCXX	107
GENERATOR,TEST	VARIABLE	620	KITGTXX	107
GLASS(MAGNIFYING),FOCUS OVER VERNIER FOR READING	82	6XX	BITGF01	4
GLUE,APPLY,WITH BRUSH	198	660	MNFGA01	113
GREASE,APPLY TO MATING SURFACES	377	699	MLUAG01	118
GREASE,APPLY TO SMALL BEARING OR PART BY HAND	99	699	MLUGA01	119
GREASE,OBTAIN FROM CONTAINER WITH STICK OR FINGER	49	699	MLUGD01	119
GRINDER,GRIND EXTERNAL	TABLE	603	TEMGEXX	31
GRINDER,GRIND INTERNAL	TABLE	603	TEMGIXX	33
GROMMET(RUBBER),INSTALL	127	6XX	MOHGI01	5
GROMMET,INSTALL AND REMOVE WITH TOOL	VARIABLE	6XX	MTLGIXX	8
GUARD(LOWER WHEEL),REMOVE AND REPLACE, CYLINDRICAL GRINDER	115	603	MSUGR02	37
GUARD(REAR SPLASH),REMOVE AND REPLACE,ONE GUARD,CYLINDRICAL GRINDER	384	603	MSUGR04	37
GUARD(SAFETY),INSTALL ON TABLE SAW	331	667	MSUGI01	116
GUARD(SAFETY),REMOVE FROM TABLE SAW	498	667	MSUGR01	116
GUARD(SIDE WHEEL),REMOVE AND REPLACE, CYLINDRICAL GRINDER	119	603	MSUGR03	37
GUARD(SPLASH),REMOVE AND REPLACE,CYLINDRICAL GRINDER	58	603	MEMGR01	26
GUARD(TOP WHEEL),REMOVE AND REPLACE, CYLINDRICAL GRINDER	210	603	MSUGR01	37
GUARD(WHEEL),ADJUST LENGTH,INTERNAL GRINDER	42	603	MSUAG01	34
GUARD(WORKHEAD),LOWER AND RAISE,INTERNAL GRINDER	90	603	MEMGL01	26
GUIDE(BLADE),ADJUST HEIGHT,DO-ALL CONTOUR SAW	140	607	MEMGA01	88
GUN(GREASE),WIPE EXCESS GREASE FROM BARREL WITH FINGERS	49	699	MLUGW01	119
GUN(SPRAY),TURN ON AND OFF	55	699	MLUGT01	119
HANDLE(LAWNMOWER),REMOVE	605	639	MJPHR01	112
HARNESS(IGNITION),TEST WITH HIGH VOLTAGE TEST SET	VARIABLE	620	KITHTXX	107
HEAD(GUIDE),REMOVE AND REPLACE,DO-ALL CONTOUR SAW	159	607	MEMHR01	88

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
HEAD(OR VISE),LOCATE TO ANGLE	223	60X	MSUHL01	23
HEAD(SPINDLE),RAISE OR LOWER,SENSITIVE DRILL PRESS	129	606	MSUHR01	84
HEAD(WORK),SWIVEL 1/2 INCH TAPER PER FOOT, INTERNAL GRINDER	VARIABLE	603	MSUHSXX	38
HEAD,LOCK OR UNLOCK ON ARM,RADIAL DRILL PRESS	37	606	MEMHL01	82
HEAD,MOVE IN OR OUT ON ARM,RADIAL DRILL PRESS	164	606	MEMHM01	82
HEADS(CUTTER),REMOVE AND INSTALL,SIDE OR TOP AND BOTTOM CUTTER HEADS ON MOULDER	VARIABLE	669	MOHHRXX	117
HIGH SPEED AND FUEL SHUTOFF,ADJUST,AMERICAN BOSCH PSB-128T FUEL INJECTION PUMP	18880	620	SITHA01	102
HOLDER(DIAMOND),MOUNT ON AND REMOVE FROM MACHINE	103	603	BSUHM01	34
HOLDER(DIAMOND),REMOVE AND REPLACE,INTERNAL GRINDER	107	603	MSURH01	39
HOLDER(SHANK TOOL),INSTALL ON AND REMOVE FROM HEX TURRET,TURRET LATHE	279	604	MSUHI01	68
HOLDER ASSEMBLY(DIAMOND),REMOVE FROM AND INSTALL ON RADIUS DRESSER	159	603	MSUHR01	38
HOLE,ALIGN TO SPINDLE,VERTICAL	6017	605	MSUHA01	79
HOLE,BURR	VARIABLE	60X	MTLHBXX	24
HOLE,CLEAN WITH ORANGEWOOD OR BOXWOOD STICK	VARIABLE	60X	MCLHCXX	12
HOLE,DRILL OR COUNTERSINK WITH DRILL PRESS	97	666	MEWHD01	115
HOLE,PUNCH WITH HAND PUNCH	VARIABLE	615	BTLHPXX	94
HOOD(BLOWER),REMOVE AND INSTALL ON MOULDER, PER HOOD	319	669	MSUHR01	118
HOOK,INSERT AND REMOVE FROM EYEBOLT	77	60X	MMHHI01	21
HOSE(AIR),CONNECT AND DISCONNECT,QUICK ACTING CONNECTION	197	6XX	MJPHC01	4
HOSE(AIR),CONNECT AND DISCONNECT,THREADED CONNECTION	893	6XX	MJPHC02	4
HOSE(AIR),OBTAIN AND MOVE TO WORK AREA PREPARATORY FOR USE	VARIABLE	6XX	MJPHOXX	5
HOUSING(WHEEL),CLEAN WITH SCRAPER,SMALL WHEEL	676	603	BCLHC02	25
HOUSING AND COVER(WHEEL),CLEAN WITH SCRAPER, LARGE WHEEL	994	603	BCLHC01	25
INDICATOR(MAGNETIC),ATTACH TO AND REMOVE FROM WHEEL GUARD	99	603	BJPIA01	34
INDICATOR,ASSEMBLE AND DISASSEMBLE,HEAVY DUTY MAGNETIC BASE	1854	60X	MJPIA03	21
INDICATOR,ASSEMBLE ON SURFACE GAUGE	219	60X	MJPIA02	21
INDICATOR,ASSEMBLE TO SWIVEL BAR,SET DIRECTION OF INDICATOR POINT	312	60X	MJPIA01	21
INDICATOR,DISASSEMBLE FROM SWIVEL BAR	169	60X	MJPID01	21

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
INDICATOR,DISASSEMBLE FROM SURFACE GAUGE	87	60X	MJPID02	21
INDICATOR,MOUNT AND REMOVE FOR SHOULDER OR STEP GRINDING	268	603	MSUIM01	38
INDICATOR,MOVE ON/OFF GAUGE BLOCK OR PART	VARIABLE	60X	MITIMXX	18
INDICATOR AND SWIVEL CLAMP,RETURN TO BOX	210	6XX	MJPIR01	5
INDICATOR OR SCRIBER,ADJUST TO APPROXIMATE POSITION.	100	60X	MITAI01	18
INSPECT,FEEL WITH FINGERS	59	6XX	MITIF01	4
JACK,ADJUST TO APPROXIMATE HEIGHT,PER JACK	175	60X	MSUJA01	23
JACKSCREW,INSTALL AND REMOVE	537	60X	MSUJI01	23
JACKSCREW,UNLOCK OR LOCK	96	60X	MSUJU01	23
JAW(CHUCK),POSITION USING WRENCH	VARIABLE	604	MSUJPXX	68
JAW(VISE),SET TO ANGLE,TO 45 DEGREES	712	607	MEMJS01	88
JAW,REMOVE FROM CHUCK,REVERSE AND REPLACE	577	60X	MSUJR01	23
JIG BORE,CHANGE SPINDLE FEED OR SPEED	63	606	MEMJC01	82
JIG BORE,INDICATE ONE PLANE	5611	606	SSUJI01	86
JIG BORE,INSERT AND REMOVE KEY,TABLE SLOT	307	606	MSUJI01	85
JIG BORE,MOVE TABLE TO POSITION TO INDICATOR	120	606	MEMJM02	82
JIG BORE,MOVE TABLE WITH HAND WHEEL	98	606	MEMJM01	82
JIG BORE,SET UP	5151	606	SSUJS01	86
JOINTER,ADJUST TO REQUIRED TABLE HEIGHT	VARIABLE	669	MSUJAXX	118
JOINTER,TURN ON AND OFF	47	669	MEWJT01	116
KEY,INSTALL IN AND REMOVE FROM ARBOR	158	605	MSUKI01	79
KEYS,INSTALL IN AND REMOVE FROM TABLE SLOTS, TWO KEYS	1414	60X	SSUKI01	24
KNEE,LOCK AND UNLOCK	256	605	MSUKL01	79
KNEE,LOCK AND UNLOCK ON CINCINNATI VERTICAL MILL NO 3 OR SIMILAR MILLS	598	605	MSUKL02	79
LATHE(ENGINE),BORE HOLE	TABLE	604	TEMLBXX	48
LATHE(ENGINE),CENTER DRILL	1305	604	SEMLC01	66
LATHE(ENGINE),CUT OFF	TABLE	604	TEMLCXX	50
LATHE(ENGINE),DRILL HOLE	TABLE	604	TEMLDXX	52
LATHE(ENGINE),EXTERNAL TURN,GROUP 1 AND 2 MATERIALS	TABLE	604	TEMLYXX	59
LATHE(ENGINE),EXTERNAL TURN GROUP 3 AND 4 MATERIALS	TABLE	604	TEMLZXX	62
LATHE(ENGINE),FACE FINISH CUT	TABLE	604	TEMLFXX	55
LATHE(ENGINE),FACE ROUGH CUT	TABLE	604	TEMLRXX	57
LATHE(ENGINE),REAM HOLE	TABLE	604	TEMRLXX	65

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
LATHE(ENGINE),SET UP WITH CENTERS	9147	604	MSULS01	68
LAWNMOWER,LIFT TO BENCH	165	639	MOHLL01	112
LENGTH OF PART,SET ON AUTOMATIC INDEXING SCALE,DO-ALL POWER CUTOFF SAW	509	607	MSULS01	90
LEVER(BAND SAW),REPOSITION	38	607	MEMLR01	88
LEVER(INFEED),MOVE DOWN AND BACK,CYLINDRICAL GRINDER	52	603	MEMLM01	27
LEVER(RAPID CROSS FEED),ENGAGE OR DISENGAGE, CYLINDRICAL GRINDER	65	603	MEMLE01	27
LEVER(SPINDLE LOCKING),SHIFT	36	603	MEMLS01	27
LEVER,ENGAGE,RAPID TRAVEL AND FEED	123	605	MEMLE01	71
LEVER,MOVE J&L AUTOMATIC THREAD GRINDER	VARIABLE	609	MEMLMXX	92
LEVERS(REVERSING PAWL),ADJUST FOR TABLE STROKE LENGTH,SURFACE GRINDER	89	603	MSULA01	38
LIGHT(TIMING),USE	VARIABLE	620	SITLUXX	103
LINE(TUBE),REMOVE FROM FITTING,SECURED WITH 8-NUT FITTING	1660	62X	MTFLR01	97
LINE(TUBE),SECURE TO FITTING WITH 8-NUT FITTING	1735	62X	MTFLS01	98
LOCK(CAM),TIGHTEN AND LOOSEN ON HOLDING DEVICE	210	60X	BSULT01	22
LOCK,RELEASE ON CRANK TYPE CENTER	49	604	MEMLR01	44
LOCKNUT(ARBOR SUPPORT),TIGHTEN OR LOOSEN	188	605	MSULT01	79
LONGITUDINAL STOP ROD,PLACE TO CORRECT POSITION,TURRET LATHE	89	604	MEMLP01	44
LUBRICANT(CENTER),APPLY TO BOTH ENDS OF PART	76	603	MEMLA01	27
LUBRICANT/SEALANT,APPLY WITH TUBE AND SPREADER	416	699	MLULA01	119
LUBRICANT/SEALANT,PLACE WITH OIL CAN	113	699	MLULP01	120
LUBRICANT,APPLY GREASE WITH A PADDLE	105	699	BLULA01	118
LUBRICANT,APPLY WITH BRUSH TO SPOT	80	699	MLULA02	119
LUBRICANT,APPLY WITH BRUSH/LINEAR FOOT	228	699	MLULA03	120
MACHINE(MILLING),ALIGN PART FOR VERTICAL MILLING	TABLE	605	TEMPAXX	74
MACHINE(MILLING),BORE HOLE IN GROUP 1 AND GROUP 2 MATERIAL	TABLE	605	TEMMYXX	73
MACHINE(MILLING),BORE TIME ONE INCH DIAMETER ONE INCH DEEP	TABLE	605	TEMMBXX	72
MACHINE(MILLING),TRAVERSE ONE INCH	VARIABLE	605	MMTMTXX	75
MACHINE,TRAVEL(PER INCH),RAPID LONGITUDINAL AND CROSS	17	605	MMTTM01	75
MACHINE,TRAVEL(PER INCH),RAPID VERTICAL MOVEMENT	21	605	MMTTM02	75
MANDREL(NUT OR HYDRAULIC),USE	VARIABLE	603	MEMMUXX	27

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
MATERIAL,CUT WITH POWER HACKSAW PER SQUARE INCH OF STAINLESS STEEL OR TOOL STEEL	2381	607	MMTMC01	89
MATERIAL,CUT WITH POWER HACKSAW PER SQUARE INCH OF MILD STEEL OR CAST IRON	1667	607	MMTMC02	89
MATERIAL,CUT WITH POWER HACKSAW PER SQUARE INCH OF NON-FERROUS MATERIAL	801	607	MMTMC03	90
MATERIAL,MEASURE AND MARK FOR CUTTING	584	66X	MGMMM01	113
MATERIAL,PLACE IN WOOD VISE	VARIABLE	66X	BOHMPXX	113
MATERIAL,REMOVE FROM WOOD VISE	VARIABLE	66X	BOHMRXX	113
MICROMETER(INSIDE),USE,GAUGE DIMENSION	VARIABLE	60X	BITMUXX	17
MICROMETER(INSIDE),USE TO MEASURE DIMENSION OVER 12 INCHES	724	60X	BITMU03	17
MICROMETER,ADJUST ANVIL TO ZERO	713	60X	MITMA01	18
MICROMETER,CHECK ACCURACY WITH PIN GAUGE	213	60X	MITMC01	19
MICROMETER,REMOVE AND REPLACE ANVIL	443	60X	MITMR01	19
MICROMETER,TIGHTEN AND LOOSEN LOCKNUT	85	60X	BITMT01	17
MICROMETER STOP,SET ON ENGINE LATHE	615	604	MEMMS01	45
MILL(FACE),MOUNT,SPINDLE MOUNT(FOUR SCREWS)	134	605	MSUMM02	79
MILL(FACE),REMOVE,SPINDLE MOUNT(FOUR SCREWS)	102	605	MSUMR02	79
MILL,MOUNT,SHELL TYPE MOUNTING(CENTER SCREW)	141	605	MSUMM01	79
MILL,REMOVE,SHELL TYPE MOUNTING(CENTER SCREW)	195	605	MSUMR01	79
MOTION(HEAD),START AND STOP,BLANCHARD ROTARY GRINDER	61	603	MEMMS01	27
MOTION(TABLE),START AND STOP,SURFACE GRINDER	44	603	MEMMS02	27
MOTOR,START AND STOP	658	605	MSUMS01	80
MOULDING,CUT ON MOULDING CUTTER	195	669	MEWMC01	116
NAIL,PRE-NAIL PRIOR TO ASSEMBLY	135	660	MNFNP01	114
NAIL,SET WITH NAIL PUNCH	67	660	MNFNS01	114
NOZZLE(COOLANT),ADJUST TO WORK	78	603	MEMNA01	27
NOZZLE(COOLANT),SWING ASIDE AND RETURN	134	603	MSUNS01	39
NOZZLE,CHANGE ON AIR-OPERATED SPRAY GUN	239	699	MLUNC01	120
NOZZLE,TEST,SIMMONDS FUEL INJECTION PUMP,PER NOZZLE	4721	620	SITNT01	103
NUT(AND BOLT),ASSEMBLE OR DISASSEMBLE,WHERE TWO WRENCHES ARE REQUIRED	534	6XX	MTLNA01	9
NUT(LOCK),UNFASTEN AND FASTEN FROM SIDE OF TOP AND BOTTOM CUTTER HEADS OF MOULDER	340	669	MEWNU01	117
NUT(THURSTON CHUCK),LOOSEN OR TIGHTEN WITH MALLET	86	605	MSUNL01	80
OBJECT,DIP WITH HOOK	199	699	MDPOD01	118
OBJECT,DRY WITH COMPRESSED AIR,UP TO 110 SQUARE INCH SURFACE AREA	816	6XX	MCLOD01	1

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
OBJECT,PLACE IN AND REMOVE FROM OVEN,FIRST OBJECT	394	621	MOHOP01	110
OBJECT,PLACE IN AND REMOVE FROM OVEN,ADDI-TIONAL OBJECT	126	621	MOHOP02	110
OBJECT,TURN OVER,USE OF AIR HOIST REQUIRED	1396	6XX	MMHOT01	5
OIL,APPLY TO HOLE OR SPOT WITH TRIGGER TYPE OIL CAN	VARIABLE	699	MLUOAXX	120
OIL,APPLY WITH APPLICATOR SUCH AS TOOTHPICK, NEEDLE,OR WIRE	47	699	MLUA001	118
OIL,REMOVE AND DISPOSE OF,WITH HAND OPERATED SUCTION GUN	248	699	MLUOR01	120
OSCILLATION(WHEEL),START AND STOP,CYLINDRICAL GRINDER	58	603	MEMOS01	28
PARALLEL(FIXED),GET AND PUT ON TABLE	132	606	MSUGP01	84
PARALLEL(FIXED),LOOSEN OR TIGHTEN	321	606	MSULP01	85
PARALLEL(FIXED),REMOVE FROM TABLE	145	606	MSURP01	85
PARALLELS,OBTAIN,SET UP FOR USE,AND ASIDE	1768	606	SSUP001	86
PART(ADDITIONAL),CHUCK IN SCROLL CHUCK OR IN A CUSHMAN COLLET CHUCK	640	604	MEMPC02	45
PART(CENTER OR TOOL),PUT IN AND REMOVE FROM TAILSTOCK	642	604	MEMPP01	45
PART(FIRST),CHUCK IN SCROLL CHUCK OR IN A CUSHMAN COLLET CHUCK	1006	604	MEMPC01	45
PART(MATING),REMOVE	VARIABLE	6XX	MOHPRXX	6
PART(MATING),REMOVE WITH TOOL	VARIABLE	6XX	MTLRPXX	10
PART(MEDIUM),CLEAN BEFORE INSTALLING	632	6XX	MCLCP01	1
PART(NON SYMMETRICAL),CHUCK IN 4 JAW CHUCK	22039	60X	MSUPC01	23
PART(SMALL),WIPE WITH RAG	50	60X	MCLPW01	12
PART(SYMMETRICAL),CHUCK IN 4 JAW CHUCK, ADDITIONAL PART	2814	60X	MEMPC01	14
PART(SYMMETRICAL),CHUCK IN 4 JAW CHUCK	8967	60X	MSUPC02	23
PART,ADJUST POSITION	VARIABLE	6XX	MTLAPXX	7
PART,ATTACH TO AND REMOVE FROM MANDREL BY PRESSING ON ARBOR PRESS	1401	616	MNFPA01	95
PART,CHECK WITH SQUARE OR PROTRACTOR	194	60X	MITPC01	19
PART,CLEAN GROOVES/CONCAVE CORNERS ONLY	301	60X	MCLPC01	12
PART,FIT-MULTI ALIGNMENT REQUIRED	TABLE	6XX	TOHPFXX	6
PART,GAUGE WITH SLIDING PARALLELS AND OUTSIDE MICROMETER	641	60X	MITPG01	19
PART,HANDLE FOR VERTICAL MILL BORING OPERATION	TABLE	605	TEMPHXX	74
PART,INSERT AND REMOVE FROM COLLET	610	604	MEMPI01	45
PART,INSTALL,SINGLE ALIGN,PRESS FIT PART	482	616	MTLPI01	96

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
PART,INSTALL AND REMOVE FROM COLLET	334	605	MEMPI01	71
PART,INSTALL ON AND REMOVE FROM MANDREL	208	603	MEMPI01	28
PART,INSTALL WITH ARBOR PRESS	784	616	MNFPI01	96
PART,LIFT FROM FLOOR TO CHUCK AND RETURN	366	603	MOHPL01	34
PART,LOAD TO OR UNLOAD FROM HOLDING DEVICE, WEIGHT 25-50 POUNDS	286	60X	MEMPL01	14
PART,MOVE ADJACENT SIDE TO PUNCH	VARIABLE	615	MOHPMXX	94
PART,MOVE INTO OR OUT OF POSITION WITH HAMMER	169	600	MTLPM01	24
PART,OBTAIN AND PLACE WITH TWEEZERS,AVERAGE DISTANCE 12 INCHES	69	6XX	MTLP001	9
PART,PLACE BETWEEN CENTERS AND REMOVE, CYLINDRICAL GRINDER	171	603	MEMPP01	28
PART,POSITION FOR NEXT PUNCH	VARIABLE	615	MOHPPXX	94
PART,POSITION TO FIRST JACK	150	60X	MEMPP01	14
PART,REMOVE	TABLE	6XX	TOHPRXX	7
PART,REMOVE FROM MACHINE AND ASIDE TO FLOOR	VARIABLE	6XX	MOHRPXX	6
PART,REMOVE FROM MATING PART WITH ARBOR PRESS	649	616	MNFPR01	96
PART,STAKE(FIRST OR ADDITIONAL),WITH TOOL AND HAMMER	VARIABLE	6XX	MTLPSXX	10
PART,SUSPEND BETWEEN AND REMOVE FROM CENTERS, WEIGHT TO 16 POUNDS	771	604	MEMPS01	46
PART,SUSPEND BETWEEN AND REMOVE FROM CENTERS WEIGHT 50-500 POUNDS,HANDLED WITH A CRANE	1499	604	MEMPS02	46
PART,WIPE EXCESS GREASE FROM	811	6XX	MCLPW01	2
PART,WIPE WITH HAND	78	6XX	MCLPW02	2
PARTS,PRESS ON HYDRAULIC OR MECHANICAL ARBOR PRESS	VARIABLE	616	MNFPPXX	96
PIECES,POSITION TWO FOR FASTENING	278	660	MOHPP01	114
PIN(ZERO ALIGNMENT),REMOVE AND REPLACE, HEADSTOCK UNIT,CYLINDRICAL GRINDER	330	603	MSUPR01	39
PIN,INSTALL OR REMOVE	VARIABLE	62X	MNFPIXX	97
PIPE(SAW DUST COLLECTOR DUCT),REMOVE AND INSTALL ON MOULDER	291	669	MEWPR01	117
PLANER(WOOD),START AND STOP	218	665	MEWPS01	114
PLATE(ANGLE),GET,SET UP FOR USE,AND ASIDE	VARIABLE	606	SSUPGXX	86
PLATE(CUTTING SLIDE),REMOVE AND REPLACE,DO-ALL CONTOUR SAW	419	607	MSUPR01	90
PLATE(IDENTIFICATION),INSTALL	VARIABLE	6XX	MIDPIXX	3
PLATE(IDENTIFICATION),REMOVE	VARIABLE	6XX	MIDPRXX	3
PLATE(IDENTIFICATION),REMOVE	7327	6XX	MIDPR07	3
PLATE(IDENTIFICATION),REPLACE	VARIABLE	6XX	SIDPRXX	3

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
PLATE(IDENTIFICATION),STAMP AND INSTALL	VARIABLE	6XX	SIDPSXX	3
PLATE(SURFACE),PREPARE FOR USE	574	604	MJPPP01	66
PLATES(ADAPTER),CHANGE ON ARBOR PRESS BASE	186	616	MJPPC01	95
PLATFORM(DRILL PRESS),RAISE OR LOWER	324	6XX	MSUPR01	7
PLATFORM(SHOPLIFT),RAISE OR LOWER,PER INCH	VARIABLE	60X	MMHPRXX	21
PLUG(BUTTON),INSTALL	179	6XX	MOHPI01	6
PLUG(BUTTON),REMOVE	153	6XX	MTLPR01	9
PLUG(BUTTON TYPE),REPLACE	332	6XX	STLPR01	11
PLUG(NON-THREADED),INSTALL AND REMOVE	VARIABLE	62X	MNFPPXX	97
PLUG(SPARK),CLEAN,TEST,AND GAP	VARIABLE	620	KITPCXX	108
PLUG(SPARK),GAP AND CHECK	247	620	MITPG01	99
PLUG(SPARK),TEST UNDER PRESSURE	223	620	BITPT01	98
POINTER(DISC CUTTER),POSITION	80	607	BSUPP01	90
POST(BACK TOOL HOLDER),REPLACE	201	604	MSURP01	69
POST(TOOL),REMOVE AND INSTALL	337	604	MSUPR01	69
PRESS(DRILL),ADJUST SPEED(LEVER CHANGE), PEDESTAL DRILL PRESS	126	606	MEMPA01	82
PRESS(DRILL),ADJUST SPEED(BELT CHANGE) PEDESTAL DRILL PRESS	562	606	MSUPA01	85
PRESS(DRILL),CHANGE DEPTH STOP ON PEDESTAL DRILL PRESS	VARIABLE	606	MSUPCXX	85
PRESS(DRILL),LOWER OR RAISE SPINDLE,RADIAL DRILL PRESS	130	606	MEMPL01	82
PRESS(DRILL),OPERATE	VARIABLE	606	MEMOPXX	82
PRESS(DRILL),SET DEPTH CONTROL ON SPINDLE	171	606	MEMPS01	82
PRESS(DRILL),SET FEED ON PEDESTAL DRILL PRESS	1740	606	MSUSP01	85
PRESS(HYDRAULIC ARBOR),SET UP FOR USE	VARIABLE	616	MJPPSXX	95
PRESS,SET UP LARGE MECHANICAL ARBOR PRESS FOR USE	1120	616	MJPSP01	95
PRESS,SET UP SMALL MECHANICAL ARBOR PRESS FOR USE	910	616	MJPSP02	95
PRESSURE(FEED),SET,POWER HACKSAW	308	607	MSUPS01	91
PRESSURE,ADJUST ON PART BETWEEN CENTERS, CYLINDRICAL GRINDER	110	603	MEMPA01	28
PROTRACTOR(BEVEL),ASSEMBLE,ADJUST,AND DISASSEMBLE	1615	60X	MITPA01	19
PULLER(GEAR),ASSEMBLE TO GEAR	VARIABLE	6XX	MTLPAXX	9
PULLER(GEAR),CHANGE REACH RANGE OR REVERSE ARMS ON TWO OR THREE JAW PULLER	VARIABLE	6XX	MTLPCXX	9
PULLER(GEAR),DETACH FROM GEAR	VARIABLE	6XX	MTLPDXX	9
PULLER(GEAR),TURN FORCING SCREW ONE REVOLUTION WITH WRENCH	VARIABLE	6XX	MTLPTXX	10

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
PULLER(GEAR),USE TO PULL GEAR	VARIABLE	6XX	STLPUXX	11
PUMP(AND HOSES),ASSEMBLE,AMERICAN BOSCH PSB-12BT FUEL INJECTION PUMP	15135	620	SITPA01	103
PUMP(FUEL INJECTION),MOUNT ON TEST STAND, SIMMONDS	VARIABLE	620	SITPMXX	103
PUMP(FUEL INJECTION),MOUNT ON TEST STAND, AMERICAN BOSCH,PSB-6A	4190	620	SITPM03	103
PUMP(FUEL INJECTION),TEST,SIMMONDS,6 OR 12 CYLINDER	VARIABLE	620	KITPTXX	108
PUMP(FUEL INJECTION),TEST,AMERICAN BOSCH MODEL PSB-6A	150332	620	KITPT03	108
PUMP(FUEL INJECTION),TEST,AMERICAN BOSCH MODEL PSB-12BT	180522	620	KITPT04	108
PUMP(FUEL INJECTION),TEST FOR FUEL LEAKAGE, AMERICAN BOSCH,PSB-6A	9220	620	SITPT01	104
PUMP(FUEL INJECTION),TEST FOR FUEL LEAKAGE,TWO HYDRAULIC HEADS,AMERICAN BOSCH,PSB-12BT	43824	620	SITPT02	104
PUMP(HYDRAULIC HAND),PUMP,FIRST STROKE	VARIABLE	6XX	MTLPPXX	9
PUMP,TIME,AMERICAN BOSCH,PSB-6A FUEL INJECTION PUMP	11822	620	SITTP01	104
PUMP,TIME,AMERICAN BOSCH PSB-12BT,FUEL INJECTION PUMP	17852	620	SITTP02	105
PUNCH(HAND),POSITION	VARIABLE	615	MTLPPXX	94
PUNCH,CHASSIS,SET-UP,PUNCH ONE HOLE AND ASIDE PUNCH	1966	615	MTLPS01	94
PUNCH,ENGAGE TO MATERIAL	59	615	MEMPE01	93
PUNCH,INSTALL	94	615	MSUPI01	94
PUNCH,INSTALL AND REMOVE,ADAPTER ON ARBOR PRESS	180	616	MJPPI01	95
PUSH-PULLER,ASSEMBLE TO GEAR,OBTAIN 1/2 INCH SEPARATION,AND REMOVE PULLER FROM GEAR	VARIABLE	6XX	STLPAXX	11
RADIUS,SET ON RADIUS DRESSER	39	603	MSURS01	39
RAILS,RAISE ON SIDE AND END OF MAGNETIC CHUCK	46	603	MSURR01	39
RAM,JOG TO POSITION,SHAPER	145	605	MSURJ01	80
RANGE(SPEED),CHANGE WITH LEVER,DO-ALL CONTOUR SAW	412	607	MSURC01	91
REGULATOR(VOLTAGE),SET UP AND TEST	VARIABLE	620	KITRSXX	109
RING(O),INSTALL IN GROOVE UP TO 6 INCHES IN DIAMETER	264	6XX	MOHRI01	6
RING(O,AND SEAL),REMOVE FROM GROOVE WITH TOOL	92	6XX	MTLRR01	10
RING(SNAP OR SPRING RETAINER),INSTALL	VARIABLE	6XX	MNFRIXX	5
RING(SNAP OR SPRING RETAINER),REMOVE	VARIABLE	6XX	MNFRRXX	5
ROD(CUTTING ARM),ADJUST ON LAWNMOWER SHARPENER	210	639	MEMRA01	111
ROD,OBTAIN AND ASSEMBLE TO CUTTING ARM OR DISASSEMBLE AND PLACE ASIDE	475	639	MEMRO01	111

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
ROTATION(WORK),START OR STOP,CYLINDRICAL GRINDER	43	603	MEMRS01	28
ROTOR,TEST IN GROWLER	1358	620	SITRT01	104
SCALE(TRUING FEED),ADJUST,J&L AUTOMATIC THREAD GRINDER	191	609	MSUSA01	92
SCREW(ADJUSTING)(RUSTY),LOOSEN OR TIGHTEN WITH A SCREWDRIVER	86	639	BTLSL01	112
SEGMENTS(GRINDING WHEEL),REPLACE,TWO EACH	398	603	MSUSR01	40
SHAFT(OR PART),REMOVE FROM CENTERS,LENGTH-GREATER THAN 36 INCHES	224	603	MEMSR01	29
SHAFT,PLACE IN AND REMOVE FROM HUB FOR BALANCING GRINDING WHEEL ASSEMBLY,J&L AUTOMATIC THREAD GRINDERS	1803	609	MSUSP01	93
SHIM,INSTALL UNDER AND REMOVE FROM TOOL	170	604	MSUSI01	69
SHIM,USE UNDER PART OR CLAMP	113	60X	MSUSU01	23
SLIDE(COMPOUND),MOVE TO WORK	118	604	MEMSM05	46
SLIDE(COMPOUND),SET TO ANGLE	353	604	MEMSS01	47
SLIDE(CROSS),LOCK AND UNLOCK	238	605	MEMSL01	72
SLIDE(CROSS),MOVE TO WORK	117	604	MEMSM06	47
SLIDE,MOVE IN OR OUT,ONE INCH,ENGINE LATHE	VARIABLE	604	MEMSMXX	46
SLIDE,MOVE TO GRADUATE LINE ON DIAL	84	604	MEMSM07	47
SLING,ATTACH TO CRANE AND REMOVE	102	60X	MOHSA02	22
SLING,ATTACH TO PART AND REMOVE	455	60X	MOHSA01	22
SLOTS(T),CLEAN WITH CHIP PUSHER	573	60X	MCLCS01	12
SPACER(OR SHIM),PLACE ON ARBOR	98	605	MSUSP01	80
SPACER(OR SHIM),REMOVE FROM ARBOR	67	605	MSUSR01	80
SPACER(SUPER),INDEX	151	606	MEMSI01	83
SPACER,POSITION ON OUTSIDE OF CUTTER ON KEY	29	605	BSUSP01	75
SPEED(CHUCK),ADJUST,BLANCHARD ROTARY GRINDER	98	603	MEMSA01	28
SPEED(SPINDLE),CHANGE	390	605	MSUSC01	80
SPEED(SPINDLE),CHANGE,4-STEP PULLEY, CYLINDRICAL GRINDER	468	603	MEMSC01	28
SPEED,CHANGE,POWER HACKSAW	458	607	MSUSC02	91
SPEED,CHANGE ON SPINDLE,RADIAL DRILL PRESS	202	606	MEMSC01	83
SPEED,CHANGE WITH CRANK,DO-ALL CONTOUR SAW	411	607	MSUSC01	91
SPEED,SET WITH THREE LEVERS,J&L AUTOMATIC THREAD GRINDERS	218	609	MEMSS01	92
SPEEDOMETER,CHECK ON SPEEDOMETER TEST MACHINE	VARIABLE	620	KITSCXX	109
SPIGOT,OPEN AND CLOSE,LEVER TYPE	38	699	MLUSO01	120
SPINDLE(DRILL PRESS),RAISE AND LOWER AND ALIGN JIG FOR DRILLING	141	606	MEMSR01	83

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
SPINDLE(TAILSTOCK),ADVANCE ONE INCH WITH CRANK,ENGINE LATHE	153	604	MEMSA01	46
SPINDLE(TAILSTOCK),LOCK OR UNLOCK	73	604	MSUSL01	69
SPINDLE(TRAVEL),CHANGE DIRECTION	317	605	MSUCS01	78
SPINDLE(WHEELHEAD),BLOCK TO REMOVE AND INSTALL QUILL,INTERNAL GRINDER	206	603	MSUSB01	39
SPINDLE(WORK),START AND STOP WITH KNOB, CYLINDRICAL GRINDER	35	603	MEMSS01	29
SPINDLE(WORKHEAD),LOCK AND UNLOCK,CYLINDRICAL GRINDER	71	603	MSUSL01	40
SPINDLE(WORKHEAD),TURN 1/4 REVOLUTION BY HAND, CYLINDRICAL GRINDER	46	603	MSUST01	40
SPINDLE,ALIGN OVER HOLE,RADIAL DRILL PRESS	391	606	MEMSA01	83
SPINDLE,CHANGE SPEED,ENGINE LATHE	556	604	MEMSC02	46
SPINDLE,CHANGE SPEED,ONE LEVER	132	604	MEMSC01	46
SPINDLE,CHANGE SPEED,V-BELT DRIVE	191	60X	MSUSC01	23
SPINDLE,START AND STOP;ENGAGE AND DISENGAGE FEED	280	605	MSUSS01	80
SPOT(OR SQUARE INCH),CLEAN WITH HAND DRILL AND WIRE BRUSH OR CROCUS CLOTH,ETC. ON ROD	375	6XX	MCLCS03	1
SPOT,CLEAN WITH HAND BRUSH	73	6XX	MCLCS01	1
SPOT,CLEAN WITH HAND DRILL AND WIRE BRUSH, CROCUS CLOTH,EMERY CLOTH,ETC.(PROCESS TIME)	237	6XX	MCLCS02	1
SPRING(COIL),CHECK AND GAUGE TENSION WITH A COMPRESSION GAUGE	168	62X	MITSC01	97
SPRING(HELICAL),INSTALL WITH PLIERS	332	62X	MTLSI01	98
SPRING(HELICAL-COMPRESSION OR EXTENSION); REMOVE BY HAND AND PLIERS	237	62X	MTLSR01	98
SQUARE(COMBINATION),ASSEMBLE SCALE	173	60X	MGMSA01	17
SQUARE(COMBINATION),CHECK PART	VARIABLE	60X	SGMSCXX	17
SQUARE(COMBINATION),POSITION TO GAUGE ANGLE	137	60X	MGMSP01	17
SQUARE(COMBINATION),REMOVE SCALE	68	60X	MGMSR01	17
SQUARE(COMBINATION),USE TO CHECK PART	71	60X	MGMSU01	17
STAND,HEAT,FUEL INJECTION PUMP TEST STAND	8880	620	SITSH01	104
STAND,SHUT DOWN AND REMOVE PUMP,FUEL INJECTION PUMP TEST STAND	VARIABLE	620	SITSSXX	104
STARTER(AUTOMOTIVE),TEST	VARIABLE	620	KITSTXX	109
STEADY REST(OR WHEEL DRESSER),MOUNT ON CYLINDRICAL GRINDER	195	603	MSUSM01	40
STEADY REST,ADJUST TO PART,TWO PADS	158	603	MSUSA01	39
STEADY REST,OPEN AND CLOSE	316	604	MEMSO01	47
STEADY REST,PLACE ON MACHINE,SECURE,AND REMOVE	871	604	MSUSP01	69

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
STOCK(IN VISE),ALIGN TO MARK(NO STOP),POWER HACKSAW	298	607	MEMSA01	88
STOP(BARREL),INDEX ONE POSITION,INTERNAL GRINDER	113	603	MEMSI01	28
STOP(CARRIAGE MICROMETER),SET	295	604	MSUSS01	69
STOP(DOWEL PIN),SET UP ON SLIDING PLATE,DO-ALL CONTOUR SAW	385	607	MSUSS01	91
STOP(LIMIT),SET FOR FRAME RAISE,POWER HACKSAW	287	607	MSUSS02	91
STOP(MATERIAL),SET,POWER HACKSAW	812	607	MSUSS03	91
STOP(ROLL),INDEX,TURRET LATHE	91	604	MEMIS01	44
STOP(THREAD CHASING),UNLOCK AND LOCK,ENGINE LATHE	340	604	MSUSU01	69
STOP,CLAMP ON RADIAL CIRCULAR SAW BED OR TABLE	378	667	MSUSC01	116
STOP,REMOVE FROM CUTOFF SAW BED	220	667	MSUSR01	116
STOP,SET,LAWNMOWER GRINDER	175	639	MEMSS01	111
STOP,SET ON WHEELHEAD CROSS SLIDE HANDWHEEL, INTERNAL GRINDER	225	603	MSUSS01	40
STROKE(WHEEL OSCILLATION),ADJUST,CYLINDRICAL GRINDER	166	603	MEMAS01	25
SUPPORT(ARBOR),DISENGAGE FROM ONE ARM AND TURN TO REST ON ARM TO CLEAR CUTTER	127	605	MSUSD01	80
SUPPORT(ARBOR),TURN DOWN AND ENGAGE ON SECOND ARM	158	605	MSUST01	81
SURFACE,CLEAN WITH WET CLOTH PER SQUARE FOOT	VARIABLE	6XX	MCLSCXX	2
SURFACE,POLISH WITH CROCUS CLOTH,ETC.,PART CHUCKED IN HAND DRILL	VARIABLE	6XX	MCLSPXX	2
SURFACE,SMOOTH,REMOVE BURRS AND SPLINTERS	563	667	MTLSS01	116
TABLE(FEED),SET,MILLING MACHINE	175	605	MSUTS01	81
TABLE(GRINDER),ADJUST HORIZONTALLY OR VERTICALLY	VARIABLE	639	MEMTAXX	112
TABLE(LONGITUDINAL),LOCK AND UNLOCK ON CINCINNATI MILLING MACHINE	362	605	MEMTL01	72
TABLE(LONGITUDINAL),LOCK AND UNLOCK ON MILWAUKEE OR SIMILAR TYPES OF MILLS	124	605	MEMTL02	72
TABLE(MACHINE),CLEAN CHIPS,BRUSH AND SCOOP	357	60X	MCLTC01	12
TABLE(UNIVERSAL),ADJUST TO ANGLE,RADIAL DRILL PRESS	1275	606	MSUAT01	84
TABLE(UNIVERSAL),BOLT TO BASE,RADIAL DRILL PRESS	1094	606	MSUTB01	85
TABLE(WOOD PLANER),ADJUST HEIGHT	210	665	MEWTA01	114
TABLE,ALIGN(SWIVEL),CYLINDRICAL GRINDER	964	603	MSUTA01	40
TABLE,CLEAN CHIPS FROM	3159	605	SSUTC01	81
TABLE,CLEAN T-SLOTS WITH SCRAPER AND BRUSH, RADIAL DRILL PRESS	6432	606	MCLTC01	81

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
TABLE,CLEAN TO REMOVE CHIPS,DUST,OR DIRT	VARIABLE	6XX	MCLTCXX	2
TABLE,FEED IN OR OUT 1/16 INCH WITH HANDWHEEL, CYLINDRICAL GRINDER	VARIABLE	603	MEMTFXX	29
TABLE,JOG	130	603	MEMTJ01	29
TABLE,MACHINE TIME	TABLE	60X	TEMTMXX	16
TABLE,MOVE HORIZONTALLY 2 1/2 INCHES AND RETURN,MORTISE MACHINE	81	665	MEWTM01	114
TABLE,MOVE WITH HAND WHEEL,CYLINDRICAL GRINDER	VARIABLE	603	MEMTMXX	29
TABLE,MOVE 1/2 INCH BY HAND,INTERNAL GRINDER	153	603	MSUMT01	39
TABLE,POSITION TO GRIND,SURFACE GRINDER	VARIABLE	603	MEMTPXX	29
TABLE,RAISE OR LOWER,AVERAGE OF FOUR INCHES, SENSITIVE DRILL PRESS	531	606	MSUTR01	86
TABLE,RAISE OR LOWER SIX INCHES ON PEDESTAL DRILL PRESS	392	606	MSUTR02	86
TABLE,TILT,DO-ALL CONTOUR SAW	675	607	MSUTT01	91
TACHOMETER(DIRECT READING),USE	VARIABLE	620	SITTUXX	105
TACHOMETER(DIRECT READING),USE,CONVERT METER READING TO BELT SPEED	830	620	SITTU04	105
TACHOMETER(INDIRECT READING),USE	VARIABLE	620	SITUTXX	105
TAILGATE(MOULDER),LOWER AND RAISE	368	669	MEWTL01	117
TAILSTOCK,ADVANCE AND RETURN ON A 12 INCH LATHE	251	604	MEMTA01	47
TAILSTOCK,MOVE FOUR INCHES WITH ONE REVOLUTION OF CRANK	105	604	MEMTM01	47
TAILSTOCK,MOVE 24 INCHES,LARGE CYLINDRICAL GRINDER	243	603	MSUTM01	40
TAP,INSTALL IN INSERT,RADIAL DRILL PRESS	300	606	MSUTI01	85
TAP,INSTALL IN TAPPING ATTACHMENT,SENSITIVE DRILL PRESS	560	606	MSUTI02	86
TAPE(STEEL),USE TO MEASURE FOR EQUIPMENT LOCATION	254	60X	MGMTU01	17
TEMPLATE(WOOD),REMOVE FROM TOP OF STOCK	198	669	MLOTR01	117
TEMPLATE,TACK ON TOP OF STOCK FOR SHAPER	249	665	MEWTT01	115
TENSION(HAND FEED),ADJUST,DO-ALL CONTOUR SAW	90	607	MEMTA02	88
TENSION(SPRING),CHECK	VARIABLE	620	MITTCXX	99
TENSION(SPRING),TEST	91	620	BITTT01	98
TENSION,ADJUST ON SAW BLADE,DO-ALL CONTOUR SAW	245	607	MEMTA01	88
THREAD(DEPTH),MEASURE FOR ADJUSTMENT TO GAUGE	213	60X	MITTM01	19
THREAD,GAUGE WITH RING GAUGE	VARIABLE	60X	BITTGXX	18
TOOL(AND HOLDER),SET FOR JOB CLEARANCE	166	604	MSUTS01	70
TOOL(BORING),ADJUST	524	605	MEMTA01	72

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTOP ELEMENT	PAGE
TOOL(S),CONNECT AND DISCONNECT TO/FROM PNEUMATIC SOURCE	VARIABLE	6XX	MTPTCXX	11
TOOL(THREADING),INSTALL AND ADJUST IN A KDK TOOL BAR	4950	604	MSUTI02	70
TOOL(THREADING),SET TO WORK WITH CENTER GAUGE	847	604	MSUST01	69
TOOL,ALIGN TO BUSHING OR HOLE,RADIAL DRILL PRESS	461	606	MEMTA01	83
TOOL,CHANGE AND REPOSITION,TAILSTOCK	893	604	SEMTC01	66
TOOL,CHANGE IN QUICK CHANGE CHUCK,JIG BORE	287	606	MEMTC03	83
TOOL,CHANGE IN SLEEVE,JIG BORE	406	606	MEMTC02	83
TOOL,CHANGE IN SPINDLE,JIG BORE	826	606	MEMTC01	83
TOOL,CHANGE IN SQUARE TURRET	132	604	MSUTC01	70
TOOL,CLEAN AND LUBRICATE	339	60X	MCLCT01	12
TOOL,INSTALL AND ADJUST IN A KDK QUICK CHANGE BAR	2942	604	MSUTI01	70
TOOL,INSTALL IN AND REMOVE FROM JACOBS CHUCK	358	60X	MEMTI01	15
TOOL,INSTALL IN AND REMOVE FROM TAPERED SLEEVE	429	60X	MEMTI02	15
TOOL,PLACE IN AND REMOVE FROM MAGIC CHUCK	VARIABLE	606	MEMTPXX	84
TOOL,PUT IN TOOL HOLDER	54	604	BEMTP01	43
TOOL HOLDER,CHANGE IN QUICK CHANGE TOOL POST	357	604	MEMTC01	47
TOOL HOLDER,INSTALL IN SINGLE TOOL POST	367	604	MEMTI01	47
TRAVERSE(TABLE),REVERSE BY HAND,CYLINDRICAL GRINDER	30	603	MEMTR01	29
TRAVERSE(TABLE),START AND STOP,CYLINDRICAL GRINDER	59	603	MEMTS01	30
TRIP(TABLE),SET,CYLINDRICAL GRINDER	VARIABLE	603	MSUTSXX	41
TRIP,REGULATE FOR AUTOMATIC DIAMOND RISE, INTERNAL GRINDER	103	603	MSUTR01	40
TUBE,INSTALL IN FLANGED QUICK COUPLER-VEECO TYPE	276	6XX	MTFTI01	7
TUBE,REMOVE FROM FLANGED QUICK COUPLER-VEECO TYPE	223	6XX	MTFTR01	7
TUBING,CUT WITH TUBING CUTTER	1285	62X	MTLTC01	98
TURRET(SQUARE),INDEX,ONE STATION,ENGINE LATHE	142	604	MEMIT01	44
TURRET(SQUARE),REMOVE AND REPLACE	VARIABLE	604	MSUTRXX	70
TURRET SADDLE,MOVE,TURRET LATHE	VARIABLE	604	MEMMTXX	45
UNIT(TRUING),MOVE FORWARD,INTERNAL GRINDER	95	603	MSUUM01	41
UNIT(TRUING),SET FOR AUTOMATIC DIAMOND RISE, INTERNAL GRINDER	116	603	MSUUS01	41
VALVE(BLEEDER),TEST,AMERICAN BOSCH,PSB-6A FUEL INJECTION PUMP	4765	620	SITVT03	106
VALVE(BLEEDER),TEST,AMERICAN BOSCH,PSB-12BT FUEL INJECTION PUMP	725	620	SITVT04	106

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
VALVE(DELIVERY),TEST,AMERICAN BOSCH PSB-6A FUEL INJECTION PUMP	6483	620	SITVT01	106
VALVE(DELIVERY),TEST,AMERICAN BOSCH PSB-12BT, FUEL INJECTION PUMP(TWO HEADS)	9134	620	SITVT02	106
VALVE(METERING),CALIBRATE,SIMMONDS FUEL INJECTION PUMP	11990	620	SITVC01	105
VERNIER,REMOVE AND REPLACE IN CASE	177	60X	MJPVR01	21
VISE(CAM TYPE),TIGHTEN AND LOOSEN	127	60X	MEMVT01	15
VISE(SMALL),SET UP FOR USE	4570	606	SSUVS01	87
VISE,CLOSE AND OPEN	480	603	MVSVC01	43
VISE,LOOSEN AND TIGHTEN	VARIABLE	60X	MEMVLXX	15
VISE,ROTATE	230	60X	MSUVR01	23
VISE,TIGHTEN OR LOOSEN ON STOCK,POWER HACKSAW	241	607	MEMVT01	88
VISE,TIGHTEN OR LOOSEN ON STOCK,POWER HACKSAW	103	607	MEMVT02	89
WASHER(LOCK TAB),BEND TABS WITH SCREWDRIVER	VARIABLE	62X	MNFWRXX	97
WASHER(RETAINING),TAKE OFF AND INSTALL	107	603	MSUWT01	42
WASHER(TAB LOCK),STRAIGHTEN OR LOCK	VARIABLE	6XX	MNFWSXX	5
WEIGHT(FEED BALANCE),ADJUST,DO-ALL CONTOUR SAW	339	607	MSUWA01	91
WEIGHT(SPEED),ATTACH OR DETACH TO/FROM LAWNMOWER	104	639	MOHWA01	112
WHEEL(GRINDING),ADJUST FEED FOR LAWNMOWER	VARIABLE	639	MEMWAXX	112
WHEEL(GRINDING),CROSSFEED TO AND FROM WORK, CYLINDRICAL GRINDER	VARIABLE	603	MEMWCXX	30
WHEEL(GRINDING),FEED TO OR FROM WORK,RAPID CROSS FEED WITH HANDWHEEL,CYLINDRICAL GRINDER	462	603	MSUWF01	41
WHEEL(GRINDING),FEED TO OR FROM WORK,FINE CROSS FEED WITH HANDWHEEL,CYLINDRICAL GRINDER	218	603	MSUWF02	41
WHEEL(GRINDING),GET NEW WHEEL FROM RACK AND PLACE USED WHEEL IN RACK	VARIABLE	603	MSUWGXX	41
WHEEL(GRINDING),INSTALL TO POT CHUCK,BLANCHARD ROTARY GRINDER	177	603	MSUWI01	42
WHEEL(GRINDING),REMOVE AND INSTALL,INTERNAL GRINDER	248	603	MEMWR01	30
WHEEL(GRINDING),REMOVE AND REPLACE,LARGE WHEEL	328	603	MSUWR01	42
WHEEL(GRINDING),REMOVE AND REPLACE,SMALL WHEEL	125	603	MSUWR02	42
WHEEL(GRINDING),REMOVE AND REPLACE,CYLINDRICAL GRINDER	1382	603	MSUWR03	42
WHEEL(GRINDING),REMOVE AND REPLACE ON FLANGE	3805	609	SSUWR01	93
WHEEL(GRINDING),REMOVE FROM MACHINE TABLE AND PLACE ASIDE	152	603	MOHWR01	34
WHEEL(INTERNAL),DRESS	2458	603	MSUWD01	41
WHEEL(NEW),DRESS,TRUE UP AND OR SHAPE	6761	603	MSUWD02	41

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
WHEEL,CHUCK,AND HEAD FEED,START AND STOP, BLANCHARD ROTARY GRINDER	100	603	MSUWS01	42
WHEELHEAD,MOUNT AND REMOVE,INTERNAL GRINDER	397	603	MSUMW01	39
WOOD,LOAD IN AND UNLOAD FROM VISE	VARIABLE	66X	MVSWLXX	113
WORK,PREPARE TO RUN ON JOINTER	67	669	MEWWP01	117
WORKHEAD,MOVE 12 INCHES ON TABLE,CYLINDRICAL GRINDER	497	603	MSUWM01	42
WRENCH(LARGE),POSITION TO NUT OR BOLT	166	6XX	MTLWP01	10
WRENCH,ADJUST,LARGE OPEN END	179	6XX	BTLWA01	7
WRENCH,PLACE ON AND REMOVE FROM DRAW BAR LOCK NUT	68	605	BSUWP01	75
WRENCH,PLACE ON AND REMOVE FROM NUT OF THURSTON CHUCK	109	605	BSUWP02	75
WRENCH,PLACE ON AND REMOVE FROM ARBOR NUT	123	605	BSUWP03	76

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
ADJUST ARNOLD GAUGE DIAL TO SIZE	122	603	MSUGA01	37
ADJUST AUTOMATIC RIP SAW FENCE GAUGE	134	667	MEWFA01	115
ADJUST AUTOMATIC RIP SAW CARRIAGE HEIGHT	213	667	MEWCA01	115
ADJUST BLADE GUIDE HEIGHT,DO-ALL CONTOUR SAW	140	607	MEMGA01	88
ADJUST BORING TOOL	524	605	MEMTA01	72
ADJUST CHUCK SPEED,BLANCHARD ROTARY GRINDER	98	603	MEMSA01	28
ADJUST COOLANT NOZZLE TO WORK	78	603	MEMNA01	27
ADJUST CROSS FEED CONTROL ON SURFACE WITH GRINDER	164	603	MEMCA01	26
ADJUST CUT DEPTH	233	665	MEWCA01	114
ADJUST CUTTING ARM ROD ON LAWNMOWER SHARPENER	210	639	MEMRA01	111
ADJUST DRILL PRESS SPEED(BELT CHANGE) PEDESTAL DRILL PRESS	562	606	MSUPA01	85
ADJUST DRILL PRESS SPEED(LEVER CHANGE), PEDESTAL DRILL PRESS	126	606	MEMPA01	82
ADJUST FEED BALANCE WEIGHT,DO-ALL CONTOUR SAW	339	607	MSUWA01	91
ADJUST FEED CONTROL,POWER HACKSAW	160	607	MSUCA01	90
ADJUST FOLLOW REST TO WORK	741	604	MEMFA01	44
ADJUST GRINDER TABLE HORIZONTALLY OR VERTICALLY	VARIABLE	639	MEMTAXX	112
ADJUST GRINDING WHEEL FEED FOR LAWNMOWER	VARIABLE	639	MEMWAXX	112
ADJUST HAND FEED TENSION,DO-ALL CONTOUR SAW	90	607	MEMTA02	88
ADJUST HEAD FEED CONTROL,BLANCHARD ROTARY GRINDER	46	603	MSUCA01	35
ADJUST HIGH SPEED AND FUEL SHUTOFF,AMERICAN BOSCH PS-12BT FUEL INJECTION PUMP	18980	620	SITHA01	102
ADJUST HOLD DOWN CLAMP,TENON MACHINE	794	664	MCPCA01	114
ADJUST INDICATOR OR SCRIBER TO APPROXIMATE POSITION	100	60X	MITAI01	18
ADJUST JACK TO APPROXIMATE HEIGHT,PER JACK	175	60X	MSUJA01	23
ADJUST JOINTER TO REQUIRED TABLE HEIGHT	VARIABLE	669	MSUJAXX	118
ADJUST MICROMETER ANVIL TO ZERO	713	60X	MITMA01	18
ADJUST PART POSITION	VARIABLE	6XX	MTLAPXX	7
ADJUST PRESSURE ON PART BETWEEN CENTERS, CYLINDRICAL GRINDER	110	603	MEMPA01	28
ADJUST RADIUS DRESSER	82	603	MSUAD01	34
ADJUST REVERSING PULL LEVERS FOR TABLE STROKE LENGTH,SURFACE GRINDER	89	603	MSULA01	38
ADJUST STEADY REST TO PART,TWO PADS	158	603	MSUSA01	39
ADJUST STROKE (WHEEL OSCILLATION) M CYLINDRICAL GRINDER	166	603	MEMAS01	25
ADJUST TENSION ON SAW BLADE,DO-ALL CONTOUR SAW	245	607	MEMTA01	88

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
ADJUST TRUING FEED SCALE,J&L AUTOMATIC THREAD GRINDER	191	609	MSUSA01	92
ADJUST UNIVERSAL TABLE TO ANGLE,RADIAL DRILL PRESS	1275	606	MSUAT01	84
ADJUST WHEEL GUARD LENGTH,INTERNAL GRINDER	42	603	MSUAG01	34
ADJUST WOOD PLANER TABLE HEIGHT	210	665	MEWTA01	114
ADJUST WRENCH,LARGE OPEN END	179	6XX	BTLWA01	7
ADVANCE TAILSTOCK AND RETURN ON A 12 INCH LATHE	251	604	MEMTA01	47
ADVANCE TAILSTOCK SPINDLE ONE INCH WITH CRANK,ENGINE LATHE	153	604	MEMSA01	46
ALIGN BED KNIFE BLADE TO LAWNMOWER	162	639	MEMBA01	110
ALIGN HOLE TO SPINDLE,VERTICAL	6017	605	MSUHA01	79
ALIGN IN VISE STOCK TO MARK(NO STOP) POWER HACKSAW	298	607	MEMSA01	88
ALIGN MILLING MACHINE PART FOR VERTICAL MILLING	TABLE	605	TEMPAXX	74
ALIGN SPINDLE OVER HOLE,RADIAL DRILL PRESS	391	606	MEMSA01	83
ALIGN SWIVEL TABLE,CYLINDRICAL GRINDER	964	603	MSUTA01	40
ALIGN TOOL TO BUSHING OR HOLE,RADIAL DRILL PRESS	461	606	MEMTA01	83
APPLY CENTER LUBRICANT TO BOTH ENDS OF PART	76	603	MEMLA01	27
APPLY GLUE WITH BRUSH	198	660	MNFGA01	113
APPLY GREASE TO MATING SURFACES	377	699	MLUAG01	118
APPLY GREASE TO SMALL BEARING OR PART BY HAND	99	699	MLUGA01	119
APPLY LUBRICANT GREASE WITH A PADDLE	105	699	BLULA01	118
APPLY LUBRICANT WITH BRUSH/LINEAR FOOT	228	699	MLULA03	120
APPLY LUBRICANT WITH BRUSH TO SPOT	80	699	MLULA02	119
APPLY LUBRICANT/SEALANT WITH TUBE AND SPREADER	416	699	MLULA01	119
APPLY OIL TO HOLE OR SPOT WITH TRIGGER TYPE OIL CAN	VARIABLE	699	MLUOAXX	120
APPLY OIL WITH APPLICATOR SUCH AS TOOTHPICK,NEEDLE,OR WIRE	47	699	MLUA001	118
ASSEMBLE AND DISASSEMBLE GAUGE BLOCK	572	60X	MJPBA01	20
ASSEMBLE AND DISASSEMBLE INDICATOR,HEAVY DUTY MAGNETIC BASE	1854	60X	MJPIA03	21
ASSEMBLE COMBINATION SQUARE SCALE	173	60X	MGMSA01	17
ASSEMBLE CUTTER AND SLEEVE INTO THURSTON CHUCK	157	605	MSUCA02	77
ASSEMBLE CUTTER(OR ARBOR AND ADAPTER)	52	605	MSUCA01	77
ASSEMBLE DRAW BAR TO AND DISASSEMBLE FROM COLLET,SPEED LATHE	2777	604	MSUDA01	67
ASSEMBLE GEAR PULLER TO GEAR	VARIABLE	6XX	MTLPAXX	5

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
ASSEMBLE INDICATOR ON SURFACE GAUGE	219	60X	MJPIA02	21
ASSEMBLE INDICATOR TO SWIVEL BAR,SET DIRECTION OF INDICATOR POINT	312	60X	MJPIA01	21
ASSEMBLE OR DISASSEMBLE STOP COLLAR BY HAND	526	606	MSUCA02	84
ASSEMBLE PULLING ATTACHMENT TO GEAR	3460	6XX	MTLAA01	7
ASSEMBLE PUMP(AND HOSES),AMERICAN BOSCH PSB-128T FUEL INJECTION PUMP	15135	620	SITPA01	103
ASSEMBLE PUSH-PULLER TO GEAR,OBTAIN 1/2 INCH SEPARATION,AND REMOVE PULLER FROM GEAR	VARIABLE	6XX	STLPAXX	11
ASSEMBLE STOP COLLAR OR DISASSEMBLE USING TWO SPANNER WRENCHES	3112	606	MSUCA01	84
ASSEMBLE,ADJUST,DISASSEMBLE BEVEL PROTRACTOR	1615	60X	MITPA01	19
ATTACH AND REMOVE RADIUS OR ANGLE DRESSER CYLINDRICAL GRINDER	213	603	MSUDA01	36
ATTACH CLAMP TO PART	VARIABLE	60X	MENCAXX	13
ATTACH DRUM DRESSER TWO HOLDING SPRINGS,JEL AUTOMATIC THREAD GRINDERS	661	609	MSUDA01	92
ATTACH MAGNETIC INDICATOR TO WHEEL GUARD REMOVE MAGNETIC INDICATOR FROM WHEEL GUARD	99	603	BJPIA01	34
ATTACH OR DETACH SPEED WEIGHT TO/FROM LAWNMOWER	104	639	MOHWA01	112
ATTACH SLING TO PART AND REMOVE	455	60X	MOHSA01	22
ATTACH TO AND REMOVE PART FROM MANDREL BY PRESSING ON ARBOR PRESS	1401	616	MNFPA01	95
ATTACH TO AND REMOVE SLING FROM CRANE	102	60X	MOHSA02	22
BEND LOCK TAB WASHER TABS WITH SCREWDRIVER	VARIABLE	62X	MNFWRXX	97
BLOCK WHEELHEAD SPINDLE TO REMOVE AND INSTALL QUILL,INTERNAL GRINDER	206	603	MSUS801	39
BOLT UNIVERSAL TABLE TO BASE,RADIAL DRILL PRESS	1094	606	MSUT801	85
BORE ENGINE LATHE HOLE	TABLE	604	TEMLBXX	48
BORE HOLE IN GROUP 1 AND GROUP 2 MATERIAL WITH MILLING MACHINE	TABLE	605	TEMMYXX	73
BORE HOLE ONE INCH DIAMETER-ONE INCH DEEP WITH MILLING MACHINE	TABLE	605	TEMMBXX	72
BRING DIAMOND POINT TO WHEEL	162	603	MSUDB01	36
BURR HOLE	VARIABLE	60X	MTLHBXX	24
CALIBRATE METERING VALVE,SIMMONDS FUEL INJECTION PUMP	11990	620	SITVC01	105
CENTER DRILL ENGINE LATHE	1305	604	SEMLC01	66
CHANGE ADAPTER PLATES ON ARBOR PRESS BASE	186	616	MJPPC01	95
CHANGE COLLET IN COLLET CHUCK	842	605	MSUCC01	77
CHANGE DRILL PRESS DEPTH STOP ON PEDESTAL DRILL PRESS	VARIABLE	606	MSUPCXX	85
CHANGE FEED ON CARRIAGE OR CROSS SLIDE, ENGINE LATHE	108	604	MEMFC01	44

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
CHANGE FEED RADIAL DRILL PRESS,THREE LEVERS	233	606	MEMFC02	82
CHANGE FEED SHAPER	79	605	MEMCF01	71
CHANGE FEED(OR SPEED)ON POWER CONTROLLED FEED AND SPEED DIALS,MILLING MACHINE	331	605	MEMFC01	71
CHANGE FEED,THREE LEVERS,ENGINE LATHE	609	604	MSUFC02	67
CHANGE FEED,TWO LEVERS	326	604	MSUFC01	67
CHANGE GEAR PULLER REACH RANGE OR REVERSE ARMS ON TWO OR THREE JAW PULLER	VARIABLE	6XX	MTLPCXX	9
CHANGE JIG BORE SPINDLE FEED OR SPEED	63	606	MEMJC01	82
CHANGE NOZZLE ON AIR-OPERATED SPRAY GUN	239	699	MLUNC01	120
CHANGE SPEED ON SPINDLE,RACIAL DRILL PRESS	202	606	MEMSC01	83
CHANGE SPEED POWER HACKSAW	458	607	MSUSC02	91
CHANGE SPEED RANGE WITH LEVER,DO-ALL CONTOUR SAW	412	607	MSURC01	91
CHANGE SPEED WITH CRANK,DO-ALL CONTOUR SAW	411	607	MSUSC01	91
CHANGE SPINDLE SPEED	390	605	MSUSC01	80
CHANGE SPINDLE SPEED V-BELT DRIVE	191	60X	MSUSC01	23
CHANGE SPINDLE SPEED,ENGINE LATHE	556	604	MEMSC02	46
CHANGE SPINDLE SPEED,ONE LEVER	132	604	MEMSC01	46
CHANGE SPINDLE SPEED,4-STEP PULLEY, CYLINDRICAL GRINDER	468	603	MEMSC01	28
CHANGE TOOL AND REPOSITION,TAILSTOCK	893	604	SEMTC01	66
CHANGE TOOL HOLDER ON QUICK CHANGE TOOL POST	357	604	MEMTC01	47
CHANGE TOOL IN QUICK CHANGE CHUCK,JIG BORE	287	606	MEMTC03	83
CHANGE TOOL IN SLEEVE,JIG BORE	406	606	MEMTC02	83
CHANGE TOOL IN SPINDLE,JIG BORE	826	606	MEMTC01	83
CHANGE TOOL IN SQUARE TURRET	132	604	MSUTC01	70
CHANGE TRAVEL SPINDLE DIRECTION	317	605	MSUCS01	78
CHECK COIL SPRING AND GAUGE TENSION WITH A COMPRESSION GAUGE	168	62X	MITSC01	97
CHECK COMBINATION SQUARE PART	VARIABLE	60X	SGMSCXX	17
CHECK FUEL DELIVERY AND ADJUST,AMERICAN BOSCH PSB-12BT FUEL INJECTION PUMP	VARIABLE	620	SITCDXX	100
CHECK FUEL DELIVERY AND ADJUST,AMERICAN BOSCH,PSB-6A FUEL INJECTION PUMP	27130	620	SITCD03	100
CHECK FUEL DELIVERY AND ADJUST,SIMMONDS FUEL INJECTION PUMP	VARIABLE	620	SITDCXX	101
CHECK GENERATOR AND/OR VOLTAGE REGULATOR WITH LOW VOLTAGE CIRCUIT TESTER	VARIABLE	620	KITGCXX	107
CHECK IGNETION COIL ON TEST BENCH	11740	620	SITCC05	100
CHECK IGNITION COIL ON VEHICLE(MILITARY)	VARIABLE	620	SITCCXX	99
CHECK IGNITION COIL ON VEHICLECOMMERCIAL)	13758	620	SITCC04	100

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	CWMSTDP ELEMENT	PAGE
CHECK MICROMETER ACCURACY WITH PIN GAUGE	213	60X	MITMC01	19
CHECK PART WITH SQUARE OR PROTRACTOR	194	60X	MITPC01	19
CHECK SPEEDOMETER ON SPEEDOMETER TEST MACHINE	VARIABLE	620	KITSCXX	109
CHECK SPRING TENSION	VARIABLE	620	MITTCXX	99
CHUCK ADDITIONAL PART IN SCROLL CHUCK OR IN A CUSHMAN COLLET CHUCK	640	604	MEMPC02	45
CHUCK FIRST PART IN SCROLL CHUCK OR IN A CUSHMAN COLLET CHUCK	1006	604	MEMPC01	45
CHUCK NON SYMMETRICAL PART IN 4 JAW CHUCK	22039	60X	MSUPC01	23
CHUCK SYMMETRICAL PART IN 4 JAW CHUCK	8967	60X	MSUPC02	23
CHUCK SYMMETRICAL PART IN 4 JAW CHUCK, ADDITIONAL PART	2814	60X	MEMPC01	14
CLAMP STOP ON RADIAL CIRCULAR SAW BED OR TABLE	378	667	MSUSC01	116
CLEAN CHIPS FROM TABLE	3159	605	SSUTC01	81
CLEAN CHUCK WITH RAG, TO THREE SQUARE FEET	256	603	MCLCC02	25
CLEAN CHUCK WITH SQUEEGEE,TO THREE SQUARE FEET	212	603	MCLCC01	25
CLEAN CORNER WITH AIR	VARIABLE	6XX	MCLCCXX	1
CLEAN CORNER WITH BRUSH(MOVE CHIPS ONE INCH)	VARIABLE	6XX	MCL..3XX	1
CLEAN FILE(TWO SIDES WITH BRUSH)	308	6XX	BCLFC01	1
CLEAN HOLE WITH ORANGEWOOD OR BOXWOOD STICK	VARIABLE	60X	MCLHCXX	12
CLEAN HOUSING AND WHEEL COVER WITH SCRAPER,LARGE WHEEL	994	603	BCLHC01	25
CLEAN MACHINE TABLE CHIPS,BRUSH AND SCOOP	357	60X	MCLTC01	12
CLEAN MEDIUM PART BEFORE INSTALLING	632	6XX	MCLCP01	1
CLEAN PART GROOVES/CONCAVE CORNERS ONLY	301	60X	MCLPC01	12
CLEAN SHAFT CENTERS AND LUBRICATE	466	60X	SCLCC01	13
CLEAN SLOTS WITH CHIP PUSHER	573	60X	MCLCS01	12
CLEAN SPARK PLUG,TEST AND GAP	VARIABLE	620	KITPCXX	108
CLEAN SPOT OR SQUARE INCH WITH HAND DRILL AND WIRE BRUSH OR CROCUS CLOTH,ETC,ON ROD	375	6XX	MCLCS03	1
CLEAN SPOT WITH HAND BRUSH	73	6XX	MCLCS01	1
CLEAN SPOT WITH HAND DRILL AND WIRE BRUSH; CROCUS CLOTH,EMERY CLOTH,ETC,PROCESS TIME	237	6XX	MCLCS02	1
CLEAN SURFACE WITH WET CLOTH PER SQUARE FOOT	VARIABLE	6XX	MCLSCXX	2
CLEAN T-SLOTS WITH SCRAPER AND BRUSH, RADIAL DRILL PRESS	6432	606	MCLTC01	81
CLEAN TABLE TO REMOVE CHIPS,DUST,OR DIRT	VARIABLE	6XX	MCLTCXX	2
CLEAN TOOL AND LUBRICATE	339	60X	MCLCT01	12
CLEAN WHEEL HOUSING WITH SCRAPER,SMALL WHEEL	676	603	BCLHC02	25
CLOSE COLLET	VARIABLE	60X	MEMCOXX	14

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
CLOSE SPIGOT LEVER TYPE	38	699	MLUS001	120
CONNECT AND DISCONNECT AIR HOSE, THREADED CONNECTION	893	6XX	MJPHC02	4
CONNECT AND DISCONNECT AIR HOSE, QUICK ACTING CONNECTION	197	6XX	MJPHC01	4
CONNECT AND DISCONNECT TOOLS TO/FROM PNEUMATIC SOURCE	VARIABLE	6XX	MTPTCXX	11
CRANK SUPPORT ARM IN OR OUT TO 12 INCHES, MILLING MACHINE	205	605	MSLAC01	76
CROSSFEED GRINDING WHEEL TO AND FROM WORK, CYLINDRICAL GRINDER	VARIABLE	603	MEMWCXX	30
CUT BAND SAW BLADE WITH HAND METAL SHEARS	148	607	MEMBC01	87
CUT BOLT WITH BOLT CUTTER	250	62X	MTLBC01	98
CUT MATERIAL WITH POWER HACKSAW PER SQUARE INCH OF NON-FERROUS MATERIAL	801	607	MMTMC03	90
CUT MATERIAL WITH POWER HACKSAW PER SQUARE INCH OF MILD STEEL OR CAST IRON	1667	607	MMTMC02	85
CUT MATERIAL WITH POWER HACKSAW PER SQUARE INCH OF STAINLESS STEEL OR TOOL STEEL	2381	607	MMTMC01	89
CUT MOULDING ON MOULDING CUTTER	195	669	MEWMC01	116
CUT OFF ENGINE LATHE	TABLE	604	TEMLCXX	50
CUT ONE PIECE OF BEADING ON BEADING CUTTER	79	669	MEWBC01	116
CUT TUBING WITH TUBING CUTTER	1285	62X	MTLTC01	98
DEBURR BLADE UP TO 22 INCH LAWNMOWER	174	639	BTLBD01	112
DETACH GEAR PULLER FROM GEAR	VARIABLE	6XX	MTLPCXX	9
DIAL AXIS INDICATE, ONE LONGITUDINAL OR CROSS ON MILLING MACHINE	3848	605	MEMAD01	70
DIAL INDICATE AXIS, VERTICAL, ON MILLING MACHINE	12841	605	MEMAD02	71
DIG CHIPS FROM ONE LINEAR INCH OF GROOVE	VARIABLE	60X	MCLCDXX	12
DIP OBJECT WITH HOOK	199	699	MDPOD01	118
DISASSEMBLE CUTTOR(OR ARBOR)FROM ADAPTER	151	605	MSUCD01	77
DISASSEMBLE INDICATOR FROM SURFACE GAUGE	87	60X	MJPID02	21
DISASSEMBLE INDICATOR FROM SWIVEL BAR	169	60X	MJPID01	21
DISASSEMBLE NUT AND BOLT WHERE TWO WRENCHES ARE REQUIRED	534	6XX	MTLNA01	9
DISENGAGE ARBOR SUPPORT FROM ONE ARM AND TURN TO REST ON ARM TO CLEAR CUTTER	127	605	MSUSD01	80
DISENGAGE OR ENGAGE FOOT PEDAL FEED, DO-ALL CONTOUR SAW	65	607	MEMFE01	88
DRESS INTERNAL WHEEL	2458	603	MSUWC01	41
DRESS NEW WHEEL TRUE UP AND OR SHAPE	6761	603	MSUWD02	41
DRILL HOLE OR COUNTERSINK WITH DRILL PRESS	97	666	MEWHD01	115
DRILL HOLE WITH ENGINE LATHE	TABLE	604	TEMLDXX	52
DRY OBJECT WITH COMPRESSED AIR, UP TO 110 SQUARE INCH SURFACE AREA	816	6XX	MCLUD01	1

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
ENGAGE AND DISENGAGE CRANK	VARIABLE	605	MACCEXX	70
ENGAGE AND DISENGAGE CROSSFEED CRANK ON MILLING MACHINE	52	605	MEMCE02	71
ENGAGE AND DISENGAGE FEED OR SPINDLE CLUTCH	82	604	MEMCE01	43
ENGAGE AND DISENGAGE LONGITUDINAL CRANK ON MILLING MACHINE	196	605	MEMCE01	71
ENGAGE AND DISENGAGE RAPID CROSS FEED LEVER, CYLINDRICAL GRINDER	65	603	MEMLE01	27
ENGAGE AND DISENGAGE TAIL STOCK CENTER	VARIABLE	604	MEMCDXX	43
ENGAGE AND DISENGAGE VERTICAL CRANK ON MILLING MACHINE	164	605	MEMCE03	71
ENGAGE CLUTCH, POWER HACKSAW	125	607	MEMCE01	87
ENGAGE LEVER, RAPID TRAVEL AND FEED	123	605	MEMLE01	71
ENGAGE PUNCH TO MATERIAL	59	615	MEMPE01	93
FACE ENGINE LATHE FINISH CUT	TABLE	604	TEMLFXX	55
FACE ENGINE LATHE ROUGH CUT	TABLE	604	TEMLRXX	57
FASTEN AND UNFASTEN LOCK NUT TO SIDE OF TOP AND BOTTOM CUTTER HEADS OF MOULDER	340	669	MEWNU01	117
FEED GRINDING WHEEL TO OR FROM WORK, FINE CROSS FEED WITH HANDWHEEL, CYLINDRICAL GRINDER	218	603	MSUWF02	41
FEED GRINDING WHEEL TO OR FROM WORK, RAPID CROSS FEED WITH HANDWHEEL, CYLINDRICAL GRINDER	462	603	MSUWF01	41
FEED TABLE IN OR OUT 1/16 INCH WITH HANDWHEEL, CYLINDRICAL GRINDER	VARIABLE	603	MEMTFXX	27
FILE EDGE	TABLE	60X	TTLEFXX	24
FIT PART, MULTI ALIGNMENT REQUIRED	TABLE	6XX	TOMPFXX	6
FOCUS MAGNIFYING GLASS OVER VERNIER FOR READING	82	6XX	BITGF01	4
GAP SPARK PLUG AND CHECK	247	620	MITPG01	99
GAUGE PART WITH SLIDING PARALLELS AND OUTSIDE MICROMETER	641	60X	MITPG01	19
GAUGE THREAD WITH RING GAUGE	VARIABLE	60X	BITTGXX	18
GET AND RETURN PLYWOOD BAFFLE, BLANCHARD ROTARY GRINDER	476	603	MOMBG01	34
GET ANGLE PLATE, SET UP FOR USE, AND ASIDE	VARIABLE	606	SSUPGXX	86
GET FIXED PARALLEL AND PUT ON TABLE	132	606	MSUGP01	84
GET NEW GRINDING WHEEL FROM RACK AND PLACE USED WHEEL IN RACK	VARIABLE	603	MSUWGXX	41
GREASE FITTING WITH AIR-OPERATED GREASE GUN	71	699	MLUFG01	119
GRIND, EXTERNAL GRINDER	TABLE	603	TEMGEXX	31
GRIND, INTERNAL GRINDER	TABLE	603	TEMGIXX	33
HANDLE PART FOR VERTICAL MILL BORING OPERATION	TABLE	605	TEMPHXX	74

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
HEAT FUEL FOR INJECTION PUMP TEST	8880	620	SITSH01	104
INDEX BARREL STOP ONE POSTION, INTERNAL GRINDER	113	603	MEMSI01	28
INDEX ROLL STOP, TURRET LATHE	91	604	MEMIS01	44
INDEX SQUARE TURRET, ONE STATION, ENGINE LATHE	142	604	MEMIT01	44
INDEX SUPER SPACER	151	606	MEMSI01	83
INDICATE ONE PLANE, JIG BORE	5611	606	SSUJI01	86
INSERT AND REMOVE PART FROM COLLET	610	604	MEMPI01	45
INSERT DIAMOND IN HOLDER REMOVE DIAMOND FROM HOLDER	60	603	MSUDI01	36
INSERT DIAMONDS IN AND REMOVE FROM CRUN DRESSER, JOL AUTOMATIC THREAD GRINDER, THREE DIAMONDS	537	609	MSUDI01	92
INSERT HOOK AND REMOVE FROM EYEBOLT	77	60X	MMHHI01	21
INSERT JIG BORE AND REMOVE KEY, TABLE SLOT	307	606	MSUJI01	85
INSPECT WITH FINGERS (FEEL)	59	6XX	MITIF01	4
INSTALL ADAPTER IN AND REMOVE FROM VERTICAL MILL	4353	605	MSUAI03	76
INSTALL AND REMOVE ADAPTER USING HAND DRAW BOLT, VERTICAL MILLING MACHINE	2199	605	MSUAI02	76
INSTALL AND REMOVE ADAPTER USING HAND DRAW OOLT, HORIZONTAL MILLING MACHINE	1957	605	MSUAI01	76
INSTALL AND REMOVE C TYPE CLAMP	583	6XX	MCPCI01	2
INSTALL AND REMOVE CAM GRIP DOG	121	604	BEMDI01	43
INSTALL AND REMOVE CHUCK FACEPLATE OR COLLET CHUCK-50 POUNDS OR LESS	297	604	MSUIC01	68
INSTALL AND REMOVE CLAMP AND TEE BOLT	2602	60X	MSUCI01	22
INSTALL AND REMOVE COLLET IN/FROM COLLET CHUCK	1888	604	MSUCI01	67
INSTALL AND REMOVE DIAMOND HOLDER ASSEMOLY ON/FROM RADIUS DRESSER	159	603	MSUHR01	38
INSTALL AND REMOVE DOG TO/FROM PART, BENT TAIL TYPE DOG	765	604	MEMDI01	44
INSTALL AND REMOVE EYEBOLT FROM CHUCK	737	60X	MSUEI01	22
INSTALL AND REMOVE FOLLOW REST	2160	604	MSUFI01	68
INSTALL AND REMOVE JACKSCREW	537	60X	MSUJI01	23
INSTALL AND REMOVE NON-THREADED PLUG	VARIABLE	62X	MNFPPXX	97
INSTALL AND REMOVE RADIUS DRESSER, INTERNAL GRINDER	88	603	MSUID01	38
INSTALL AND REMOVE SHIM FROM TOOL	170	604	MSUSI01	69
INSTALL AND REMOVE SPUR ASSEMBLY GEAR	2670	6XX	MTLGR01	8
INSTALL AND REMOVE TEE BOLT	1787	60X	MSUBI01	22
INSTALL BACKFACING CUTTER INTO AND REMOVE FROM SLOT OF BAR, 1 7/16 INCH HOLE DIAMETER OR LARGER	464	606	MEMCI02	81

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTOP ELEMENT	PAGE
INSTALL BACKFACING CUTTER ON BAR AND REMOVE FROM BAR,TO 1 7/16 INCH HOLE DIAMETER	122	606	MEMCI01	81
INSTALL BORING BAR IN,ADJUST,AND REMOVE FROM COMPOUND SLIDE	1209	604	MSUBI01	66
INSTALL BUTTON PLUG	179	6XX	MOHPI01	6
INSTALL CENTER IN AND REMOVE FROM HEADSTOCK OR FOOTSTOCK	475	603	MSUCI01	35
INSTALL COMMON STRAIGHT BUSHING-REQUIRES CHILLING BEFORE INSTALLATION	2205	6XX	MTLIB01	8
INSTALL CUT OFF ATTACHMENT ON GUIDE ROD,DO-ALL CONTOUR SAW	98	607	MSUAI01	90
INSTALL DIE	106	615	MSUDI01	94
INSTALL FENCE ON TABLE SAW	306	667	MSUFI01	115
INSTALL GRINDING WHEEL TO POT CHUCK, BLANCHARD ROTARY GRINDER	177	603	MSUWI01	42
INSTALL GROMMET AND REMOVE WITH TOOL	VARIABLE	6XX	MTLGIXX	8
INSTALL HELICAL SPRING WITH PLIERS	332	62X	MTLSI01	98
INSTALL IDENTIFICATION PLATE	VARIABLE	6XX	MIDPIXX	3
INSTALL IN AND REMOVE KEYS FROM TABLE SLOTS,TWO KEYS	1414	60X	SSUKI01	24
INSTALL IN AND REMOVE TEE BOLT FROM TABLE SLOT	172	60X	MSUBI02	22
INSTALL IN AND REMOVE TOOL FROM TAPERED SLEEVE	429	60X	MEMTI02	15
INSTALL KEY IN ARBOR AND REMOVE	158	605	MSUKI01	79
INSTALL MARMAN CLAMP	1551	621	MCFCI01	109
INSTALL OR REMOVE PIN	VARIABLE	62X	MNFPIXX	97
INSTALL OR REMOVE THREADED CAP OR PLUG	VARIABLE	62X	MTFCIXX	97
INSTALL PART AND REMOVE FROM COLLET	334	605	MEMPI01	71
INSTALL PART ON AND REMOVE FROM MANDREL	208	603	MEMFI01	28
INSTALL PART WITH ARBOR PRESS	784	616	MNFPI01	96
INSTALL PART,SINGLE ALIGN,PRESS FIT PART	482	616	MTLFI01	96
INSTALL PUNCH	94	615	MSUPI01	94
INSTALL PUNCH ADAPTER AND REMOVE,ARBOR PRESS	426	616	MJPAI01	95
INSTALL PUNCH AND REMOVE,ADAPTER ON ARBOR PRESS	180	616	MJPPI01	95
INSTALL RING IN GROOVE UP TO 6 INCHES IN DIAMETER	264	6XX	MOHRI01	6
INSTALL RUBBER GROMMET	127	6XX	MOHGI01	5
INSTALL SAFETY GUARD ON TABLE SAW	331	667	MSUGI01	116
INSTALL SAW BAND ON DRIVE AND IDLER WHEELS, DO-ALL CONTOUR SAW	375	607	MEMBI01	87
INSTALL SHANK TOOL HOLDER ON OR REMOVE FROM HEX TURRET,TURRET LATHE	279	604	MSUHI01	68

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWNSTOP ELEMENT	PAGE
INSTALL SMALL BEARING INTO RACE,SLIGHT PRESS FIT	233	6XX	MTLBI01	8
INSTALL SNAP OR SPRING RETAINER RING	VARIABLE	6XX	MNFRIXX	5
INSTALL TAP IN INSERT,RADIAL DRILL PRESS	300	606	MSUTI01	85
INSTALL TAP IN TAPPING ATTACHMINT,SENSITIVE DRILL PRESS	560	606	MSUTI02	86
INSTALL THREADING TOOL AND ADJUST IN A KDK TOOL BAR	4950	604	MSUTI02	70
INSTALL TOOL AND ADJUST IN A KDK QUICK CHANGE BAR	2942	604	MSUTI01	70
INSTALL TOOL HOLDER IN SINGLE TOOL POST	367	604	MEMTI01	47
INSTALL TOOL IN AND REMOVE FROM JACOBS CHUCK	358	60X	MEMTI01	15
INSTALL TUBE IN FLANGED QUICK COUPLER-VEECO TYPE	276	6XX	MTFTI01	7
INSTALL WIGGINS TYPE-TWO TO SIX INCH DIAMETER CLAMP	2606	621	MCPCI02	110
JOG RAM TO POSITION,SHAPER	145	605	MSURJ01	80
JOG TABLE	130	603	MEMTJ01	29
KNOCK CENTER OUT OF DIVIDING HEAD	113	605	MSUCK01	77
KNOCK CENTER OUT OF SPINDLE WITH BAR	395	604	MSUCK01	67
LIFT LAWNMOWER TO BENCH	165	635	MCHLL01	112
LIFT PART FROM FLOOR TO CHUCK AND RETURN	366	603	MDHPL01	34
LOAD PART TO OR UNLOAD FROM ,OLDING DEVICE, WEIGHT 25-50 POUNDS	286	60X	MEMPL01	14
LOAD WOOD IN AND UNLOAD FROM VISE	VARIABLE	66X	MVSWLXX	113
LOCATE HEAD(OR VISE)TO ANGLE	223	60X	MSUHL01	23
LOCK AND UNLOCK CARRIAGE	306	604	MEMCL01	43
LOCK AND UNLOCK CROSS SLIDE	238	605	MEMSL01	72
LOCK AND UNLOCK KNEE	256	605	MSUKL01	79
LOCK AND UNLOCK KNEE ON CINCINNATI VERTICAL MILL NO 3 OR SIMILAR MILLS	598	605	MSUKL02	79
LOCK AND UNLOCK LONGITUDINAL TABLE ON CINCINNATI MILLING MACHINE	362	605	MEMTL01	72
LOCK AND UNLOCK LONGITUDINAL TABLE ON MILWAUKEE OR SIMILAR TYPES OF MILLS	124	605	MEMTL02	72
LOCK AND UNLOCK WORKHEAD SPINDLE-CYLINDRICAL GRINDER	71	603	MSUSL01	40
LOCK OR UNLOCK COLUMN ON CINCINNATI-BICKFORD RADIAL DRILL PRESS,MANUAL LOCK	287	606	MSUCL01	84
LOCK OR UNLOCK DRUM DRESSER WITH TRUING DEVICE LOCK,JEL AUTOMATIC THREAD GRINDER	203	609	MSUDL01	92
LOCK OR UNLOCK HEAD ON ARM,RADIAL DRILL PRESS	37	606	MEMHL01	82
LOCK OR UNLOCK JACKSCREW	96	60X	MSUJU01	23
LOCK OR UNLOCK TAILSTOCK SPINDLE	73	604	MSUSL01	69

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
LOOSEN ADAPTER BY TAPPING END OF DRAW BAR	134	605	MSUAL01	76
LOOSEN AND TIGHTEN CHUCK	VARIABLE	60X	MEMCLXX	14
LOOSEN AND TIGHTEN VISE	VARIABLE	60X	MEMVLXX	15
LOOSEN OR TIGHTEN FIXED PARALLEL	321	606	MSULP01	[illegible]
LOOSEN OR TIGHTEN RUSTY ADJUSTING SCREW WITH A SCREWDRIVER	86	639	BTLSL01	112
LOOSEN OR TIGHTEN THURSTON CHUCK NUT WITH MALLET	86	605	MSUNL01	80
LOOSEN OR TIGHTEN UNIVERSAL CHUCK	1084	60X	MEMCL03	14
LOWER AND RAISE MOULDER TAILGATE	368	669	MEWTL01	117
LOWER AND RAISE SPINDLE PULLEY COVER, CYLINDRICAL GRINDER	85	603	MSUCL01	35
LOWER AND RAISE WORKHEAD GUARD, INTERNAL GRINDER	90	603	MEMGL01	26
LOWER BLADE FOR CUTTING ON TABLE SAW	653	667	MEWBR01	115
LOWER DRILL PRESS PLATFORM	324	6XX	MSUPR01	7
LUBRICATE MOTOR BEARING	236	699	MLUBL01	118
MACHINE TABLE TIME	TABLE	60X	TEMTMXX	16
MAKE TRIAL CUT FOR BORING HOLE	VARIABLE	605	MSUCMXX	78
MEASURE DEPTH THREAD FOR ADJUSTMENT TO GAUGE	213	60X	MITTM01	19
MEASURE MATERIAL AND MARK FOR CUTTING	584	66X	MGMMM01	113
MOUNT AND REMOVE INDICATOR FOR SHOULDER OR STEP GRINDING	266	603	MSUIM01	38
MOUNT AND REMOVE WHEELHEAD DRIVE BELT INTERNAL GRINDER	197	603	MSUMB01	38
MOUNT AND REMOVE WHEELHEAD, INTERNAL GRINDER	397	603	MSUMW01	39
MOUNT ARNOLD GAUGE ON AND REMOVE FROM HOLDER	208	603	MSUGM01	37
MOUNT BUEL INJECTION PUMP ON TEST STAND AMERICAN BOSCH, PSB-6A	4190	620	SITPM03	103
MOUNT DIAMOND HOLDER ON MACHINE REMOVE DIAMOND HOLDER FROM MACHINE	103	603	BSUHM01	34
MOUNT FACE MILL, SPINDLE MOUNT(FOUR SCREWS)	134	605	MSUMM02	79
MOUNT FUEL INJECTION PUMP ON TEST STAND, SIMMONDS	VARIABLE	620	SITPMXX	103
MOUNT MILL, SHELL TYPE MOUNTING(CENTER SCREW)	141	605	MSUMM01	79
MOUNT STEADY REST(OR WHEEL DRESSER)ON CYLINDRICAL GRINDER	195	603	MSUSM01	40
MOVE CARRIAGE SIX INCHES BY HAND, TURRET LATHE	79	604	MEMCM03	43
MOVE CARRIAGE WITH HANDWHEEL	VARIABLE	604	MEMCMXX	43
MOVE COMPOUND SLIDE TO WORK	118	604	MEMSM05	46
MOVE CROSS SLIDE TO WORK	117	604	MEMSM06	47
MOVE CROSS SLIDE, TURRET LATHE	VARIABLE	604	MEMMCXX	45

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWNSTDP ELEMENT	PAGE
MOVE CUTTER AND POSITION TO BLADES	81	639	MEMCM01	111
MOVE FOOTSTOCK 12 INCHES,CYLINDRICAL GRINDER	100	603	MSUFM01	37
MOVE HEAD IN OR CUT ON ARM,RADIAL DRILL PRESS	164	606	MEMHM01	82
MOVE INDICATOR OFF GAUGE BLOCK OR PART	VARIABLE	60X	MITIMXX	18
MOVE INFEED LEVER DOWN AND BACK,CYLINDRICAL GRINDER	52	603	MEMLM01	27
MOVE JIG BORE TABLE TO POSITION TO INDICATOR	120	606	MEMJM02	82
MOVE JIG BORE TABLE WITH HAND WHEEL	98	606	MEMJM01	82
MOVE LEVER J&L AUTOMATIC THREAD GRINDER	VARIABLE	609	MEMLMXX	92
MOVE PART ADJACENT SIDE TO PUNCH	VARIABLE	615	MOHPMXX	94
MOVE PART INTO OR OUT OF POSITION WITH HAMMER	169	600	MTLPM01	24
MOVE SLIDE IN OR OUT,ONE INCH,ENGINE LATHE	VARIABLE	604	MEMSMXX	46
MOVE SLIDE TO GRADUATE LINE ON DIAL	84	604	MEMSM07	47
MOVE TABLE HORIZONTALLY 2 1/2 INCHES AND	81	665	MEWTM01	114
MOVE TABLE REVERSING DOG TO NEW POSITION	49	603	MSUDM01	36
MOVE TABLE WITH HAND WHEEL,CYLINDRICAL GRINDER	VARIABLE	603	MEMTMXX	29
MOVE TABLE 1/2 INCH BY HAND,INTERNAL GRINDER	153	603	MSUMT01	39
MOVE TAILSTOCK FOUR INCHES WITH ONE REVOLUTION OF CRANK	105	604	MEMTM01	47
MOVE TAILSTOCK 24 INCHES,LARGE CYLINDRICAL GRINDER	243	603	MSUTM01	40
MOVE TRUING UNIT BASE,INTERNAL GRINDER	179	603	MSUBM01	35
MOVE TRUING UNIT FORWARD,INTERNAL GRINDER	95	603	MSUUM01	41
MOVE TURRET SADDLE,TURRET LATHE	VARIABLE	604	MEMMTXX	45
MOVE WHEELHEAD CROSS SLIDE FOR SETUP, INTERNAL GRINDER	163	603	MSUMC01	38
MOVE WHEELHEAD CROSS SLIDE FOR OPERATION, INTERNAL GRINDER	90	603	MEMCM01	26
MOVE WORKHEAD 12 INCHES ON TABLE,CYLINDRICAL GRINDER	497	603	MSUWM01	42
OBTAIN AIR HOSE AND MOVE TO WORK AREA PREPARATORY TO USE	VARIABLE	6XX	MJPHOXX	5
OBTAIN AND PLACE PART WITH TWEEZERS,AVERAGE	69	6XX	MTLP001	5
OBTAIN BUSHING(OR PLUG),INSTALL IN AND REMOVE FROM JIG OR FIXTURE	171	60X	MEMBC01	13
OBTAIN CUTTER AND MOVE	86	639	MOHC001	112
OBTAIN GREASE FROM CONTAINER WITH STICK OR FINGER	49	699	MLUG001	119
OBTAIN PARALLELS,SET UP FOR USE, AND ASIDE	1768	606	SSUP001	86
OBTAIN ROD AND ASSEMBLE TO CUTTING ARM, DISASSEMBLE AND PLACE ASIDE	475	639	MEMR001	111

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
OPEN AND CLOSE BOTTOM GUARD DOOR,DO-ALL CONTOUR SAW	236	607	MEMD002	87
OPEN AND CLOSE CASE,MICROMETER CASE OR SIMILAR WITH PUSH BUTTON LATC,	62	60X	MJPC001	20
OPEN AND CLOSE COLLET	286	603	MEMC001	26
OPEN AND CLOSE COLLET CHUCK WITH WRENCH	767	60X	MEMCC01	13
OPEN AND CLOSE STEADY REST	316	604	MEMS001	47
OPEN AND CLOSE TOP GUARD DOOR,DO-ALL CONTOUR SAW	209	607	MEMD001	87
OPEN AND CLOSE VISE	480	603	MVSVC01	43
OPEN AND CLOSE WHEEL COVER,LARGE COVER	252	603	MSUC001	35
OPEN AND/OR CLOSE 4X6 FOOT OVEN DOOR	VARIABLE	621	MOHDOXX	110
OPERATE DRILL PRESS	VARIABLE	606	MEMOPXX	82
PLACE CENTER IN DIVIDING HEAD	59	605	MSUPC01	80
PLACE CUTTER ON ARBOR,MILLING MACHINE	171	605	MSUCP01	78
PLACE DADO(OR NUT)ON SAW SHAFT	47	667	MSUDP01	115
PLACE DIAMOND HOLDER BRACKET ON AND REMOVE FROM MACHINE	225	603	MSUBP01	35
PLACE DRIVING DOG ON OR REMOVE FROM PART	112	603	MEMDP01	26
PLACE EMERY OR CROCUS CLOTH ON	327	6XX	MJPEP01	4
PLACE FIXTURE ON AND REMOVE FROM ARBOR PRESS	136	616	MJPFP01	95
PLACE IN AND REMOVE OBJECT FROM OVEN, ADDITIONAL OBJECT	126	621	MOHOP02	110
PLACE LONGITUDINAL STOP ROD TO CORRECT POSITION,TURRET LATHE	89	604	MEMLP01	44
PLACE LUBRICANT/SEALANT WITH OIL CAN	113	699	MLULP01	120
PLACE MATERIAL IN WOOD VISE	VARIABLE	66X	BOHMPXX	113
PLACE OBJECT IN AND REMOVE FROM OVEN, FIRST OBJECT	394	621	MOHOP01	110
PLACE ON AND REMOVE CHUCK FROM SPINDLE NOSE, CYLINDRICAL GRINDER	262	603	MSUCP01	36
PLACE ON AND REMOVE WRENCH FROM DRAW BAR LOCK NUT	68	605	BSUWP01	75
PLACE PART BETWEEN CENTERS AND REMOVE, CYLINDRICAL GRINDER	171	603	MEMPP01	28
PLACE SHAFT IN AND REMOVE FROM HUB FOR BALANCING GRINDING WHEEL ASSEMBLE,J&L AUTOMATIC THREAD GRINDERS	1803	609	MSUSP01	93
PLACE SPACER(OR SHIM) ON ARBOR	98	605	MSUSP01	80
PLACE STEADY REST ON MACHINE,SECURE AND REMOVE	871	604	MSUSP01	69
PLACE TOOL IN AND REMOVE FROM MAGIC CHUCK	VARIABLE	606	MEMTPXX	84
PLACE WRENCH ON AND REMOVE FROM ARBOR NUT	123	605	BSUWP03	76
PLACE WRENCH ON NUT OF THURSTON CHUCK	109	605	BSUWP02	75
POISH SURFACE WITH CROCUS CLOTH,ETC.,PART CHUCKED IN HAND DRILL	VARIABLE	6XX	MCLSPXX	2

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
POSITION ADAPTER IN SPINDLE ON MILLING MACHINE	98	605	MSUAP01	76
POSITION ARNOLD GAUGE TO PART AND REMOVE	96	603	MEMGP01	26
POSITION BANDSAW BLADE ON TWO ROLLERS OF AN AUTOMATIC SHARPENING MACHINE	535	601	MEMBP01	25
POSITION BUCKET TO POUR FORM	282	699	MOHBP02	120
POSITION CHUCK JAW USING WRENCH	VARIABLE	604	MSUJPXX	68
POSITION COMBINATION SQUARE TO GAUGE ANGLE	137	60X	MGMSP01	17
POSITION DISC CUTTER POINTER	80	607	BSUPP01	90
POSITION DRAW BAR AND ENGAGE IN ADAPTER	73	605	MSUBP01	77
POSITION GUIDE FENCE ON SPINDLE OF SHAPER	403	665	MEWFP01	114
POSITION HAND PUNCH	VARIABLE	615	MTLPPXX	94
POSITION HOLDING DEVICE ON GRINDER,PER DEVICE	136	639	MEMDP01	111
POSITION LARGE WRENCH TO NUT OR BOLT	166	6XX	MTLWP01	10
POSITION ON OR REMOVE SAW BLADE FROM ARBOR (FOR SHARPENING)	76	601	MEMBP02	25
POSITION PART FOR NEXT PUNCH	VARIABLE	615	MOHPPXX	94
POSITION PART TO FIRST JACK	150	60X	MEMPP01	14
POSITION PIECES(TWO)FOR FASTENING	278	660	MOHPP01	114
POSITION SPACER ON OUTSIDE OF CUTTER ON KEY	29	605	BSUSP01	75
POSITION TABLE TO GRIND,SURFACE GRINDER	VARIABLE	603	MEMTPXX	29
POSITION TURRET STOP BLOCK,TURRET LATHE	127	604	MEMBP01	43
POSITION WOOD CLAMP AND TIGHTEN	127	66X	MCPCP01	113
POSITION WORK DRIVER ON HEADSTOCK, CYLINDRICAL GRINDER	53	603	MSUDP01	36
PRE-NAIL NAIL PRIOR TO ASSEMBLY	135	66C	MNFNP01	114
PREPARE SURFACE PLATE FOR USE	574	604	MJPPP01	66
PREPARE WORK TO RUN ON JOINTER	67	669	MEWWP01	117
PRESS PARTS ON WITH HYDRAULIC OR MECHANICAL ARBOR PRESS	VARIABLE	616	MNFPPXX	96
PUMP HYDRAULIC HAND PUMP,FIRST STROKE	VARIABLE	6XX	MTLPPXX	9
PUNCH HOLE WITH HAND PUNCH	VARIABLE	615	BTLHPXX	94
PUT IN AND REMOVE CENTER OR TOOL PART IN TAILSTOCK	642	604	MEMPP01	45
PUT TOOL IN TOOL HOLDER	54	604	BEMTP01	43
RAISE AND LOWER DRILL PRESS SPINDLE AND ALIGN JIG FOR DRILLING	141	606	MEMSR01	83
RAISE OR LOWER DRILL PRESS SPINDLE,RADIAL DRILL PRESS	130	606	MEMPL01	82
RAISE OR LOWER SHOPLIFT PLATFORM,PER INCH	VARIABLE	60X	MMHPRXX	21
RAISE OR LOWER TABEL SIX INCHES ON PEDESTAL DRILL PRESS	392	606	MSUTR02	86

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTOP ELEMENT	PAGE
RAISE OR LOWER TABLE AVERAGE OF FOUR INCHES DRILL PRESS	531	606	MSUTR01	86
RAISE RAILS ON SIDE AND END OF MAGNETIC CHUCK	46	603	MSURR01	39
RAISE SPINDLE HEAD OR LOWER,SENSITIVE DRILL PRESS	129	606	MSUHR01	84
READ THREAD GAUGE	118	60X	MITGR01	18
REAM HOLE WITH ENGINE LATHE	TABLE	604	TEMRLXX	65
REGULATE TRIP FOR AUTOMATIC DIAMOND RISE, INTERNAL GRINDER	103	603	MSUTR01	40
RELEASE LOCK ON CRANK TYPE CENTER	49	604	MEMLR01	44
REMOVE AND INSTALL BLOWER HOOD ON MOULDER, PER HOOD	319	669	MSUHR01	118
REMOVE AND INSTALL GRINDING WHEEL,INTERNAL GRINDER	248	603	MEMWR01	30
REMOVE AND INSTALL HEADS(CUTTER),SIDE OR TOP AND BOTTOM CUTTER HEADS ON MOULDER	VARIABLE	669	MOMHRXX	117
REMOVE AND INSTALL SAW DUST COLLECTOR DUCT PIPE ON MOULDER	291	669	MEWPR01	117
REMOVE AND INSTALL TOOL POST	337	604	MSUPR01	69
REMOVE AND INSTALL WHEEL COVER	144	603	MSUCR01	36
REMOVE AND REPLACE BALANCE FLANGE,SURFACE GRINDER	119	603	MSUFR01	37
REMOVE AND REPLACE BLADE,POWER HACKSAW	609	607	SEMRB02	89
REMOVE AND REPLACE BLADE,POWER HACKSAW	1173	607	SEMRB01	89
REMOVE AND REPLACE BLOTTER,PER BLOTTER	136	603	MSUBR01	35
REMOVE AND REPLACE CUTTING SLICE PLATE, DO-ALL CONTOUR SAW	419	607	MSUPR01	90
REMOVE AND REPLACE DIAMOND HOLDER, INTERNAL GRINDER	107	603	MSURH01	39
REMOVE AND REPLACE GRINDING WHEEL, CYLINDRICAL GRINDER	1382	603	MSUWR03	42
REMOVE AND REPLACE GRINDING WHEEL, LARGE WHEEL	328	603	MSUWR01	42
REMOVE AND REPLACE GRINDING WHEEL,SMALL WHEEL	125	603	MSUWR02	42
REMOVE AND REPLACE GUIDE HEAD,DO-ALL CONTOUR SAW	159	607	MEMHR01	88
REMOVE AND REPLACE LOWER WHEEL GUARD, CYLINDRICAL GRINDER	115	603	MSUGR02	37
REMOVE AND REPLACE MICROMETER ANVIL	443	60X	MITMR01	19
REMOVE AND REPLACE REAR SPLASH GUARD,ONE GUARD CYLINDRICAL GRINDER	324	603	MSUGR04	37
REMOVE AND REPLACE SIDE WHEEL GUARD, CYLINDRICAL GRINDER	119	603	MSUGR03	37
REMOVE AND REPLACE SPLASH GUARD,CYLINDRICAL GRINDER	58	603	MEMGR01	26
REMOVE AND REPLACE SQUARE TURRET	VARIABLE	604	MSUTRXX	70

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
REMOVE AND REPLACE TOP WHEEL GUARD, CYLINDRICAL GRINDER	210	603	MSUGR01	37
REMOVE AND REPLACE ZERO ALIGNMENT PIN, HEADSTOCK UNIT CYLINDRICAL GRINDER	330	603	MSUPR01	39
REMOVE ANNULAR BEARING	VARIABLE	6XX	MTLBRXX	8
REMOVE BLADE DO-ALL CONTOUR SAW	240	607	MEMBR01	87
REMOVE BUCKET FROM 55 GALLON DRUM	399	699	MDHBP01	120
REMOVE BUTTON PLUG	153	6XX	MTLPR01	9
REMOVE CHIP BREAKER AND SET ON TOP HEAD	411	669	MSUBR01	117
REMOVE CHIPS FROM HOLE UP TO ONE INCH DIAMETER,TWO INCHES DEEP	VARIABLE	60X	MCLCRXX	12
REMOVE COLLAR AND DADO BLADES,RADIAL CIRCULAR SAW	115	667	MSUCR01	115
REMOVE COMBINATION SQUARE SCALE	68	60X	MGMSR01	17
REMOVE CRANK FROM STORAGE PIN AND PLACE ON SHAFT AND RETURN TO STORAGE PIN	195	60X	MSUCR01	22
REMOVE CUTTER FROM ARBOR	72	605	MSUCR02	78
REMOVE DISTRIBUTOR CONDENSER FROM VEHICLE, TEST,AND REPLACE ON COMMERCIAL VEHICLE	3193	620	SITCR04	101
REMOVE EMERY(OR CROCUS CLOTH)STRIP UP TO 27 INCHES IN LENGTH FROM ROLL	183	6XX	MJPER01	4
REMOVE FACE MILL,SPINDLE MOUNT(FOUR SCREWS)	102	605	MSUMR02	79
REMOVE FENCE FROM TABLE SAW	376	667	MSUFR01	116
REMOVE FIXED PARALLEL FROM TABLE	145	606	MSURP01	85
REMOVE FRONT WHEEL COVER AND REPLACE J&L AUTOMATIC THREAD GRINDERS	1774	609	MSUCR01	92
REMOVE GRINDING WHEEL AND FLANGE ASSEMBLY AND REPLACE ON TAPER SHAFT,J&L AUTOMATIC THREAD GRINDER	1242	609	SSUAR01	93
REMOVE GRINDING WHEEL FROM MACHINE TABLE AND PLACE ASIDE	152	603	MDHWR01	34
REMOVE HELICAL-COMPRESSION OR EXTENSION SPRING BY HAND AND PLIERS	237	62X	MTLSR01	98
REMOVE IDENTIFICATION PLATE	7327	6XX	MIDPR07	3
REMOVE IDENTIFICATION PLATE	VARIABLE	6XX	MIDPRXX	3
REMOVE IGNITER CONDENSER FROM MILITARY VEHICLE,TEST,AND REPLACE ON VEHICLE	VARIABLE	620	SITCRXX	101
REMOVE INDICATOR ASSEMBLY FROM BOX	114	6XX	MJPAR01	4
REMOVE JAW FROM CHUCK,REVERSE AND REPLACE	377	60X	MSUJR01	23
REMOVE LAWNMOWER HANDLE	605	639	MJPHR01	112
REMOVE MARMAN-TWO TO SIX INCH DIAMETER CLAMP	1499	621	MCPCR01	110
REMOVE MATERIAL FROM WOOD VISE	VARIABLE	66X	BOHMRXX	113
REMOVE MATING PART	VARIABLE	6XX	MOMPRXX	6
REMOVE MATING PART WITH TOOL	VARIABLE	6XX	MTLRPXX	10
REMOVE MILL,SHELL TYPE MOUNTING(CENTER SCREW)	195	605	MSUMR01	75

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWNSTDP ELEMENT	PAGE
REMOVE OIL AND DISPOSE OF,WITH HAND OPERATED SUCTION GUN	248	699	MLUOR01	120
REMOVE OILITE BUSHING WITH SCREW PULLER	3380	6XX	MTLBR03	8
REMOVE OR REPLACE BED KNIFE BLADE FROM GRINDER	776	639	MEMBI01	111
REMOVE OR REPLACE BED KNIFE BLADE UNDER LAWNMOWER BODY	142	639	MEMBR01	111
REMOVE PART	TABLE	6XX	TOMPRXX	7
REMOVE PART FROM MACHINE AND ASIDE TO FLOOR	VARIABLE	6XX	MOMRPXX	6
REMOVE PART FROM MATING PART WITH ARBOR PRESS	649	616	MNFPR01	96
REMOVE RING(AND SEAL)FROM GROOVE WITH TOOL	92	6XX	MTLRR01	10
REMOVE SAFETY GUARD FROM TABLE SAW	498	667	MSUGR01	116
REMOVE SHAFT(OR PART)FROM CENTERS,LENGTH-GREATER THAN 36 INCHES	224	603	MEMSR01	29
REMOVE SNAP OR SPRING RETAINER RING	VARIABLE	6XX	MNFRRXX	8
REMOVE SPACER(OR SHIM)FROM ARBOR	67	605	MSUSR01	80
REMOVE STOP FROM CUTOFF SAW BED	220	667	MSUSR01	116
REMOVE THREAD CHASER FROM AND INSTALL IN DIE HEAD,TURRET LATHE	271	604	MEMRC01	46
REMOVE TYPE FROM FLANGED QUICK COUPLER-VEECO TYPE	223	6XX	MTFTR01	7
REMOVE VERNIER AND REPLACE IN CASE	177	60X	MJPVR01	21
REMOVE WHEEL DRESSER FROM MACHINE, CYLINDRICAL GRINDER	160	603	MSUDR01	36
REMOVE WIGGINS TYPE-TWO TO SIX INCH DIAMETER CLAMP	2090	621	MCPCR02	110
REMOVE WOOD TEMPLATE FROM TOP OF STOCK	198	669	MLOTR01	117
REMOVE/REPLACE GRINDING WHEEL ON FLANGE	3805	609	SSUWR01	93
REMOVE TUBE LINE FROM FITTING,SECURED WITH B NUT FITTING	1660	62X	MTFLR01	97
REPLACE ANNULAR BEARING ON SHAFT	VARIABLE	616	MTLBRXX	96
REPLACE BACK TOOL HOLDER POST	201	604	MSURP01	69
REPLACE BUTTON TYPE PLUG	332	6XX	STLPR01	11
REPLACE GRINDING WHEEL SEGMENTS,TWO EACH	398	603	MSUSR01	40
REPLACE IDENTIFICATION PLATE	VARIABLE	6XX	SIDPRXX	3
REPOSITION BAND SAW LEVER	38	607	MEMLR01	88
REPOSITION MITER ATTACHMENT(BANDSAW)	81	607	MEMAR01	87
REPOSITION SAW BLADE 180 DEGREES ON ARBOR FOR SHARPENING	94	601	MEMBR01	25
RETURN INDICATOR AND SWIVEL CLAMP TO BOX	210	6XX	MJPIR01	5
REVERSE TABLE TRAVERSE BY HAND,CYLINDRICAL GRINDER	30	603	MEMTR01	29
ROTATE VISE	230	60X	MSUVR01	23

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTOP ELEMENT	PAGE
SCREW DOWN GREASE CUP	154	699	MLUCS01	119
SECURE TUBE LINE TO FITTING WITH 8-NUT FITTING	1735	62X	MTFLS01	98
SET ANGLE ON CUT OFF OR MITERING ATTACHMENT, DO-ALL CONTOUR SAW	217	607	MSUAS01	90
SET ARNOLD GAUGE TO PART	224	603	MSUGS01	38
SET BLADE TO WORK, POWER HACKSAW	59	607	MEMBS01	87
SET CARRIAGE MICROMETER STOP	295	604	MSUSS01	69
SET COMPOUND SLIDE TO ANGLE	353	604	MEMSS01	47
SET CROSS FEED DIAL TO MARK, ENGINE LATHE	179	604	MEMDS01	44
SET DIAL	VARIABLE	60X	MEMDS01	14
SET DIAL CLIP TO DESIRED READING	138	604	MSUCS01	67
SET DIAMOND ON RADIUS DRESSER WITH GAUGE BLOCK	117	603	MSUDS01	37
SET DRILL PRESS DEPTH CONTROL ON SPINDLE	171	606	MEMPS01	82
SET DRILL PRESS FEED ON PEDESTAL DRILL PRESS	1740	606	MSUSP01	85
SET ENGINE LATHE UP WITH CENTERS	9147	604	MSULS01	68
SET FEE PRESSURE, POWER HACKSAW	308	607	MSUPS01	91
SET FEED TABLE, MILLING MACHINE	175	605	MSLTS01	91
SET GRADUATED DEPTH DIAL, RADIAL DRILL PRESS	436	606	MEMDS01	81
SET HELIX ANGLE ONE DEGREE ON GRINDING HEAD, J&L AUTOMATIC THREAD GRINDER	1296	609	SSUAS01	93
SET LENGTH OF PART ON AUTOMATIC INDEXING SCALE, DO-ALL POWER CUTOFF SAW	509	607	MSULS01	90
SET LIMIT STOP FOR FRAME RAISE, POWER HACKSAW	287	607	MSUSS02	91
SET MATERIAL STOP, POWER HACKSAW	812	607	MSUSS03	91
SET MICROMETER STOP ON ENGINE LATHE	615	604	MEMMS01	45
SET NAIL WITH NAIL PUNCH	67	660	MNFNS01	114
SET RADIUS ON RADIUS DRESSER	39	603	MSURS01	39
SET SPEED WITH THREE LEVERS, J&L AUTOMATIC THREAD GRINDERS	218	609	MEMSS01	92
SET STOP ON WHEELHEAD CROSS SLIDE HANDWHEEL INTERNAL GRINDER	225	603	MSUSS01	40
SET STOP, LAWNMOWER GRINDER	175	639	MEMSS01	111
SET TABLE SAW-WOOD FENCE FOR WIDE CUT	279	667	MSWFS01	115
SET TABLE TRIP, CYLINDRICAL GRINDER	VARIABLE	603	MSUTSXX	41
SET TAPER ATTACHMENT	1367	604	MSUAS01	66
SET THREADING TOOL TO WORK WITH CENTER GAUGE	847	604	MSUST01	69
SET TOOL(AND HOLDER)FOR JOB CLEARANCE	166	604	MSUTS01	70
SET TRUING UNIT FOR AUTOMATIC DIAMOND RISE INTERNAL GRINDER	116	603	MSUUS01	41
SET UP AND DISMANTLE PLANER GAUGE	513	605	MJPGS01	75

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
SET UP AND TAKE DOWN SURFACE GAUGE	901	60X	MJPGS01	20
SET UP DOWEL PIN STOP ON SLIDING PLATE,DO-ALL CONTOUR SAW	385	607	MSUSS01	51
SET UP HYDRAULIC ARBOR PRESS FOR USE	VARIABLE	616	MJPPSXX	95
SET UP JIG BORE	5151	606	SSUJS01	86
SET UP LARGE PRESS ,MECHANICAL ARBOR PRESS FOR USE	1120	616	MJPSP01	95
SET UP SMALL MECHANICAL ARBOR PRESS FOR USE	910	616	MJPSP02	95
SET UP SMALL VICE FOR USE	4570	606	SSUVS01	87
SET UP SURFACE GAUGE,TAKE DOWN	119	60X	MJPGS02	20
SET UP VOLTAGE REGULATOR AND TEST	VARIABLE	620	KITRSXX	109
SET VISE JAW TO ANGLE,TO 45 DEGREES	712	607	MEMJS01	88
SET WIDTH-TABLE SAW GAUGE	124	667	MEWGS01	115
SET-UP CHASSIS,PUNCH,PUNCH ONE HOLE AND ASIDE PUNCH	1966	615	MTLPS01	94
SHIFT SPINDLE LOCKING LEVER	36	603	MEMLS01	27
SHUT DOWN STAND AND REMOVE PUMP,FUEL INJECTION PUMP TEST STAND	VARIABLE	620	SITSSXX	104
SLIP BELT OFF PULLEY,LAWNMOWER GRINDER	143	639	MEMBS01	111
SMOOTH SURFACE,REMOVE BURRS AND SPLINTERS	563	667	MTLSS01	116
STAKE PART(FIRST OR ADDITIONAL)WITH TOOL AND HAMMER	VARIABLE	6XX	MTLPSXX	10
STAMP IDENTIFICATION PLATE AND INSTALL	VARIABLE	6XX	SIDPSXX	3
START AND STOP HEAD MOTION,BLANCHARD ROTARY GRINDER	61	603	MEMMS01	27
START AND STOP MOTOR	658	605	MSUMS01	80
START AND STOP SPINDLE ENGAGE AND DISENGAGE FEED	280	605	MSUSS01	80
START AND STOP TABLE MOTION,SURFACE GRINDER	44	603	MEMMS02	27
START AND STOP WHEEL OSCILLATION,CYLINDRICAL GRINDER	58	603	MEMOS01	28
START AND STOP WHEEL,CHUCK AND HEAD FEED, BLANCHARD ROTARY GRINDER	100	603	MSUWS01	42
START AND STOP WOOD PLANER	218	665	MEWPS01	114
START AND STOP WORK SPINDLE WITH KNOB, CYLINDRICAL GRINDER	35	603	MEMSS01	29
START OR STOP WORK ROTATION,CYLINDRICAL GRINDER	43	603	MEMRS01	28
START TABLE TRAVERSE AND STOP,CYLINDRICAL GRINDER	59	603	MEMTS01	30
STRAIGHTEN TAB LOCK WASHER OR LOCK	VARIABLE	6XX	MNFWSXX	5
SUSPEND PART BETWEEN AND REMOVE PART FROM CENTERS,WEIGHT 50-500 POUNDS,HANDLED WITH A CRANE	1499	604	MEMPS02	46
SUSPEND PART BETWEEN AND REMOVE FROM CENTERS,WEIGHT TO 16 POUNDS	771	604	MEMPS01	46

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWNSTDP ELEMENT	PAGE
SWING ASIDE COOLANT NOZZLE AND RETURN	134	603	MSUNS01	39
SWIVEL WORKHEAD, 1/2 INCH TAPER PER FOOT, INTERNAL GRINDER	VARIABLE	603	MSUHSXX	38
TACK TEMPLATE ON TOP OF STOCK FOR SHAPER	249	665	MEWTT01	115
TAKE OFF AND INSTALL RETAINING WASHER	107	603	MSUWT01	42
TEAR EMERY OR CROCUS CLOTH OFF USED END	75	6XX	MJPET01	4
TEST ALTERNATOR WITH REGULATOR	VARIABLE	620	KITATXX	106
TEST AMERICAN BOSCH PSB-12BT, FUEL INJECTION PUMP	17852	620	SITTP02	105
TEST AMERICAN BOSCH, PSB-6A FUEL INJECTION PUMP	11822	620	SITTP01	104
TEST AUTOMOTIVE STARTER	VARIABLE	620	KITSTXX	109
TEST BLEEDER VALVE, AMERICAN BOSCH, PSB-6A FUEL INJECTION PUMP	4765	620	SITVT03	106
TEST BLEEDER VALVE, AMERICAN BOSCH, PSB-12BT FUEL INJECTION PUMP	725	620	SITVT04	106
TEST DELIVERY VALVE, AMERICAN BOSCH PSB-6A FUEL INJECTION PUMP	6483	620	SITVT01	106
TEST DELIVERY VALVE, AMERICAN BOSCH PSB-12BT, FUEL INJECTION PUMP(TWO HEADS)	9134	620	SITVT02	106
TEST DISTRIBUTOR CONDENSER ON BENCH	1793	620	MITCT01	99
TEST FUEL INJECTION PUMP, SIMMONDS, 6 OR 12 CYLINDER	VARIABLE	620	KITPTXX	108
TEST FUEL INJECTION PUMP FOR FUEL LEAKAGE AMERICAN BOSCH, PSB-6A	9220	620	SITPT01	104
TEST FUEL INJECTION PUMP, AMERICAN BOSCH MODEL PSB-6A	150332	620	KITPT03	108
TEST FUEL INJECTION PUMP FOR FUEL LEAKAGE TWO HYDRAULIC HEADS, AMERICAN BOSCH, PSB-12BT	43824	620	SITPT02	104
TEST FUEL INJECTION PUMP, AMERICAM BOSCH MODEL PSB-12BT	180522	620	KITPT04	108
TEST GENERATOR	VARIABLE	620	KITGTXX	107
TEST IGNITION DISTRIBUTOR ON SUN UNIVERSAL DIAGNOSIS TESTER	VARIABLE	620	SITDTXX	102
TEST IGNITION HARNESS WITH HIGH VOLTAGE TEST SET	VARIABLE	620	KITHTXX	107
TEST NOZZLE, SIMMONDS FUEL INJECTION PUMP, PER NOZZLE	4721	620	SITNT01	103
TEST ROTOR IN GROWLER	1358	620	SITRT01	104
TEST SPARK PLUG UNDER PRESSURE	223	620	BITPT01	98
TEST SPRING TENSION	91	620	BITTT01	98
TEST STORAGE BATTERY CELL	449	620	BITBT01	98
TIG, TEN OR LOOSEN DRAW BAR	98	605	BTLBT01	81
TIGHTEN AND LOOSEN CAM ACTION CLAMP	93	66X	MCPCT01	113
TIGHTEN AND LOOSEN CAM LOCK ON HOLDING DEVICE	210	60X	BSULT01	22

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
TIGHTEN AND LOOSEN CAM TYPE VISE	127	60X	MEMVT01	15
TIGHTEN AND LOOSEN CLAMP FROM HOLD BOARD	160	66X	MCPCT02	113
TIGHTEN AND LOOSEN MICROMETER LOCKNUT	85	60X	BITMT01	17
TIGHTEN AND LOOSEN WHEELHEAD DRIVE BELT, INTERNAL GRINDER	118	603	MSUBT01	35
TIGHTEN OR LOOSEN ARBOR SUPPORT LOCKNUT	188	605	MSULT01	79
TIGHTEN OR LOOSEN BOLT WITH WRENCH	88	60X	MTLBL01	24
TIGHTEN OR LOOSEN FACEPLATE, COLLET OR CHUCK, CAM LOCK TYPE	2105	604	MSUFL01	68
TIGHTEN OR LOOSEN VISE ON STOCK, POWER W HACKSAW	241	607	MEMVT01	88
TIGHTEN OR LOOSEN VISE ON STOCK, POWER HACKSAW	103	607	MEMVT02	85
TILT TABLE, DO-ALL CONTOUR SAW	675	607	MSUTT01	91
TRAVEL MACHINE(PER INCH), RAPID LONGITUDINAL AND CROSS	17	605	MMTTM01	75
TRAVERSE MILLING MACHINE ONE INCH	VARIABLE	605	MMTMTXX	75
TRAVLE MACHINE(PER INCH), RAPID VERTICAL MOVEMENT	21	605	MMTTM02	75
TURN (EXTERNAL) GROUP 3 AND 4 MATERIALS ON ENGINE LATHE W	TABLE	604	TEMLZXX	62
TURN CHUCK (LATHE) 3/4 REVOLUTION	183	604	MEMCT01	44
TURN DOWN ARBOR SUPPORT AND ENGAGE ON SECOND ARM	158	605	MSUST01	81
TURN DRAW BAR IN TO OR OUT OF ADAPTER	147	605	MSUBT01	77
TURN FLYWHEEL BY HAND ON FILER OF AUTOMATIC SAW SHARPENING MACHINE	295	601	MEMFT01	25
TURN GEAR PULLER FORCING SCREW ONE REVOLUTION WITH WRENCH	VARIABLE	6XX	MTLPTXX	10
TURN JOINTER ON AND OFF	47	669	MEWJT01	116
TURN ON MAGNETIC CHUCK AND TURN OFF MAGNETIC CHUCK	128	603	MEMCT01	26
TURN OVER OBJECT, USE OF AIR HOIST REQUIRED	1396	6XX	MMHOT01	5
TURN SPRAY GUN ON AND OFF	55	699	MLUGT01	119
TURN TAILSTOCK CENTER IN AND OUT	220	605	MEMCT01	71
TURN WORKHEAD SPINDLE 1/4 REVOLUTION BY HAND, CYLINDRICAL GRINDER	46	603	MSUST01	40
TURN(EXTERNAL)GROUP 1 AND 2 MATERIALS ON ENGINE LATHE	TABLE	604	TEMLYXX	59
UNFASTEN OUTBOARD BEARINGS AND SET ON BOTTOM AND TOP CUTTER HEADS ON MOULDER	523	669	MSUBU01	117
UNLOCK AND LOCK THREAD CHASING STOP, ENGINE LATHE	340	604	MSUSU01	69
USE AMMETER/VOLTMETER(COMBINATION AMMETER AND VOLTMETER)	VARIABLE	620	SITAUXX	99
USE COMBINATION SQUARE TO CHECK PART	71	60X	MGMSU01	17

OPERATION/ELEMENT DESCRIPTION	TMU VALUE	OCCUP-ATION	DWMSTDP ELEMENT	PAGE
USE DIRECT READING TACHOMETER, CONVERT METER READING TO BELT SPEED	830	620	SITTU04	105
USE DIRECT READING TACHOMETER	VARIABLE	620	SITTUXX	105
USE GEAR PULLER TO PULL GEAR	VARIABLE	6XX	STLPUXX	11
USE INDIRECT READING TACHOMETER	VARIABLE	620	SITUTXX	105
USE INSIDE CALIPER, CHECK DIMENSION WITH 24 INCH FIRM JOINT	1429	60X	MITCU02	18
USE INSIDE MICROMETER GAUGE DIMENSION	VARIABLE	60X	BITMUXX	17
USE INSIDE MICROMETER TO MEASURE DIMENSION OVER 12 INCHES	724	60X	BITMU03	17
USE NUT OR HYDRAULIC MANDREL	VARIABLE	603	MEMMUXX	27
USE SHIM UNDER PART OR CLAMP	113	60X	MSUSU01	23
USE STEEL TAPE TO MEASURE FOR EQUIPMENT LOCATION	254	60X	MGMTU01	17
USE SURFACE GAUGE TO CHECK A POINT OR TO SCRIBE A LINE	VARIABLE	60X	MITGUXX	18
USE THREAD PLUG GAUGE	TABLE	60X	TITGUXX	20
USE TIMING LIGHT	VARIABLE	620	SITLUXX	103
USE VACUUM GAUGE	VARIABLE	620	SITGUXX	102
USE VERNIER CALIPER TO GAUGE PART	1427	60X	MITCU01	18
WIPE CHUCK HOLDING SURFACES OF THREE JAWS	46	603	MEMCW01	26
WIPE EXCESS GREASE FROM BARREL OF GREASE GUN WITH FINGERS	49	699	MLUGW01	119
WIPE EXCESS GREASE FROM PART	811	6XX	MCLPW01	2
WIPE PART WITH HAND	78	6XX	MCLPW02	2
WIPE SMALL PART WITH RAG	50	60X	MCLPW01	12

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DEFENSE WORK MEASUREMENT STANDARD TIME DATA PROGRAM (DWMSTDP)

PART TWO - MACHINE TRADES OCCUPATIONS STANDARD TIME DATA

SECTION II - DWMSTDP ELEMENT LISTING

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
ND	6XX	MAO	LGR1S2	BCLFC01	308	FILE,CLEAN TWO SIDES WITH BRUSH STARTS-WITH FILE AND BRUSH IN HANDS INCLUDES-ALL MOTIONS NECESSARY TO MOVE BRUSH TO FILE AND MAKE SIX STROKES WITH BRUSH ON EACH SIDE OF FILE ENDS-WITH FILE AND BRUSH IN HANDS
FFE	6XX	MAA	GCLCAA5	MCLCBXX	VARIABLE	CORNER,BRUSH CLEAN,MOVE CHIPS ONE INCH STARTS-WITH OBTAIN SMALL BRUSH INCLUDES-MOTIONS REQUIRED TO REMOVE DUST OR FOREIGN MATTER FROM THE SURFACE OF CORNER USING A HAND BRUSH ENDS-WITH CORNER CLEANED AND BRUSH ASIDE CONDITIONS-APPLICABLE TO EITHER WET OR DRY CLEANING
					206	CASE 01 FIRST CORNER
					176	02 EACH ADDITIONAL CORNER
FFE	6XX	MAA	GCLCAA3	MCLCCXX	VARIABLE	CORNER,CLEAN WITH AIR STARTS-WITH GET AIR GUN AND HOSE INCLUDES-MOTIONS REQUIRED TO ACTUATE AIR GUN AND CLEAN CORNER ENDS-WITH AIR HOSE ASIDE
					128	CASE 01 FIRST CORNER
					98	02 EACH ADDITIONAL CORNER
NF	6XX	MAF	1162	MCLCP01	632	PART(MEDIUM),CLEAN BEFORE INSTALLING STARTS-WITH PART IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE PART TO SOLVENT,WASH PART IN SOLVENT,SET PART DOWN, GET CLOTH,WIPE PART CLEAN,AND RETURN CLOTH TO POCKET ENDS-WITH RELEASE CLOTH CONDITION-PART WEIGHS FROM 3-40 POUNDS AND REQUIRES TWO HANDS FOR HANDLING
FFE	6XX	MAA	GCLCAA6	MCLCS01	73	SPOT,CLEAN WITH HAND BRUSH STARTS-WITH OBTAIN SMALL HAND BRUSH INCLUDES-MOTIONS REQUIRED TO REMOVE DUST OR FOREIGN MATTER FROM SURFACE OF POINT OR SPOT USING A HAND BRUSH ENDS-WITH BRUSH ASIDE CONDITIONS-APPLICABLE TO EITHER WET OR DRY CLEANING
FFE	6XX	TUA	GCLCDA4	MCLCS02	237	SPOT,CLEAN WITH HAND DRILL AND WIRE BRUSH, CROCUS CLOTH,EMERY CLOTH,ETC.(PROCESS TIME) STARTS-WITH DRILL MOTOR RUNNING INCLUDES-MACHINE TIME TO CLEAN SPOT WITH QUARTER INCH DRILL MOTOR AND POLISH ROD OR BRUSH ENDS-WITH SPOT CLEANED
FFE	6XX	TUA	GCLCDA5	MCLCS03	375	SPOT(OR SQUARE INCH),CLEAN WITH HAND DRILL AND WIRE BRUSH OR CROCUS CLOTH,ETC. ON ROD STARTS-WITH PLACE BRUSH OR ROD TO AREA INCLUDES-MOTIONS NECESSARY TO CLEAN A SPOT OR ONE SQUARE INCH AREA WITH WIRE BRUSH OR CLEANING ROD IN HAND DRILL ENDS-WITH BRUSH OR ROD REMOVED FROM AREA CONDITIONS-HAND DRILL 0.25 INCH CHUCK CAPACITY FOR CONTINUOUS ADDITIONAL SQUARE INCHES USE 6XX MCLCS02 237 TMUS
FFE	6XX	MAA	GCLCSA2	MCLCD01	816	OBJECT,DRY WITH COMPRESSED AIR,UP TO 110 SQUARE INCH SURFACE AREA STARTS-WITH DEPRESS BUTTON,OBJECT IN DRYING POSITION INCLUDES-MOTIONS NECESSARY TO DRY A HAND HELD OBJECT WITH AIR,TURNING OBJECT IN HAND TO DRY ALL SURFACES ENDS-WITH PLACE HOSE ASIDE,OBJECT IN OTHER HAND

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	6XX	MAA	GCLCHB2	MCLPW01	811	PART,WIPE EXCESS GREASE FROM STARTS-WITH OBTAIN WIPER INCLUDES-MOTIONS NECESSARY TO WIPE GREASE FROM PART AND HANDS AND TO DISPOSE OF WIPER ENDS-WITH DISPOSE OF WIPER
NO	6XX	MAO	LGR1G1	MCLPW02	78	PART,WIPE WITH HAND STARTS-WITH MOVE HAND TO PART INCLUDES-ALL MOTIONS NECESSARY TO RUB PART WITH HAND TO CLEAN ENDS-WITH RELEASE OF PART
FFE	6XX	MAA	GCLCAB2	MCLSCXX	VARIABLE	SURFACE,CLEAN WITH WET CLOTH PER SQUARE FOOT STARTS-WITH GET SOLVENT CONTAINER INCLUDES-MOTIONS REQUIRED TO OPEN AND CLOSE CONTAINER,GET/WET TOWEL,WIPE SURFACE,GET DRY TOWEL AND WIPE SURFACE ENDS-WITH TOWELS AND CONTAINER ASIDE
					817	CASE 01 FIRST OR SINGLE SQUARE FOOT
					499	02 ADDITIONAL SQUARE FOOT
FEE	6XX	TUA	GCLCDAX	MCLSPXX	VARIABLE	SURFACE,POLISH WITH CROCUS CLOTH,ETC.,PART CHUCKED IN HAND DRILL STARTS-WITH REACH TO PART,OR MOVE PART TO NEXT POSITION INCLUDES-MOTIONS NECESSARY TO GET PART AND HAND DRILL,CHUCK PART IN DRILL,POLISH PART, REMOVE FROM DRILL AND ASIDE BOTH;OR REPOSITION PART AND POLISH NEXT SURFACE ENDS-WITH PLACE PART AND DRILL ASIDE CONDITIONS-SURFACE POLISHED FROM 0.25 TO 1 INCH WIDE AND 0.75 TO 4 INCHES DIAMETER,DRILL CHUCK CAPACITY 0.25 INCH
					1109	CASE 01 POLISH FIRST SURFACE
					583	02 POLISH ADDITIONAL SURFACE
AE	6XX	MAW	SKCXPXX	MCLTCXX	VARIABLE	TABLE,CLEAN TO REMOVE CHIPS,DUST,OR DIRT STARTS-WITH REACH TO CLEANING INSTRUMENT INCLUDES-ALL MOTIONS NECESSARY TO GET CLEANING INSTRUMENT,CLEAN ONE SQUARE FOOT,AND LAY CLEANING INSTRUMENT ASIDE ENDS-WITH RELEASE OF CLEANING INSTRUMENT CONDITION-APPLICABLE ONLY TO TABLE OR PART WITH RELATIVELY PLAIN SURFACE SUCH AS VISE, SIMPLE FIXTURE,V-BLOCK,ANGLE PLATE,ETC.
					185	CASE 01 CLEAN FIRST SQUARE FOOT WITH AIR
					109	02 CLEAN EACH ADDITIONAL SQUARE FOOT WITH AIR
					118	03 CLEAN FIRST SQUARE FOOT WITH BRUSH
					63	04 CLEAN EACH ADDITIONAL SQUARE FOOT WITH BRUSH
					215	05 CLEAN FIRST SQUARE FOOT WITH DRY RAG
					240	06 CLEAN EACH ADDITIONAL SQUARE FOOT WITH DRY RAG(INCLUDES TIME FOR FOLDING RAG TO EXPOSE CLEAN SURFACE)
AE	6XX	MAW	SKHMC42	MCPCI01	583	CLAMP(C TYPE),INSTALL AND REMOVE STARTS-WITH REACH TO CLAMP INCLUDES-ALL MOTIONS NECESSARY TO GET C-CLAMP, POSITION TO PART,RUN SCREW DOWN BY HAND,GET WRENCH,TIGHTEN CLAMP,LAY WRENCH ASIDE,GET WRENCH,LOOSEN CLAMP,LAY ASIDE WRENCH,RUN SCREW OUT BY HAND,REMOVE CLAMP,AND ASIDE ENDS-WITH RELEASE OF CLAMP CONDITION-CLAMP IS OPEN AT START AND END OF ELEMENT

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	6XX	MAA	GIDPAA2	MIDPIXX	VARIABLE	PLATE(IDENTIFICATION),INSTALL STARTS-WITH REACH TO IDENTIFICATION PLATE INCLUDES-MOTIONS NECESSARY TO MOUNT AN IDENTIFICATION PLATE ENDS-WITH PLACE TOOL ASIDE
					1288	CASE 01 INSTALL IDENTIFICATION PLATE,TWO SCREWS SECURING
					1814	02 INSTALL IDENTIFICATION PLATE,THREE SCREWS SECURING
					2341	03 INSTALL IDENTIFICATION PLATE,FOUR SCREWS SECURING
					631	04 INSTALL IDENTIFICATION PLATE,TWO DRIVE RIVET MOUNTED
					1105	05 INSTALL IDENTIFICATION PLATE,FOUR DRIVE RIVET MOUNTED
					602	06 INSTALL IDENTIFICATION PLATE,SPRING RETAINER RING MOUNTED
FFE	6XX	MAA	GIDPDA2	MIDPRXX	VARIABLE	PLATE(IDENTIFICATION),REMOVE STARTS-WITH REACH TO TOOL INCLUDES-ALL MOTIONS NECESSARY TO REMOVE AN IDENTIFICATION PLATE ENDS-WITH TOOL,SCREW/WASHER,OR PLATE ASIDE
					1145	CASE 01 REMOVE IDENTIFICATION PLATE,TWO SCREWS SECURING
					1664	02 REMOVE IDENTIFICATION PLATE,THREE SCREWS SECURING
					2183	03 REMOVE IDENTIFICATION PLATE,FOUR SCREWS SECURING
					591	04 REMOVE IDENTIFICATION PLATE,TWO DRIVE RIVETS SECURING(USE HAMMER AND WEDGE TOOL)
					869	05 REMOVE IDENTIFICATION PLATE,FOUR DRIVE RIVETS SECURING(USE HAMMER AND WEDGE TOOL)
					903	06 REMOVE IDENTIFICATION PLATE,SPRING RETAINER RING MOUNTED
FFE	6XX	MAA	ILMAPDC	MIDPR07	7327	PLATE(IDENTIFICATION),REMOVE STARTS-WITH REACH TO GET TOOLS INCLUDES-ALL THE MOTIONS NECESSARY TO OBTAIN, CONNECT AND DISCONNECT DRILL MOTOR,DRILL OFF HEADS OF RIVETS,REMOVE PLATE,ASIDE DRILL,PLATE AND RIVETS ENDS-WITH ASIDE TOOLS CONDITIONS-PLATE SECURED WITH FOUR RIVETS
FFE	6XX	MAA	ILMAPRX	SIDPRXX	VARIABLE	PLATE(IDENTIFICATION),REPLACE STARTS-WITH REACH TO GET TOOLS INCLUDES-ALL THE MOTIONS NECESSARY TO REMOVE OLD PLATE,OBTAIN,UNPACK AND INSTALL NEW PLATE ENDS-WITH TOOLS ASIDE CONDITIONS-DOES NOT INCLUDE MARKING NEW PLATE
					4642	CASE 01 PLATE MOUNTED WITH FOUR SCREWS
					2219	02 PLATE MOUNTED WITH FOUR RIVETS-OLD RIVETS REMOVED WITH WEDGE SHAPED TOOL
					9589	03 PLATE MOUNTED WITH FOUR RIVETS-OLD RIVETS REMOVED BY DRILLING OFF HEAD
FFE	6XX	MAA	ILMAPAA	SIDPSXX	VARIABLE	PLATE(IDENTIFICATION),STAMP AND INSTALL STARTS-WITH READ T.O.INSTRUCTION INCLUDES-ALL THE MOTIONS NECESSARY TO UNWRAP/UNTAPE THE PLATE,STAMP DATA ON THE PLATE, PAINT AND INSTALL PLATE ENDS-WITH PLATE MOUNTED CONDITIONS-STAMP WITH 17 CHARACTERS,MOUNT WITH FOUR FASTENERS
					5183	CASE 01 MOUNT WITH FOUR RIVETS
					6419	02 MOUNT WITH FOUR SCREWS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	6XX	MAF	2586	BITGF01	82	GLASS(MAGNIFYING),FOCUS OVER VERNIER FOR READING STARTS-WITH MAGNIFYING GLASS IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE GLASS OVER VERNIER FOR READING,FOCUS,AND MOVE ASIDE AFTER READING ENDS-WITH MAGNIFYING GLASS IN HAND CONDITION-TIME FOR READING VERNIER NOT INCLUDED
NF	6XX	MAF	2610	MITIF01	59	INSPECT,FEEL WITH FINGERS STARTS-WITH REACH TO SURFACE INCLUDES-ALL MOTIONS NECESSARY TO PLACE FINGER ON SURFACE AND MOVE FINGER ALONG SURFACE ENDS-WITH FINGER ON SURFACE CONDITION-LENGTH OF SURFACE 6-12 INCHES
NF	6XX	MAF	2915	MJPAR01	114	ASSEMBLY(INDICATOR),REMOVE FROM BOX STARTS-WITH REACH TO BOX AND LID(SIMO) INCLUDES-ALL THE MOTIONS NECESSARY TO GRASP BOX LID,BREAK LOOSE,OPEN AND PLACE LID ASIDE, REACH,GET AND REMOVE INDICATOR ASSEMBLY,AND PLACE ASIDE ENDS-WITH RELEASE OF INDICATOR
FFE	6XX	MUA	GJPCAA1	MJPEP01	327	EMERY(OR CROCUS CLOTH),PLACE ON CLEANING ROD STARTS-WITH REACH TO ROLL OF MATERIAL INCLUDES-MOTIONS NECESSARY TO OBTAIN A ROLL OF EMERY PAPER OR CROCUS CLOTH,REMOVE STRIP FROM ROLL,PLACE IN ROD END AND WIND AROUND ROD ENDS-WITH STRIP WRAPPED AROUND CLEANING ROD
FFE	6XX	MAA	GJPCR01	MJPER01	153	EMERY(OR CROCUS CLOTH),REMOVE STRIP UP TO 27 INCHES IN LENGTH FROM ROLL STARTS-WITH REACH TO ROLL OF EMERY PAPER, CROCUS CLOTH,ETC. INCLUDES-MOTIONS NECESSARY TO OBTAIN ROLL,PULL OUT DESIRED AMOUNT OF MATERIAL,TEAR OFF PIECE AND PLACE ROLL ASIDE ENDS-WITH ROLL ASIDE CONDITIONS-ROLL OF MATERIAL NOT TO EXCEED 3 INCHES IN WIDTH
FFE	6XX	MAA	GJPCTA1	MJPET01	75	EMERY(OR CROCUS CLOTH),TEAR OFF USED END STARTS-WITH REACH TO END OF EMERY PAPER,CROCUS CLOTH,ETC. INCLUDES-MOTIONS NECESSARY TO TEAR OFF USED STRIP OF EMERY PAPER,CROCUS CLOTH,ETC FROM CLEANING ROD ENDS-WITH ASIDE WORN PIECE OF CLOTH
AE	6XX	MAW	SKCEAXX	MJPHC01	197	HOSE(AIR),CONNECT AND DISCONNECT,QUICK ACTING CONNECTION STARTS-WITH REACH TO END OF HOSE INCLUDES-ALL MOTIONS NECESSARY TO BRING END OF HOSE TO COUPLING,POSITION COUPLING TO HOSE,TURN TO ENGAGE LUGS,REACH TO COUPLING, TURN TO DISENGAGE LUGS,REMOVE HOSE,AND ASIDE ENDS-WITH RELEASE OF HOSE
AE	6XX	MAW	SKCEAXX	MJPHC02	893	HOSE(AIR),CONNECT AND DISCONNECT,THREADED CONNECTION STARTS-WITH REACH TO NIPPLE IN END OF HOSE INCLUDES-ALL MOTIONS NECESSARY TO BRING NIPPLE TO VALVE,POSITION AND TURN UP TO FIVE THREADS, TIGHTEN BY HAND,REACH TO PIPE,LOOSEN BY HAND, TURN OUT UP TO FIVE THREADS,AND LAY HOSE ASIDE ENDS-WITH RELEASE OF HOSE CONDITION-NIPPLE WITH PIPE THREADS IN HOSE

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	6XX	MAW	SKCEAXX	MJPHOXX	VARIABLE	HOSE(AIR),OBTAIN AND MOVE TO WORK AREA PREPARATORY FOR USE STARTS-WITH REACH TO HOSE ON HOOK OR HANGER INCLUDES-ALL MOTIONS NECESSARY TO GET END OF HOSE,MOVE TO WORK AREA AND POSITION NOZZLE FOR USE ENDS-WITH HOSE NOZZLE IN HAND
					50	CASE 01 GET HOSE FROM HOOK ADJACENT TO WORK AREA
					359	02 GET COILED HOSE FROM HANGER,UNCOIL TO 25 FEET OF HOSE,AND WALK TO WORK AREA
NF	6XX	MAF	3003	MJPIR01	210	INDICATOR AND SWIVEL CLAMP,RETURN TO BOX STARTS-WITH REACH TO BOX AND INDICATOR(SIMO) INCLUDES-ALL THE MOTIONS NECESSARY TO PICK UP INDICATOR AND POSITION IN BOX,PICK UP SWIVEL CLAMP AND POSITION IN BOX,GET BOX LID,POSITION IN BOX GROOVE AND SLIDE TO CLOSE,RELEASE BOX ENDS-WITH RELEASE BOX
FFE	6XX	TUA	GOHMH01	MMHOT01	1396	OBJECT,TURN OVER,USE OF AIR HOIST REQUIRED STARTS-WITH GET HOIST CONTROL INCLUDES-ALL MOTIONS NECESSARY TO MOVE HOIST TWO PACES TO OBJECT,LOWER HOIST,HOOK TO OBJECT,RAISE AND TURN OBJECT OVER,LOWER OBJECT,AND REMOVE HOIST ENDS-WITH OBJECT TURNED OVER,HOIST CONTROLS ASIDE
FFE	6XX	MAA	GNFLRAX	MNFRIXX	VARIABLE	RING(SNAP OR SPRING RETAINER),INSTALL STARTS-WITH GET TOOL OR PART INCLUDES-MOTIONS NECESSARY TO INSTALL PART ENDS-WITH TOOL ASIDE
					332	CASE 01 INSTALL SNAP RING INTERNAL OR EXTERNAL UP TO 3 INCHES FROM END OF PARTS-USING SPECIAL SNAP RING PLIERS
					563	02 INSTALL SPRING RETAINER-RING TYPE LOCKWIRE WITH SCREWDRIVER OR SIMILAR TOOL TO PUSH RING TO GROOVE
FFE	6XX	MAA	GNFLRXX	MNFRRXX	VARIABLE	RING(SNAP OR SPRING RETAINER),REMOVE STARTS-WITH REACH TO TOOL INCLUDES-MOTIONS NECESSARY TO REMOVE PART ENDS-WITH TOOL ASIDE
					204	CASE 01 REMOVE SNAP RING-EXTERNAL OR INTERNAL UP TO 3 INCHES FROM END OF PART USING SPECIAL SNAP RING PLIERS
					895	02 REMOVE SPRING RETAINER-RING TYPE LOCKWIRE OR FLAT SPRING STEEL WITH SCREWDRIVER OR SIMILAR TOOL
FFE	6XX	MAA	GNFWLAX	MNFWSXX	VARIABLE	WASHER(TAB LOCK),STRAIGHTEN OR LOCK STARTS-WITH REACH TO TOOLS INCLUDES-ALL MOTIONS NECESSARY TO STRAIGHTEN OR BEND TABS ENDS-WITH TOOLS ASIDE CONDITIONS-TABS BENT OR STRAIGHTENED WITH HAMMER AND PUNCH
					265	CASE 01 SINGLE TAB LOCK WASHER
					364	02 TWO TAB LOCK WASHER
					574	03 FOUR TAB LOCK WASHER
					994	04 EIGHT TAB LOCK WASHER
FFE	6XX	MAA	GMCRGA1	MOHGI01	127	GROMMET(RUBBER),INSTALL STARTS-WITH GET RUBBER GROMMET INCLUDES-ALL MOTIONS TO INSTALL RUBBER GROMMET IN HOLE ENDS-WITH RUBBER GROMMET IN HOLE

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	6XX	MAA	GMPBAA2	MOHPI01	179	PLUG(BUTTON),INSTALL STARTS=WITH GET PLUG AND GASKET INCLUDES=ALL MOTIONS NECESSARY TO GET PLUG AND GASKET SIMULTANEOUSLY,PLACE GASKET ON PLUG,AND INSTALL PLUG WITH PRESSURE ENDS=WITH RELEASE OF PLUG
FFE	6XX	MAA	GMPCDXX	MOHPRXX	VARIABLE	PART(MATING),REMOVE STARTS=WITH REACH TO PART INCLUDES=MOTIONS TO GET PART AND PLACE ASIDE ENDS=WITH PART PLACED ASIDE
					63	CASE 01 REMOVE BY HAND,PULL STRAIGHT OUT, LENGTH OF ENGAGEMENT NOT TO EXCEED ONE INCH
					67	02 REMOVE BY HAND,PULL AND TWIST OUT, LENGTH OF ENGAGEMENT NOT TO EXCEED ONE INCH
					95	03 REMOVE BY HAND,PUSH OUT WITH THUMBS, LENGTH OF ENGAGEMENT NOT TO EXCEED ONE INCH
					159	04 REMOVE BY HAND,STRIKE ON FLAT SURFACE, LENGTH OF ENGAGEMENT NOT TO EXCEED ONE INCH
FFE	6XX	MAO	GMCRAA1	MOHRI01	264	RING(O),INSTALL IN GROOVE UP TO 6 INCHES IN DIAMETER STARTS=WITH REACH TO O RING INCLUDES=MOTIONS NECESSARY TO OBTAIN RING, GREASE AND INSTALL RING,OBTAIN CLOTH AND WIPE OFF EXCESS GREASE ENDS=WITH CLOTH ASIDE CONDITIONS=OUTSIDE O RINGS ARE WITHIN THREE INCHES FROM END OF SHAFT
NF	6XX	MAF	1157/60	MOHRPXX	VARIABLE	PART,REMOVE FROM MACHINE AND ASIDE TO FLOOR STARTS=WITH A REACH TO PART INCLUDES=ALL MOTIONS NECESSARY TO REMOVE A PART FROM A MACHINE,TURN,WALK TO BIN OR OPEN AREA,PLACE PART ASIDE,TURN,WALK TO MACHINE ENDS=WITH RETURN TO MACHINE CONDITIONS=SMALL PART WEIGHS TO THREE POUNDS, MEDIUM PART WEIGHS 3-40 POUNDS,HANDLED WITH TWO HANDS
					108	CASE 01 SMALL PART PLACED IN BIN OR ON TABLE ONE PACE FROM MACHINE
					315	02 MEDIUM PART PLACED ON FLOOR THREE PACES FROM MACHINE,BEND AND ARISE INCLUDED
FFE	6XX	MAO	GMPCAXX	TOHPFXX	TABLE	PART,FIT=MULTI ALIGNMENT REQUIRED STARTS=WITH GET PART INCLUDES=MOTIONS NECESSARY TO GET AND FIT PART TO ASSEMBLY WHERE MULTI ALIGNMENT IS REQUIRED, AND CHECK ALIGNMENT ENDS=WITH PART IN POSITION,NO FASTENERS INSTALLED

PART WEIGHT POUNDS		STUD MOUNTED NORMAL ACCESS A	STUD MOUNTED DIFFICULT ACCESS B	HOLE MOUNTED NORMAL ACCESS C	HOLE MOUNTED DIFFICULT ACCESS D
0-2.5	A	211	274	175	272
2.5-20	B	254	384	218	399
20-40	C	345	509	309	539

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	6XX	MAD	GMPAPXX	TOHPRXX	TABLE	PART,REMOVE STARTS=WITH GET PART INCLUDES=MOTIONS NECESSARY TO GET,REMOVE AND ASIDE PART ENDS=WITH ASIDE PART CONDITIONS=DOES NOT INCLUDE REMOVAL OF FASTENERS

PART WEIGHT POUNDS		SCREW MOUNTED NORMAL ACCESS A	STUD MOUNTED NORMAL ACCESS B	STUD MOUNTED DIFFICULT ACCESS C
0-2.5	A	61	65	189
2.5-20	B	153	157	345
20-40	C	241	249	420

FFE	6XX	MAA	GTLDPA1	MSUPR01	324	PLATFORM(DRILL PRESS),RAISE OR LOWER STARTS=WITH GET CLAMP SCREW HANDLE INCLUDES=ALL THE MOTIONS NECESSARY TO LOOSEN CLAMP,RAISE OR LOWER PLATFORM,TIGHTEN CLAMP ENDS=WITH CLAMP TIGHT
FFE	6XX	MAD	GMCTI01	MTFTI01	276	TUBE,INSTALL IN FLANGED QUICK COUPLER=VEECO TYPE STARTS=WITH GET TUBE END TO COUPLING INCLUDES=MOTIONS NECESSARY TO GET TUBE,PLACE TO COUPLING AND SECURE WITH A VEECO TYPE COUPLER,NUT IS NOT REMOVED ENDS=WITH TUBE SECURE
FFE	6XX	MAD	GMCTR01	MTFTR01	223	TUBE,REMOVE FROM FLANGED QUICK COUPLER=VEECO TYPE STARTS=WITH REACH TO COUPLER INCLUDES=MOTIONS NECESSARY TO LOOSEN COUPLING AND REMOVE AND ASIDE TUBING ENDS=WITH TUBING ASIDE
NF	6XX	MAF	1151	BTLWA01	179	WRENCH,ADJUST,LARGE OPEN END STARTS=WITH WRENCH IN HAND INCLUDES=ALL MOTIONS NECESSARY TO TURN THUMB SCREW TO OPEN OR CLOSE WRENCH ENDS=WITH JAWS ADJUSTED AND WRENCH IN HAND
AE	6XX	MAW	FPUAT01	MTLAA01	3460	ATTACHMENT(PULLING),ASSEMBLE TO GEAR STARTS=WITH REACH TO ATTACHMENT INCLUDES=ALL MOTIONS NECESSARY TO RUN TWO NUTS OUT(20 THREADS EACH),REMOVE LOWER HALF OF ATTACHMENT,PLACE TOP HALF BEHIND GEAR,ASSEMBLE LOWER HALF TO TOP HALF WITH TWO NUTS(20 THREADS EACH),GET WRENCH,AND RUN EACH NUT DOWN AN ADDITIONAL THREE THREADS ENDS=WITH RELEASE OF WRENCH
NF	6XX	MAF	1163/64	MTLAPXX	VARIABLE	PART,ADJUST POSITION STARTS=WITH TURN TO GET TOOLS INCLUDES=ALL MOTIONS NECESSARY TO GET HAMMER AND PUNCH(SMALL PART),OR BAR(MEDIUM PART), MOVE AND POSITION TO PART,STRIKE BAR OR PUNCH WITH HAMMER AND ASIDE TOOLS ENDS=WITH RELEASE OF TOOLS ASIDE CONDITION=TOOLS LOCATED NOT MORE THAN TWO PACES FROM WORK AREA 207 CASE 01 SMALL PART 379 02 MEDIUM PART

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	6XX	MAA	GMPBAA3	MTLBI01	233	BEARING(SMALL),INSTALL INTO RACE,SLIGHT PRESS FIT STARTS-WITH OBTAIN PART INCLUDES-MOTIONS NECESSARY TO GET PART,GET, PLACE AND INSTALL BEARING WITH TOOL AND THUMB PRESSURE,ASIDE PART AND TOOL ENDS-WITH TOOL AND PART ASIDE CONDITION-APPLIES TO BEARINGS UP TO 1/2 INCH OUTSIDE DIAMETER WITH SLIGHT PRESS FIT
FFE	6XX	MAA	GMPBAD1	MTLBRXX	VARIABLE	BEARING(ANNULAR),REMOVE STARTS-WITH GET PULLER INCLUDES-MOTIONS NECESSARY TO GET AND POSITION PULLER,REMOVE BEARING,ASIDE BEARING AND PULLER ENDS-WITH ASIDE PULLER
					1505	CASE 01 REMOVE ANNULAR BEARING 1/4 INCH I D SEATED 3/4 INCH
					2015	02 REMOVE ANNULAR BEARING 1/4 INCH I D SEATED FROM 3/4 INCH TO 1 1/4 INCH ON SHAFT OR SEAT
FFE	6XX	MAO	GMPB001	MTLBR03	3380	BUSHING(OILITE),REMOVE WITH SCREW PULLER STARTS-WITH REACH TO PULLER INCLUDES-MOTIONS NECESSARY TO OBTAIN PULLER, REMOVE BUSHING FROM CASTING,REMOVE BUSHING FROM PULLER AND PLACE BUSHING AND TOOL ASIDE ENDS-WITH BUSHING ASIDE CONDITIONS-SPIRAL FLUTED SELF-THREADING PULLER AND OPEN END WRENCH.PULLER WEIGHS 2.5-10 POUNDS
FFE	6XX	MAA	GMCRGA2	MTLGIXX	VARIABLE	GROMMET,INSTALL AND REMOVE WITH TOOL STARTS-WITH GET GROMMET INCLUDES-MOTIONS NECESSARY TO GET,PLACE AND INSTALL GROMMET WITH TOOL(DIFFICULT ACCESS);OR OBTAIN SCREWDRIVER,INSERT IT UNDER OR ALONG-SIDE GROMMET AND REMOVE GROMMET ENDS-WITH GROMMET AND/OR SCREWDRIVER ASIDE
					701	CASE 01 INSTALL GROMMET WITH SCREWDRIVER
					141	02 REMOVE GROMMET WITH SCREWDRIVER
FFE	6XX	MAA	GMPSGAA	MTLGR01	2670	GEAR(SPUR ASSEMBLY),REMOVE AND INSTALL STARTS-WITH REACH TO SCREWDRIVER INCLUDES-ALL MOTIONS NECESSARY TO REMOVE SCREWS,REMOVE AND ASIDE SPUR GEAR ASSEMBLY, GET SPUR GEAR ASSEMBLY,POSITION,INSTALL SCREWS,TIGHTEN SCREWS,ASIDE SCREWDRIVER,GET TORQUE WRENCH,AND TORQUE SCREWS ENDS-WITH TORQUE WRENCH ASIDE CONDITIONS-DOES NOT INCLUDE ANY MOTIONS TO DISASSEMBLE OR ASSEMBLE THE SPUR GEAR ASSEMBLY.AVERAGE OF THREE SCREWS USED TO SECURE THE SPUR GEAR ASSEMBLY.
FFE	6XX	MAA	GMPBAA4	MTLIB01	2205	BUSHING(COMMON STRAIGHT),INSTALL-REQUIRES CHILLING BEFORE INSTALLATION STARTS-WITH OBTAIN BUSHING INCLUDES-MOTIONS NECESSARY TO GET AND PLACE BUSHING INTO/FROM CHILL CHEST,APPLY LUBRICANT TO HOLE FROM AEROSOL CAN,AND INSTALL BUSHING USING PUNCH AND HAMMER ENDS-WITH BUSHING INSTALLED,TOOLS ASIDE CONDITIONS-APPLICABLE TO STRAIGHT BUSHINGS THAT CAN BE INSTALLED BY CHILLING AND DRIVING TO PLACE WITH PUNCH AND HAMMER-NO REAMING TIME IS INCLUDED.PROCESS TIME TO CHILL BUSHING NOT INCLUDED.

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	6XX	MAF	2730	MTLNA01	534	NUT(AND BOLT),ASSEMBLE OR DISASSEMBLE,WHERE TWO WRENCHES ARE REQUIRED STARTS-WITH SIDESTEP TO WRENCHES INCLUDES-ALL MOTIONS NECESSARY TO GET TWO WRENCHES,POSITION THEM TO EACH END OF NUT AND BOLT,LOOSEN(OR TIGHTEN),RUN NUT DOWN BY HAND AND ASIDE BOTH WRENCHES TO WORKBENCH ENDS-WITH SIDESTEP BACK TO WORKBENCH
AE	6XX	MAW	FPUEAX1	MTLPAXX	VARIABLE	PULLER(GEAR),ASSEMBLE TO GEAR STARTS-WITH PULLER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE PULLER TO GEAR,ATTACH ARMS TO GEAR,AND REACH TO FORCING SCREW ENDS-WITH ONE HAND HOLDING PULLER AND THE OTHER HAND ON THE FORCING SCREW CONDITIONS-FORCING SCREW NOT TURNED
					118	CASE 01 SMALL TWO OR THREE JAW PULLER,SIX INCH SPREAD
					142	02 LARGE TWO OR THREE JAW PULLER,12 INCH SPREAD
AE	6XX	MAW	FPUJP2X	MTLPCXX	VARIABLE	PULLER(GEAR),CHANGE REACH RANGE OR REVERSE ARMS ON TWO OR THREE JAW PULLER STARTS-WITH REACH TO PULLER INCLUDES-ALL MOTIONS NECESSARY TO REMOVE CAP SCREW,REMOVE NUT(APPROXIMATELY EIGHT THREADS), CHANGE OR ADJUST ARM,INSTALL NUT(APPROXIMATELY EIGHT THREADS),AND REPLACE CAP SCREW.THE ABOVE SEQUENCE OCCURS FOR EACH ARM CHANGED. ENDS-WITH PULLER IN HAND CONDITION-NUT INSTALLED HAND TIGHT
					886	CASE 01 TWO JAW PULLER
					1329	02 THREE JAW PULLER
AE	6XX	MAW	FPUEAX1	MTLPDXX	VARIABLE	PULLER(GEAR),DETACH FROM GEAR STARTS-WITH PULLER,WITH GEAR ATTACHED,IN HAND INCLUDES-ALL MOTIONS NECESSARY TO REACH TO GEAR,DISENGAGE PULLER ARMS,AND REMOVE GEAR ENDS-WITH PULLER AND GEAR IN HAND
					60	CASE 01 SMALL TWO OR THREE JAW PULLER,SIX INCH SPREAD
					92	02 LARGE TWO OR THREE JAW PULLER,12 INCH SPREAD
FFE	6XX	MAA	GMPCA13	MTLP001	69	PART,OBTAIN AND PLACE WITH TWEEZERS,AVERAGE DISTANCE 12 INCHES STARTS-WITH PLACE TWEEZERS TO PART INCLUDES-MOTIONS NECESSARY TO GET A PART WITH TWEEZERS,MOVE TO DESIRED LOCATION AND RELEASE PART ENDS-WITH PART POSITIONED AND RELEASED
FFE	6XX	MAA	GMCHP01	MTLPPXX	VARIABLE	PUMP(HYDRAULIC HAND),PUMP,FIRST STROKE STARTS-WITH GET PUMP INCLUDES-NECESSARY MOTIONS TO PUMP HYDRAULIC PUMP HANDLE ONCE ENDS-WITH ASIDE PUMP
					119	CASE 01 FIRST STROKE
					42	02 ADDITIONAL STROKE
FFE	6XX	MAA	GMPBAD3	MTLPR01	153	PLUG(BUTTON),REMOVE STARTS-WITH GET TOOL INCLUDES-MOTIONS NECESSARY TO GET TOOL,PRY OUT PLUG AND ASIDE TOOL AND PLUG ENDS-WITH ASIDE PLUG CONDITONS-PLUG REMOVED WITH PRYING ACTION WITH WEDGE TYPE TOOL

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	6XX	MAA	GMCCSXX	MTLPSXX	VARIABLE	PART,STAKE(FIRST OR ADDITIONAL),WITH TOOL AND HAMMER STARTS-WITH PLACE STAKING TOOL TO PART INCLUDES-MOTIONS NECESSARY TO STAKE A THREADED PART IN PLACE ENDS-WITH THREADED PART STAKED IN PLACE CONDITIONS-GET,PLACE AND ASIDE TOOL AND HAMMER INCLUDED IN CASE 01
					276	CASE 01 STAKE FIRST POINT ON PART
					119	02 STAKE ADDITIONAL POINT ON SAME PART
AE	6XX	MAW	FPUEAX1	MTLPTXX	VARIABLE	PULLER(GEAR),TURN FORCING SCREW ONE REVOLUTION WITH WRENCH STARTS-WITH WRENCH IN HAND INCLUDES-ALL MOTIONS NECESSARY TO PLACE WRENCH ON FORCING SCREW,TURN SCREW,AND REMOVE WRENCH ENDS-WITH WRENCH IN HAND CONDITION-WRENCH IS TURNED IN 90 DEGREE INCREMENTS
					234	CASE 01 SMALL TWO OR THREE JAW PULLER,SIX INCH SPREAD
					325	02 LARGE TWO OR THREE JAW PULLER,12 INCH SPREAD
FFE	6XX	MAA	GMPCDXX	MTLRPXX	VARIABLE	PART(MATING),REMOVE WITH TOOL STARTS-WITH REACH TO TOOL INCLUDES-ALL MOTIONS NECESSARY TO REMOVE PART FROM ASSEMBLY AS INDICATED ENDS-WITH PLACE PART ASIDE
					261	CASE 01 REMOVE WITH PRY TOOL,LENGTH OF ENGAGEMENT NOT TO EXCEED ONE INCH
					213	02 REMOVE WITH HAMMER OR MALLET,LENGTH OF ENGAGEMENT NOT TO EXCEED ONE INCH
					317	03 REMOVE WITH BUMPER TYPE PULLER.THIS CASE DOES NOT INCLUDE TIME FOR GETTING AND INSTALLING PULLER,REMOVING PULLER FROM PART AND PLACING PART AND PULLER ASIDE
					425	04 REMOVE WITH CRANK TYPE PULLER.THIS CASE DOES NOT ALLOW TIME FOR GETTING AND INSTALLING PULLER,REMOVING PULLER FROM PART AND PLACING PART AND PULLER ASIDE
					479	05 REMOVE PART WITH ARBOR PRESS. APPLICABLE TO PART TO 1.375 INCH DIAMETER AND SEATED TO .875 INCH DEPTH HAVING ONE ALIGNMENT.WEIGHT TO 10 POUNDS
FFE	6XX	MAA	GMCRDA1	MTLRR01	92	RING(O,AND SEAL),REMOVE FROM GROOVE WITH TOOL STARTS-WITH PLACE TOOL TO SEAL INCLUDES-MOTIONS NECESSARY TO ENGAGE TOOL UNDER SEAL AND RING AND REMOVE ENDS-WITH O RING ASIDE CONDITIONS-OUTSIDE O RINGS ARE WITHIN THREE INCHES OF END OF SHAFT
NF	6XX	MAF	1150	MTLWP01	166	WRENCH(LARGE),POSITION TO NUT OR BOLT STARTS-WITH GRASP WRENCH HANDLE INCLUDES-ALL MOTIONS NECESSARY TO OBTAIN A LARGE WRENCH AND POSITION TO NUT OR BOLT; DISENGAGE AND ASIDE WRENCH ENDS-WITH RELEASE WRENCH

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	6XX	MAW	FPUPPXX	STLPAXX	VARIABLE	PUSH-PULLER,ASSEMBLE TO GEAR,OBTAIN 1/2 INCH SEPARATION,AND REMOVE PULLER FROM GEAR STARTS-WITH REACH TO PULLER INCLUDES-ALL MOTIONS NECESSARY TO PLACE AND RUN DOWN TWO LEG ADAPTERS APPROX. 6 THREADS EACH BY HAND;PLACE AND RUN DOWN TWO LEGS APPROX. 14 THREADS EACH BY HAND;GET WRENCH AND RUN EACH LEG DOWN APPROX. 4 THREADS; INSTALL FORCING SCREW AND THRUST WASHER;ADJUST FORCING NUT TO SIZE BY HAND(APPROX. 32 THREADS);RUN TWO LEG NUTS OUT APPROX. FOUR THREADS EACH; INSTALL SLIDING PLATES AND CROSS HEAD;RUN LEG NUTS DOWN APPROX. FOUR THREADS EACH BY HAND; GET WRENCH AND TIGHTEN LEG NUTS;ADJUST FORCING NUT;INSTALL PLATE ADAPTER;GET WRENCH AND HAMMER;PLACE WRENCH AND STRIKE THREE BLOWS WITH HAMMER TO START SEPARATION;TURN FORCING SCREW WITH WRENCH APPROX. FOUR THREADS FOR 1/2 INCH SEPARATION;REMOVE GEAR FROM PULLER; LAY GEAR ASIDE;AND DISASSEMBLE AND LAY PULLER ASIDE ENDS-WITH RELEASE OF PULLER
					10562	CASE 01 ASSEMBLE PUSH PULLER TO GEAR,SEPARATE 1/2 INCH,REMOVE GEAR FROM PULLER,AND DISASSEMBLE PULLER
					2600	02 EACH ADDITIONAL 1/2 INCH SEPARATION (TURN FORCING SCREW EIGHT THREADS ONLY)
FFE	6XX	MAA	ILMABRA	STLPR01	332	PLUG(BUTTON TYPE),REPLACE STARTS-WITH REACH TO GET TOOL INCLUDES-ALL THE MOTIONS NECESSARY TO OBTAIN TOOL,REMOVE AND REPLACE PLUG AND GASKET ENDS-WITH PLUG INSTALLED
AE	6XX	MAW	FPUJPXX	STLPUXX	VARIABLE	PULLER(GEAR),USE TO PULL GEAR STARTS-WITH REACH TO PULLER INCLUDES-ALL MOTIONS NECESSARY TO GET PULLER, ASSEMBLE TO GEAR,TURN FORCING SCREW TO 20 THREADS(SMALL)OR 32 THREADS(LARGE)BY HAND,GET WRENCH AND PLACE ON FORCING SCREW,GET HAMMER AND STRIKE WRENCH TWO BLOWS TO START SEPARATION,TURN FORCING SCREW WITH WRENCH TO REMOVE GEAR,REMOVE GEAR FROM PULLER,AND LAY PULLER AND GEAR ASIDE ENDS-WITH RELEASE OF PULLER AND GEAR
					3199	CASE 01 SMALL TWO OR THREE JAW PULLER(TURN FORCING SCREW APPROXIMATELY FIVE THREADS TO OBTAIN INITIAL 1/4 INCH SEPARATION)
					1170	02 EACH ADDITIONAL 1/4 INCH SEPARATION WITH SMALL PULLER(TURN FORCING SCREW APPROXIMATELY FIVE THREADS ONLY)
					5832	03 LARGE TWO OR THREE JAW PULLER(TURN FORCING SCREW APPROXIMATELY EIGHT THREADS TO OBTAIN INITIAL 1/2 INCH SEPARATION)
					2600	04 EACH ADDITIONAL 1/2 INCH SEPARATION WITH LARGE PULLER(TURN FORCING SCREW APPROXIMATELY EIGHT THREADS ONLY)
FFE	6XX	MAL	GTLTCXX	MTPTCXX	VARIABLE	TOOL(S),CONNECT AND DISCONNECT TO/FROM PNEUMATIC SOURCE STARTS-WITH REACH TO TOOL INCLUDES-ALL THE MOTIONS NECESSARY TO OBTAIN TOOL AND HOSE,CONNECT AND DISCONNECT TOOL AND HOSE,PLACE TOOL/HOSE ASIDE ENDS-WITH TOOL AND/OR HOSE ASIDE
					189	CASE 01 CONNECT AND DISCONNECT FIRST TOOL-TOOL AND HOSE PLACED ASIDE
					110	02 CONNECT AND DISCONNECT ADDITIONAL TOOL-TOOL PLACED ASIDE-HOSE IN HAND

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	60X	MAA	GCLCAA7	MCLCDXX	VARIABLE	CHIPS,DIG FROM ONE LINEAR INCH OF GROOVE STARTS-WITH GET TOOL INCLUDES-MOTIONS NECESSARY TO REMOVE EASILY REMOVED CHIPS FROM ONE LINEAR INCH OF GROOVE USING TOOL ENDS-WITH TOOL ASIDE
					121	CASE 01 FIRST LINEAR INCH
					91	02 EACH ADDITIONAL INCH
FFE	60X	MAA	GCLCAA8	MCLCRXX	VARIABLE	CHIPS,REMOVE FROM HOLE UP TO ONE INCH DIAMETER,TWO INCHES DEEP STARTS-WITH GET TOOL INCLUDES-ALL MOTIONS NECESSARY TO DIG CHIPS FROM HOLE,CHIPS EASILY REMOVED ENDS-WITH TOOL ASIDE
					136	CASE 01 FIRST HOLE
					106	02 EACH ADDITIONAL HOLE
NF	60X	MAF	1090	MCLCS01	573	SLOTS(T),CLEAN WITH CHIP PUSHER STARTS-WITH REACH TO CHIP PUSHER INCLUDES-ALL MOTIONS NECESSARY TO CLEAN T-SLOTS OF TABLE WITH CHIP PUSHER ENDS-WITH STEP TO WORK AREA CONDITION-APPLICABLE TO CLEANING SLOTS IN MILLING MACHINE TABLE OR EQUIVALENT
AE	60X	MAH	SMDPA13	MCLCT01	339	TOOL,CLEAN AND LUBRICATE STARTS-WITH REACH TO AIR HOSE INCLUDES-ALL MOTIONS NECESSARY TO CLEAN TOOL WITH AIR,LAY AIR HOSE ASIDE,GET OIL CAN,SQUIRT OIL ON TOOL,AND SET OIL CAN ASIDE ENDS-WITH RELEASE OF OIL CAN
FFE	60X	MAA	GCLCAA9	MCLHCXX	VARIABLE	HOLE,CLEAN WITH ORANGEWOOD OR BOXWOOD STICK STARTS-WITH OBTAIN ORANGEWOOD OR BOXWOOD STICK INCLUDES-MOTIONS REQUIRED TO CLEAN HOLE ENDS-WITH STICK ASIDE CONDITIONS-DIRT EASILY REMOVED FROM HOLE SMALL ENOUGH TO REQUIRE THE USE OF A POINTED TOOL
					59	CASE 01 FIRST HOLE
					29	02 EACH ADDITIONAL HOLE
NF	60X	MAF	3210	MCLPC01	301	PART,CLEAN GROOVES/CONCAVE CORNERS ONLY STARTS-WITH REACH TO TOOL INCLUDES-ALL THE MOTIONS NECESSARY TO GET TOOL AND WRAP WITH A RAG,MOVE TOOL AND RAG AND FORCE INTO CORNERS/GROOVES,WIPE ONE LINEAR FOOT,REMOVE,UNWRAP RAG,ASIDE RAG AND TOOL ENDS-WITH RELEASE RAG AND TOOL ASIDE CONDITIONS-TOOL IS SCREWDRIVER OR SIMILAR IMPLEMENT
NF	60X	MAF	3241	MCLPW01	50	PART(SMALL),WIPE WITH RAG STARTS-WITH MOVE RAG TO PART INCLUDES-ALL THE MOTIONS NECESSARY TO WRAP RAG AROUND PART,WIPE PART ENDS-WITH RAG AND PART IN HAND
NO	60X	MAO	LJB1F3	MCLTC01	357	TABLE(MACHINE),CLEAN CHIPS,BRUSH AND SCOOP STARTS-WITH REACH TO BRUSH AND SCOOP INCLUDES-ALL MOTIONS NECESSARY TO BRUSH CHIPS INTO PILE ON TABLE,MOVE SCOOP INTO POSITION, BRUSH CHIPS INTO SCOOP,SIDESTEP TO BUCKET, BEND,DUMP CHIPS INTO BUCKET,ARISE,RETURN TO FRONT OF MACHINE,AND LAY BRUSH AND SCOOP ASIDE ENDS-WITH RELEASE OF BRUSH AND SCOOP CONDITION-APPLICABLE TO CLEANING JIG BORE TABLE OR EQUIVALENT

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	60X	MAW	SKCXL01	SCLCC01	466	CENTERS(SHAFT),CLEAN AND LUBRICATE STARTS=WITH REACH TO CLEANING DEVICE INCLUDES=ALL MOTIONS NECESSARY TO CLEAN TWO SHAFT CENTERS,WITH AIR OR CLOTH,GET LUBRICANT, APPLY LUBRICANT TO TWO SHAFT CENTERS FROM TUBE,AND PLACE LUBRICANT ASIDE ENDS=WITH RELEASE OF TUBE
AE	60X	MAW	SKHMC61	MEMB001	171	BUSHING(OR PLUG),OBTAIN,INSTALL IN,AND REMOVE FROM JIG OR FIXTURE STARTS=WITH REACH TO BUSHING OR PLUG INCLUDES=ALL MOTIONS NECESSARY TO INSERT BUSHING OR PLUG IN FIXTURE BY TWISTING AND APPLYING PRESSURE,RELEASE,REACH TO BUSHING OR PLUG,TWIST,REMOVE,AND LAY ASIDE ENDS=WITH RELEASE OF BUSHING OR PLUG CONDITION=BUSHING OR PLUG USED AS AN AID TO LOCATING AND HOLDING PART
AE	60X	MAW	SKHCLXX	MEMCAXX	VARIABLE	CLAMP,ATTACH TO PART STARTS=WITH REACH TO WRENCH(FIRST)OR WRENCH IN HAND(ADDITIONAL) INCLUDES=ALL MOTIONS NECESSARY TO LOOSEN AND RUN OUT HOLD DOWN BOLT,MOVE CLAMP ASIDE, REPOSITION CLAMP TO PART,RUN DOWN AND TIGHTEN BOLT,AND LAY ASIDE WRENCH ENDS=WITH RELEASE OF WRENCH CONDITION=TYPE I CLAMP HAS NON-INTEGRAL HEEL WHICH DOES NOT REQUIRE RELOCATION WHEN REMOVING AND REPLACING PART TYPE II CLAMP HAS INTEGRAL HEEL TYPE III CLAMP=NON INTEGRAL HEEL WHICH MUST BE RELOCATED WHEN REMOVING OR REPLACING PART. TIME FOR POSITIONING PART NOT INCLUDED
					627	CASE 01 ATTACH FIRST TYPE I CLAMP;NUT AND CLAMP REMAIN ON STUD
					517	02 ATTACH EACH ADDITIONAL TYPE I CLAMP; NUT AND CLAMP REMAIN ON STUD
					596	03 ATTACH FIRST TYPE II CLAMP;NUT AND CLAMP REMAIN ON STUD
					486	04 ATTACH EACH ADDITIONAL TYPE II CLAMP; NUT AND CLAMP REMAIN ON STUD
					725	05 ATTACH FIRST TYPE III CLAMP;NUT AND CLAMP REMAIN ON STUD
					615	06 ATTACH EACH ADDITIONAL TYPE III CLAMP; NUT AND CLAMP REMAIN ON STUD
					973	07 ATTACH FIRST TYPE I OR II CLAMP;NUT AND CLAMP REMOVED FROM STUD
					863	08 ATTACH EACH ADDITIONAL TYPE I OR II CLAMP;NUT AND CLAMP REMOVED FROM STUD
					1099	09 ATTACH FIRST TYPE III CLAMP;NUT AND CLAMP REMOVED FROM STUD
					989	10 ATTACH EACH ADDITIONAL TYPE III CLAMP; NUT AND CLAMP REMOVED FROM STUD
NC	60X	MAD	LEL1N2	MEMCC01	767	CHUCK(COLLET),CLOSE AND OPEN WITH WRENCH STARTS=WITH REACH TO WRENCH INCLUDES=ALL MOTIONS NECESSARY TO CLOSE AND OPEN COLLET CHUCK,USING A WRENCH(CHUCK TIGHTENED AT THREE POINTS) ENDS=WITH LAY ASIDE WRENCH

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	60X	MAO	LEL1D3	MEMCLXX	VARIABLE	CHUCK,LOOSEN AND TIGHTEN STARTS-WITH REACH TO CHUCK WRENCH INCLUDES-ALL MOTIONS NECESSARY TO GET WRENCH, LOOSEN CHUCK,TIGHTEN CHUCK,AND LAY WRENCH ASIDE ENDS-WITH RELEASE OF WRENCH CONDITION-NO MACHINE TIME ALLOWED FOR REPOSITIONING SPINDLE.TIME FOR INSTALLATION OR REMOVAL OF PART NOT INCLUDED.
					552	CASE 01 LOOSEN AND TIGHTEN THREE-JAW UNIVERSAL CHUCK(CHUCK WRENCH TURNED APPROX-IMATELY 1/2 REVOLUTION)
					360	02 ADDITIONAL TIME FOR HEAVY CHUCKING (TIME FOR PLACING PIPE ON CHUCK WRENCH AND LOOSEN AND TIGHTEN CHUCK)
NF	60X	MAF	3167	MEMCL03	1084	CHUCK(UNIVERSAL),LOOSEN OR TIGHTEN STARTS-WITH REACH TO CHUCK WRENCH INCLUDES-ALL THE MOTIONS NECESSARY TO PICK UP WRENCH,POSITION IN CHUCK,TURN TO OPEN OR CLOSE AND MOVE WRENCH OUT,ASIDE AND RELEASE WRENCH ENDS-WITH WRENCH ASIDED CONDITIONS-MOVE CHUCK ONE INCH ON DIAMETER
AE	60X	MAW	SKHEAM2	MEMCOXX	VARIABLE	COLLET,OPEN AND CLOSE STARTS-WITH REACH TO OPENING DEVICE INCLUDES-ALL MOTIONS NECESSARY TO OPEN AND CLOSE COLLET ENDS-WITH RELEASE OF LEVER OR HAND WHEEL CONDITION-TIME FOR FEEDING STOCK NOT INCLUDED
					130	CASE 01 LEVER CONTROLLED COLLET(INCLUDES TIME FOR SIDESTEP TO AND FROM LEVER)
					233	02 HAND WHEEL CONTROLLED COLLET
FFE	60X	MAA	KMLHMXX	MEMDS01	VARIABLE	DIAL,SET STARTS-WITH REACH TO DIAL INCLUDES-MOTIONS REQUIRED TO SET DIAL TO ZERO ENDS-WITH DIAL SET
					87	CASE 01 SET DIAL,FRICTION HELD
					123	02 SET DIAL,THUMB SCREW HELD
FFE	60X	MAA	KMLHPC3	MEMPC01	2814	PART(SYMMETRICAL),CHUCK IN 4 JAW CHUCK, ADDITIONAL PART STARTS-WITH REACH TO PART INCLUDES-ALL MOTIONS NECESSARY TO PLACE PART IN CHUCK,TIGHTEN TWO JAWS,TRUE PART WITH INDICATOR;LOOSEN TWO JAWS,AND ASIDE PART ENDS-WITH RELEASE OF PART CONDITION-NOT TO BE USED FOR INITIAL SETUP OF 4 JAW CHUCK.SEE 60X MSU PC 01 FOR FIRST PART.
NO	60X	MAO	LEL1R3	MEMPL01	286	PART,LOAD TO OR UNLOAD FROM HOLDING DEVICE, WEIGHT 25-50 POUNDS STARTS-WITH REACH TO PART INCLUDES-ALL MOTIONS NECESSARY TO MOVE PART TO OPEN HOLDING DEVICE,INSERT PART,REACH TO PART AFTER HOLDING DEVICE HAS BEEN OPENED,REMOVE PART,AND LAY ASIDE ENDS-WITH RELEASE OF PART CONDITION-HOLDING DEVICES SUCH AS CHUCK COLLET,ETC.
NF	60X	MAF	3290	MEMPP01	150	PART,POSITION TO FIRST JACK STARTS-WITH A BEND INCLUDES-ALL THE MOTIONS NECESSARY TO MOVE PUNCH HOLE OVER JACK,POSITION,RELEASE AND STAND UP ENDS-WITH ARISE FROM BEND

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	60X	MAO	LEL1B2	MEMTI01	358	TOOL,INSTALL IN AND REMOVE FROM JACOBS CHUCK STARTS-WITH REACH TO TOOL INCLUDES-ALL MOTIONS NECESSARY TO GET TOOL, PLACE IN CHUCK,HAND TIGHTEN,TIGHTEN WITH CHUCK WRENCH,REMOVE WRENCH,LAY ASIDE,REACH TO CHUCK WRENCH,LOOSEN CHUCK,OPEN CHUCK BY HAND,REMOVE TOOL,AND LAY ASIDE TOOL AND WRENCH ENDS-WITH RELEASE OF WRENCH AND TOOL
NO	60X	MAO	LD1L2	MEMTI02	429	TOOL,INSTALL IN AND REMOVE FROM TAPERED SLEEVE STARTS-WITH REACH TO TOOL AND TAPERED SLEEVE INCLUDES-ALL MOTIONS NECESSARY TO PLACE DRILL INTO SLEEVE,TAP SLEEVE TO SEAT TOOL,PLACE TOOL AND SLEEVE ASSEMBLY ON TABLE AFTER USE,GET DRIFT AND HAMMER,PLACE DRIFT IN SLEEVE,TAP WITH HAMMER TO LOOSEN TOOL,LAY ASIDE HAMMER AND DRIFT,REMOVE TOOL,AND LAY ASIDE TOOL AND SLEEVE ENDS-WITH RELEASE OF TOOL AND SLEEVE
AE	60X	MAW	SKHVS1X	MEMVLXX	VARIABLE	VISE,LOOSEN AND TIGHTEN STARTS-WITH REACH TO VISE HANDLE INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN VISE, OPEN JAWS,RELEASE HANDLE,REACH TO HANDLE,CLOSE JAWS,AND TIGHTEN WITH HANDLE ENDS-WITH RELEASE OF HANDLE
					163	CASE 01 LOOSEN AND TIGHTEN;VISE HANDLE REMAINS ON VISE DURING CYCLE RUN
					232	02 LOOSEN AND TIGHTEN;VISE HANDLE IS REMOVED DURING CYCLE RUN(TIME TO GET AND LAY ASIDE HANDLE IS INCLUDED)
					358	03 LOOSEN AND TIGHTEN WITH MALLET;VISE HANDLE REMAINS ON DURING CYCLE RUN
					445	04 LOOSEN AND TIGHTEN WITH MALLET;VISE HANDLE REMOVED DURING CYCLE RUN(TIME TO GET AND ASIDE HANDLE IS INCLUDED)
AE	60X	MAW	SKHVS15	MEMVT01	127	VISE(CAM TYPE),TIGHTEN AND LOOSEN STARTS-WITH REACH TO VISE HANDLE INCLUDES-ALL MOTIONS NECESSARY TO CLOSE AND TIGHTEN VISE JAWS,RELEASE HANDLE,REACH TO HANDLE,LOOSEN AND OPEN VISE JAWS,AND RELEASE HANDLE ENDS-WITH RELEASE OF HANDLE

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	60X	FAA	KMLPTXX	TEMTMXX	TABLE	TABLE,MACHINE TIME STARTS=WITH MACHINE TURNED ON AND TOOL STARTING CUT INCLUDES=TIME REQUIRED FOR TOOL TO ADVANCE ONE INCH ON A ONE INCH DIAMETER ENDS=WITH TOOL CUTTING AT END OF ONE INCH OF CUT CONDITIONS=FOR COMPUTING OCCURENCE FACTOR FOR TIME OTHER THAN 1X1 INCH MULTIPLY THE DIAMETER TIMES THE LENGTH OF CUT,TIMES NUMBER OF CUTS

		FEED IN INCHES				
SPEED SFPM		.0015 A	.002 B	.003 C	.004 D	.005 E
15	A	19496	14621	9747	7310	5848
20	B	14621	10966	7310	5483	4386
25	C	11698	8773	5848	4386	3509
30	D	9664	7246	4831	3622	2899
35	E	8293	6220	4146	3109	2487
40	F	7263	5446	3631	2722	2177
45	G	6460	4844	3229	2422	1937
50	H	5818	4363	2909	2180	1745
60	J	4853	3639	2425	1819	1455
70	K	4161	3121	2080	1560	1249
80	L	3642	2732	1820	1365	1092
90	M	3229	2422	1614	1210	969
100	N	2909	2180	1454	1090	872
110	O	2646	1984	1322	992	793
120	P	2425	1819	1212	909	727
130	Q	2235	1677	1117	839	670
140	R	2077	1557	1039	778	622
150	S	1939	1454	969	727	582
183	T	1587	1190	793	595	475
200	U	1454	1090	727	545	435
250	V	1164	872	582	435	348
300	W	969	727	483	363	290
350	Y	830	622	415	310	248

		FEED IN INCHES				
SPEED SFPM		.006 F	.007 G	.008 H	.009 J	.010 K
15	A	4873	4178	3654	3249	2924
20	B	3654	3132	2741	2435	2192
25	C	2924	2506	2192	1949	1754
30	D	2415	2070	1810	1610	1449
35	E	2072	1777	1554	1382	1244
40	F	1815	1555	1360	1210	1089
45	G	1614	1384	1210	1075	969
50	H	1454	1245	1090	969	872
60	J	1212	1039	909	808	727
70	K	1040	892	780	693	623
80	L	910	780	682	607	545
90	M	807	692	605	537	483
100	N	727	622	545	483	435
110	O	660	567	495	440	397
120	P	605	518	453	403	363
130	Q	558	478	418	372	335
140	R	518	445	388	345	310
150	S	483	415	363	322	290
183	T	397	340	297	263	237
200	U	363	310	272	242	217
250	V	290	248	217	193	173
300	W	242	207	182	160	145
350	Y	207	177	155	138	123

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	60X	MAW	FMGEAN1	MGMSA01	173	SQUARE(COMBINATION),ASSEMBLE SCALE STARTS-WITH SQUARE HEAD IN ONE HAND AND SCALE IN OTHER HAND INCLUDES-ALL MOTIONS NECESSARY TO ASSEMBLE SCALE TO SQUARE,ENGAGE LUG,AND TIGHTEN LOCK NUT ENDS-WITH SQUARE IN HAND READY FOR USE
AE	60X	MAW	FMGEAQ1	MGMSP01	137	SQUARE(COMBINATION),POSITION TO GAUGE ANGLE STARTS-WITH SQUARE IN HAND INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN CENTER NUT,ADJUST TO ANGLE,TIGHTEN CENTER NUT, AND MOVE SQUARE AWAY ENDS-WITH SQUARE IN HAND
AE	60X	MAW	FMGEAP1	MGMSR01	68	SQUARE(COMBINATION),REMOVE SCALE STARTS-WITH SQUARE IN HAND INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN LOCK NUT AND REMOVE SCALE ENDS-WITH SQUARE HEAD AND SCALE IN HAND
AE	60X	MAW	FMGEAM1	MGMSU01	71	SQUARE(COMBINATION),USE TO CHECK PART STARTS-WITH SQUARE IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE SQUARE TO PART,POSITION ON PART,AND MOVE AWAY FROM PART ENDS-WITH SQUARE IN HAND CONDITION-DOES NOT INCLUDE TIME FOR VISUAL CHECK OR READING
NO	60X	MAO	LEL1V	MGMTU01	254	TAPE(STEEL),USE TO MEASURE FOR EQUIPMENT LOCATION STARTS-WITH GET TAPE INCLUDES-ALL MOTIONS NECESSARY TO PULL TAPE OUT 24 INCHES,PLACE TO EQUIPMENT,CHECK LOCATION,REMOVE TAPE,AND PUSH BACK INTO CASE ENDS-WITH ASIDE TAPE
AF	60X	MAW	FMGGA1X	SGMSCXX	VARIABLE	SQUARE(COMBINATION),CHECK PART STARTS-WITH REACH TO SCALE AND SQUARE HEAD INCLUDES-ALL MOTIONS NECESSARY TO ASSEMBLE SCALE AND SQUARE,POSITION SQUARE TO PART,MAKE VISUAL CHECK OR READ SCALE,DISASSEMBLE SCALE FROM SQUARE,AND LAY SCALE AND SQUARE ASIDE ENDS-WITH RELEASE OF SCALE AND SQUARE
					455	CASE 01 SINGLE OR INITIAL CHECK OF PART
					159	02 ADDITIONAL CHECK(POSITION SQUARE AND READ ONLY).
NF	60X	MAF	2731	BITMT01	85	MICROMETER,TIGHTEN AND LOOSEN LOCKNUT STARTS-WITH MICROMETER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO TIGHTEN LOCKNUT ON MICROMETER,CHECK SIZE BY MOVING MICROMETER OVER PART,AND LOOSEN LOCKNUT ENDS-WITH MICROMETER IN HAND
NF	60X	MAF	3786	BITMUXX	VARIABLE	MICROMETER(INSIDE),USE,GAUGE DIMENSION STARTS-WITH MICROMETER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE MICROMETER TO PART,ADJUST TO SIZE,AND REMOVE FROM PART,AND READ TO .001 INCH ENDS-WITH MICROMETER IN HAND
					588	CASE 01 INSIDE DIMENSION,2-4 INCHES
					633	02 INSIDE DIMENSION,4-12 INCHES
AE	60X	MAW	SKGEA82	BITMU03	724	MICROMETER(INSIDE),USE TO MEASURE DIMENSION OVER 12 INCHES STARTS-WITH MICROMETER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE MICROMETER TO PART,ADJUST TO INSIDE DIMENSION, REMOVE MICROMETER FROM PART,AND READ TO .001 INCH ENDS-WITH MICROMETER IN HAND

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	60X	MAF	1025	BITTGXX	VARIABLE	THREAD,GAUGE WITH RING GAUGE STARTS-WITH REACH TO GAUGE INCLUDES-ALL THE MOTIONS NECESSARY TO MOVE GAUGE TO THREAD,POSITION ON THREAD,TURN TO START,SCREW ON EIGHT THREADS,AND REMOVE ENDS-WITH ASIDE GAUGE
					614	CASE 01 UNDER ONE INCH GAUGE DIAMETER
					1036	02 ONE TO FOUR INCHES GAUGE DIAMETER
NF	60X	MAF	3474	MITAI01	100	INDICATOR OR SCRIBER,ADJUST TO APPROXIMATE POSITION. STARTS-WITH SIMO REACH TO INDICATOR OR SCRIBER AND LOCK SCREW INCLUDES-ALL THE MOTIONS NECESSARY TO REACH TO AND HOLD INDICATOR OR SCRIBER,LOOSEN LOCK SCREW,ADJUST HEIGHT,TIGHTEN LOCK SCREW,RELEASE SCREW AND INDICATOR OR SCRIBER ENDS-WITH RELEASE OF LOCK SCREW AND INDICATOR OR SCRIBER
AE	60X	MAW	SKGCV10	MITCU01	1427	CALIPER(VERNIER),USE TO GAUGE PART STARTS-WITH REACH TO VERNIER CALIPERS INCLUDES-ALL MOTIONS NECESSARY TO ADJUST CALIPERS TO PART SIZE,GET MAGNIFYING GLASS FROM POCKET,READ VERNIER USING MAGNIFYING GLASS,RETURN GLASS TO POCKET,AND LAY CALIPERS ASIDE ENDS-WITH RELEASE OF CALIPERS
AE	60X	MAW	SKGCF10	MITCU02	1429	CALIPER(INSIDE),USE,CHECK DIMENSION WITH 24 INCH FIRM JOINT STARTS-WITH REACH TO CALIPERS INCLUDES-ALL MOTIONS NECESSARY TO PLACE CALIPERS TO PART,ADJUST,PICK UP SCALE,MEASURE CALIPERS,READ SCALE TO 1/16 INCH,AND LAY SCALE AND CALIPERS ASIDE ENDS-WITH RELEASE OF CALIPERS
NF	60X	MAF	2585	MITGR01	118	GAUGE(THREAD),READ STARTS-WITH MOVE GAUGE TO EYE FOCUS INCLUDES-ALL MOTIONS NECESSARY TO MOVE GAUGE TO EYE FOCUS,TURN GAUGE FOR PROPER LIGHT AND FOCUS,READ AND CHECK READING ENDS-WITH FINAL EYE FOCUS TO CHECK READING
AE	60X	MAW	SMDEAXX	MITGUXX	VARIABLE	GAUGE(SURFACE),USE TO CHECK A POINT OR TO SCRIBE A LINE STARTS-WITH BEND TO THE GAUGE INCLUDES-ALL MOTIONS NECESSARY TO POSITION THE SCRIBER TO A SURFACE TO CHECK A POINT OR LINE OR TO SCRIBE A LINE TO TEN INCHES LONG ENDS-WITH ARISE FROM BEND
					136	CASE 01 CHECK POINT
					170	02 SCRIBE A LINE
NF	60X	MAF	3478/9	MITIMXX	VARIABLE	INDICATOR,MOVE ON/OFF GAUGE BLOCK OR PART STARTS-WITH REACH TO SURFACE GAUGE INCLUDES-ALL THE MOTIONS NECESSARY TO SEAT SURFACE GAUGE,MOVE PAST PART OR BLOCKS,MOVE BACK TO BLOCKS,MOVE AROUND ON BLOCKS OR PART TO GET FIRM SETTING,RELEASE,SLIDE TO REMOVE, MOVE ASIDE,RELEASE GAUGE ENDS-WITH RELEASE SURFACE GAUGE
					66	CASE 01 MOVE ON GAUGE BLOCKS OR PART
					44	02 MOVE OFF GAUGE BLOCKS OR PART
AE	60X	MAW	SKGEAR1	MITMA01	713	MICROMETER,ADJUST ANVIL TO ZERO STARTS-WITH REACH TO MICROMETER INCLUDES-ALL MOTIONS NECESSARY TO GET MICROMETER,LOOSEN LOCK NUT WITH WRENCH,ADJUST ANVIL,TIGHTEN LOCK NUT,AND LAY ASIDE WRENCH ENDS-WITH MICROMETER IN HANDS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	60X	MAW	SKGEAP1	MITMC01	213	MICROMETER,CHECK ACCURACY WITH PIN GAUGE STARTS-WITH MICROMETER AND PIN GAUGE IN HAND INCLUDES-ALL MOTIONS NECESSARY TO PLACE PIN GAUGE IN MICROMETER AND REMOVE ENDS-WITH PIN GAUGE AND MICROMETER IN HAND CONDITION-APPLICABLE TO MICROMETERS LARGER THAN 12 INCHES.NO TIME ALLOWED FOR ADJUSTMENT OF ANVIL
AE	60X	MAW	SKGEAM1	MITMR01	443	MICROMETER,REMOVE AND REPLACE ANVIL STARTS-WITH MICROMETER IN HANDS INCLUDES-ALL MOTIONS NECESSARY TO PLACE MICROMETER IN BOX,REMOVE RETAINING NUT,REMOVE ANVIL AND PLACE IN BOX,GET NEXT ANVIL AND INSERT IN MICROMETER,REPLACE NUT,AND LIFT MICROMETER FROM BOX ENDS-WITH MICROMETER IN HAND CONDITION-APPLICABLE TO MICROMETERS LARGER THAN 12 INCHES
NO	60X	MAO	LGAU1C1	MITPA01	1615	PROTRACTOR(BEVEL),ASSEMBLE,ADJUST,AND DISASSEMBLE STARTS-WITH REACH TO BLADE AND STOCK INCLUDES-ALL MOTIONS NECESSARY TO ASSEMBLE BLADE TO STOCK,ADJUST,READ VERNIER,TIGHTEN NUT,RECHECK SETTING,DISASSEMBLE BLADE FROM STOCK,AND LAY ASIDE ENDS-WITH RELEASE OF BLADE AND STOCK
NO	60X	MAO	LGAU1A1	MITPC01	194	PART,CHECK WITH SQUARE OR PROTRACTOR STARTS-WITH REACH TO SQUARE OR PROTRACTOR INCLUDES-ALL MOTIONS NECESSARY TO MOVE AND POSITION INSTRUMENT TO PART,MOVE PART AND INSTRUMENT TO EYE LEVEL,CHECK FIT OF INSTRUMENT TO PART, AND ASIDE PART AND INSTRUMENT ENDS-WITH RELEASE OF PART AND INSTRUMENT CONDITION-NO ADJUSTMENT OF SQUARE OR PROTRACTOR ALLOWED
NO	60X	MAO	LGAU1Z	MITPG01	641	PART,GAUGE WITH SLIDING PARALLELS AND OUTSIDE MICROMETER STARTS-WITH REACH TO PARALLELS INCLUDES-ALL MOTIONS NECESSARY TO PLACE PARALLELS TO PART,ADJUST,REMOVE FROM PART,GET OUTSIDE MICROMETER,CHECK MEASUREMENT,AND LAY PARALLELS AND MICROMETER ASIDE ENDS-WITH RELEASE OF TOOLS
NF	60X	MAF	1001	MITTM01	213	THREAD(DEPTH),MEASURE FOR ADJUSTMENT TO GAUGE STARTS-WITH REACH TO THREAD GAUGE INCLUDES-ALL MOTIONS NECESSARY TO GET THREAD GAUGE,SELECT PROPER LEAF,CHECK ADJUSTMENT,FOLD AND ASIDE GAUGE ENDS-WITH RELEASE GAUGE ON BENCH

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	60X	MAO	TAP1K24	TITGUXX	TABLE	GAUGE(THREAD PLUG),USE STARTS-WITH GET GAUGE INCLUDES-ALL MOTIONS NECESSARY TO CHECK THREADS WITH GO AND NO-GO PLUG GAUGES ENDS-WITH ASIDE GAUGE CONDITIONS-TIME VALUES IN COLUMN A INCLUDE GET GAUGE,TURN IN UP TO TWO THREADS,TURN OUT SLOWLY TO ASCERTAIN NUMBER OF THREADS,AND ASIDE GAUGE. TIME VALUES IN COLUMN B INCLUDE GET GAUGE,TURN IN AND OUT ONE THREAD,AND ASIDE GAUGE. TIME VALUES IN COLUMN C INCLUDE TURN GAUGE IN AND OUT ONE THREAD.

GAUGE DIAMETER (INCHES)		NO-GO GAUGE	GO GAUGE FIRST THREAD	GO GAUGE ADD. THREAD
		A	B	C
0-.138(NO.6)	A	121	90	8
.164(NO.8)-9/16	B	138	104	22
5/8-1 3/8	C	192	128	46
1 7/16-2 1/4	D	346	206	124

NO	60X	MAO	K714	MJPBA01	572	BLOCKS(GAUGE),ASSEMBLE AND DISASSEMBLE STARTS-WITH REACH TO GAUGE BLOCK BOX INCLUDES-ALL MOTIONS NECESSARY TO RELEASE ONE LATCH,OPEN BOX,SELECT TWO GAUGE BLOCKS,REMOVE FROM BOX,GET CHAMOIS OR CLOTH,WIPE BLOCKS,MOVE BLOCKS TOGETHER,POSITION,PRESS AND RUB BLOCKS TOGETHER,FINAL POSITION TO SQUARE BLOCKS, SEPARATE GAUGE BLOCKS,RETURN TO BOX,AND CLOSE BOX ENDS-WITH RELEASE OF BOX LID
AE	60X	MAW	SKGEA81	MJPC001	62	CASE,OPEN AND CLOSE(MICROMETER CASE OR SIMILAR WITH ONE PUSH BUTTON LATCH) STARTS-WITH REACH TO CASE TOP AND TO LATCH INCLUDES-ALL MOTIONS NECESSARY TO OPEN LATCH, OPEN CASE,REACH TO CASE TOP,AND CLOSE CASE TOP ENDS-WITH RELEASE OF CASE TOP
AF	60X	MAW	SMDPA16	MJPGS01	901	GAUGE(SURFACE),SET UP TO USE AND TAKE DOWN STARTS-WITH REACH TO TOOL BOX DRAWER INCLUDES-ALL MOTIONS NECESSARY TO OPEN DRAWER, GET GAUGE,CLOSE DRAWER,LOOSEN NUTS ON GAUGE, ADJUST STEM AND SCRIBER TO APPROXIMATE POSITION,TIGHTEN NUTS,MAKE FINAL ADJUSTMENT WITH SET SCREW,LOOSEN NUTS,FOLD SCRIBER TO STEM,FOLD STEM TO BASE,RELIEVE SPRING TENSION BY LOOSENING SET SCREW,OPEN TOOL BOX DRAWER, PLACE GAUGE IN DRAWER,AND CLOSE DRAWER ENDS-WITH RELEASE OF DRAWER CONDITION-WALKING TO AND FROM TOOL BOX NOT INCLUDED
NF	60X	MAF	3481	MJPGS02	119	GAUGE(SURFACE),SET UP OR TAKE DOWN STARTS-WITH GAUGE IN HAND INCLUDES-ALL THE MOTIONS NECESSARY TO MOVE GAUGE TO BENCH,HOLD BY BASE,LOOSEN LOCK SCREW, MOVE SCRIBER OPEN OR FOLD,TIGHTEN LOCK SCREW AND RELEASE SCREW AND BASE ENDS-WITH RELEASE SCREW AND BASE

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	60X	MAF	1038	MJPIA01	312	INDICATOR,ASSEMBLE TO SWIVEL BAR,SET DIRECTION OF INDICATOR POINT STARTS-WITH REACH TO INDICATOR INCLUDES-ALL MOTIONS NECESSARY TO ASSEMBLE INDICATOR TO SWIVEL BAR AND SET DIRECTION OF INDICATOR POINT ENDS-WITH RELEASE INDICATOR POINT
NF	60X	MAF	1039	MJPIA02	219	INDICATOR,ASSEMBLE ON SURFACE GAUGE STARTS-WITH REACH TO BASE OF SURFACE GAUGE INCLUDES-ALL MOTIONS NECESSARY TO ASSEMBLE INDICATOR AND SWIVEL ASSEMBLY TO SURFACE GAUGE STEM ENDS-WITH RELEASE SURFACE GAUGE
NO	60X	MAO	LTL3W4	MJPIA03	1854	INDICATOR,ASSEMBLE AND DISASSEMBLE,HEAVY DUTY MAGNETIC BASE STARTS-WITH REACH TO INDICATOR CASE INCLUDES-ALL MOTIONS NECESSARY TO PLACE CASE ON TABLE;REMOVE BASE FROM CASE;REMOVE KEEPERS AND PLACE IN CASE;PLACE BASE ON TABLE;ASSEMBLE OFFSET ROD,SWIVEL,AND INDICATOR;DISMANTLE INDICATOR ASSEMBLY;PUT ALL PARTS INTO CASE;AND LAY CASE ASIDE ENDS-WITH RELEASE OF CASE
NF	60X	MAF	1040	MJPID01	169	INDICATOR,DISASSEMBLE FROM SWIVEL BAR STARTS-WITH REACH TO INDICATOR AND LOCK NUT INCLUDES-ALL MOTIONS NECESSARY TO DISASSEMBLE INDICATOR,SWIVEL AND BAR AND PLACE ON TABLE ENDS-WITH RELEASE OF INDICATOR ON TABLE
NF	60X	MAF	1041	MJPID02	87	INDICATOR,DISASSEMBLE FROM SURFACE GAUGE STARTS-WITH REACH TO GAUGE BASE AND SWIVEL NUT INCLUDES-ALL MOTIONS NECESSARY TO DISASSEMBLE INDICATOR FROM SURFACE GAUGE AND MOVE TO TABLE ENDS-WITH RELEASE OF INDICATOR AND BAR
NF	60X	MAF	2914	MJPVR01	177	VERNIER,REMOVE AND REPLACE IN CASE STARTS-WITH A REACH TO VERNIER CASE AND LOCK INCLUDES-ALL THE MOTIONS NECESSARY TO SLIDE THE LATCH TO UNLOCK,OPEN CASE,REACH TO AND REMOVE VERNIER,CLOSE CASE,OBTAIN CASE,OPEN LID,MOVE VERNIER TO AND POSITION IN CASE,CLOSE CASE,LOCK AND RELEASE ENDS-WITH VERNIER RETURNED TO CASE AND CASE LOCKED AND RELEASED
NF	60X	MAF	1037	MMHHI01	77	HOOK,INSERT AND REMOVE FROM EYEBOLT STARTS-WITH REACH TO HOOK INCLUDES-ALL MOTIONS NECESSARY TO INSERT A HOOK INTO AN EYEBOLT AND REMOVE HOOK FROM EYEBOLT ENDS-WITH RELEASE OF HOOK
NO	60X	MAO	LGR1D3	MMHPRXX	VARIABLE	PLATFORM(SHOPLIFT),RAISE OR LOWER,PER INCH STARTS-WITH REACH TO CRANK INCLUDES-ALL MOTIONS NECESSARY TO MOVE CRANK TO RAISE OR LOWER PLATFORM ONE INCH ENDS-WITH RELEASE OF CRANK 92 CASE 01 FIRST INCH 56 02 EACH ADDITIONAL INCH

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	60X	MAO	LGR1L3	MOHSA01	455	SLING,ATTACH TO PART AND REMOVE STARTS-WITH BEND TO GET SLING FROM UNDER BENCH INCLUDES-ALL MOTIONS NECESSARY TO GET SLING, ARISE,PLACE SLING AROUND PART,PUSH END OF SLING THROUGH LOOP,AND PULL TIGHT;AND BEND TO PART,REMOVE SLING FROM LOOP,PULL SLING FROM PART,ARISE,MOVE SLING TO BENCH,AND TOSS SLING UNDER BENCH ENDS-WITH RELEASE OF SLING CONDITION-SLING IS NYLON WITH LOOP ON EACH END. WEIGHT LESS THAN 2.5 POUNDS ENW
NO	60X	MAO	LGR1M3	MOHSA02	102	SLING,ATTACH TO CRANE AND REMOVE STARTS-WITH REACH TO CRANE HOOK;OTHER HAND HOLDING SLING ATTACHED TO PART INCLUDES-ALL MOTIONS NECESSARY TO MOVE SLING OVER HOOK AND TO REMOVE SLING FROM HOOK ENDS-WITH RELEASE OF SLING
AE	60X	MAW	SKHEAX4	BSULT01	210	LOCK(CAM),TIGHTEN AND LOOSEN ON HOLDING DEVICE STARTS-WITH WRENCH IN HAND INCLUDES-ALL MOTIONS NECESSARY TO POSITION WRENCH TO CAM,LOCK AND TIGHTEN CAM,REMOVE WRENCH,MOVE WRENCH TO CAM,UNLOCK AND LOOSEN CAM,AND REMOVE WRENCH ENDS-WITH WRENCH IN HAND
FFE	60X	MAA	KMMSUB6	MSUBI01	1787	BOLT(TEE),INSTALL AND REMOVE STARTS-WITH REACH TO BOLT AT MACHINE INCLUDES-ALL MOTIONS NECESSARY TO PLACE TEE BOLT IN SLOT,PLACE WASHER ON BOLT,INSTALL NUT HAND TIGHT,GET WRENCH,TIGHTEN NUT,ASIDE WRENCH,GET WRENCH,LOOSEN NUT,ASIDE WRENCH, REMOVE NUT,REMOVE WASHER,AND ASIDE TEE BOLT SET ENDS-WITH RELEASE OF BOLT SET CONDITION-NO TIME INCLUDED FOR ATTACHING DEVICE TO BOLT
NO	60X	MAO	SAW1J2	MSUBI02	172	BOLT(TEE),INSTALL IN AND REMOVE FROM TABLE SLOT STARTS-WITH REACH TO BOLT INCLUDES-ALL MOTIONS NECESSARY TO POSITION BOLT TO SLOT,SIDESTEP TO MOVE BOLT INTO SLOT, REACH TO BOLT,SIDESTEP TO MOVE BOLT FROM SLOT, AND LAY BOLT ASIDE ON TABLE ENDS-WITH RELEASE OF BOLT
FFE	60X	MAA	KMMSUC1	MSUCI01	2602	CLAMP(AND TEE BOLT),INSTALL AND REMOVE STARTS-WITH REACH TO BOLT AT MACHINE INCLUDES-ALL MOTIONS TO INSTALL AND REMOVE A TEE BOLT,CLAMP,HEEL,AND SHIMS. TIGHTEN AND LOOSEN INCLUDED ENDS-WITH BOLT,HEEL,AND CLAMP WIPED AND ASIDE
NO	60X	MAO	LGR1C3	MSUCR01	195	CRANK,REMOVE FROM STORAGE PIN AND PLACE ON SHAFT AND RETURN TO STORAGE PIN STARTS-WITH REACH TO CRANK ON STORAGE PIN INCLUDES-ALL MOTIONS NECESSARY TO REMOVE CRANK FROM PIN,MOVE TO SHAFT,PLACE ON SHAFT,REACH TO CRANK,REMOVE FROM SHAFT,MOVE TO PIN,AND PLACE ON PIN ENDS-WITH RELEASE OF CRANK CONDITION-CRANK WEIGHS TO TEN POUNDS
NO	60X	MAO	LEL1D	MSUEI01	737	EYEBOLT,INSTALL IN AND REMOVE FROM CHUCK STARTS-WITH REACH TO EYEBOLT INCLUDES-ALL MOTIONS NECESSARY TO TURN EYEBOLT IN,HAND TIGHTEN,AND RELEASE;AND REACH TO EYEBOLT,LOOSEN BY HAND,TURN EYEBOLT OUT,AND LAY ASIDE ENDS-WITH RELEASE OF EYEBOLT

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	60X	MAA	LSHA1T4	MSUHL01	223	HEAD(OR VISE),LOCATE TO ANGLE STARTS-WITH REACH TO HEAD OF MACHINE OR VISE INCLUDES-ALL MOTIONS NECESSARY TO MOVE AND POSITION HEAD OR VISE WHILE OBSERVING SCALE GRADUATIONS ENDS-WITH RELEASE OF HEAD
NF	60X	MAF	3561	MSUJA01	175	JACK,ADJUST TO APPROXIMATE HEIGHT,PER JACK STARTS-WITH REACH TO JACKSCREW INCLUDES-ALL MOTIONS NECESSARY TO TURN JACK SCREW TO TWO REVOLUTIONS TO ADJUST HEIGHT ENDS-WITH RELEASE OF JACKSCREW
AE	60X	MAW	SKHMC52	MSUJI01	537	JACKSCREW,INSTALL AND REMOVE STARTS-WITH REACH TO JACKSCREW INCLUDES-ALL MOTIONS NECESSARY TO TURN HEAD OF JACKSCREW UP,POSITION JACKSCREW AND SET HEAD, GET WRENCH,LOCK JACKSCREW HEAD,LAY WRENCH ASIDE,GET WRENCH,UNLOCK JACKSCREW,LAY WRENCH ASIDE,TURN HEAD OF JACKSCREW DOWN FOR CLEARANCE,AND LAY JACKSCREW ASIDE ENDS-WITH RELEASE OF JACKSCREW
NF	60X	MAF	1107	MSUJR01	577	JAW,REMOVE FROM CHUCK,REVERSE AND REPLACE STARTS-WITH REACH TO WRENCH INCLUDES-ALL MOTIONS NECESSARY TO REMOVE ONE JAW FROM A CHUCK,REVERSE AND REPLACE JAW ENDS-WITH ASIDE WRENCH
NF	60X	MAF	2725	MSUJU01	96	JACKSCREW,UNLOCK OR LOCK STARTS-WITH MOVE WRENCH TO NUT INCLUDES-ALL MOTIONS NECESSARY TO POSITION WRENCH TO SCREW,TURN SCREW TO LOCK OR UNLOCK AND REMOVE WRENCH FROM SCREW ENDS-WITH DISENGAGE WRENCH FROM SCREW
FFE	60X	MAA	KMLHPC4	MSUPC01	22039	PART(NON SYMMETRICAL),CHUCK IN 4 JAW CHUCK STARTS-WITH REACH TO CHUCK WRENCH INCLUDES-REVERSE JAWS IN CHUCK,ADJUST CHUCK JAWS, LOAD PART TO CHUCK, ALIGN PART TO RUN TRUE, LOOSEN CHUCK, AND REMOVE PART ENDS-WITH PART AND CHUCK WRENCH ASIDE CONDITION-APPLICABLE TO INITIAL SETUP ONLY
FFE	60X	MAA	KMLHPC3	MSUPC02	8967	PART(SYMMETRICAL),CHUCK IN 4 JAW CHUCK STARTS-WITH REACH TO CHUCK WRENCH INCLUDES-LOAD PART INTO CHUCK,ADJUST TO RUN TRUE,REMOVE PART AND ASIDE AFTER MACHINING ENDS-WITH PART AND CHUCK WRENCH ASIDE CONDITION-APPLICABLE TO INITIAL SETUP ONLY
AE	60X	MAW	SMDEAE1	MSUSC01	191	SPINDLE,CHANGE SPEED,V-BELT DRIVE STARTS-WITH REACH TO MOTOR RATCHET INCLUDES-ALL MOTIONS NECESSARY TO RELEASE TENSION,MOVE PULLEY FORWARD TO SLACKEN BELT, MOVE BELT TO DESIRED GROOVE ON PULLEY,AND PUSH MOTOR TO OBTAIN CORRECT TENSION ENDS-WITH RELEASE OF MOTOR
NO	60X	MAO	LJB1Q4	MSUSU01	113	SHIM,USE UNDER PART OR CLAMP STARTS-WITH REACH TO SHIM INCLUDES-ALL MOTIONS NECESSARY TO RAISE CLAMP OR PART,INSERT SHIM,LOWER PART,REACH TO SHIM, REMOVE,AND LAY ASIDE ENDS-WITH RELEASE OF SHIM
AE	60X	MAW	SKHEAR4	MSUVR01	230	VISE,ROTATE STARTS-WITH REACH TO VISE OR FIXTURE INCLUDES-ALL MOTIONS NECESSARY TO ROTATE A VISE OR FIXTURE UP TO 90 DEGREES ENDS-WITH RELEASE OF VISE OR FIXTURE

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
ND	60X	MAW	LJB1K48	SSUKI01	1414	KEYS,INSTALL IN AND REMOVE FROM TABLE SLOTS, TWO KEYS STARTS-WITH REACH TO TOOLBOX INCLUDES-ALL MOTIONS NECESSARY TO OPEN AND CLOSE TOOLBOX,OBTAIN TOOL,GET KEYS,POSITION IN SLOT,TAP KEYS INTO POSITION WITH MAUL,GET PINCH BAR,REMOVE KEYS FROM TABLE,AND WIPE WITH CLOTH ENDS-WITH RETURN TOOL TO TOOLBOX CONDITION-TIME FOR WALKING BETWEEN MACHINE AND TOOLBOX NOT INCLUDED
NF	60X	MAF	2682	MTLBL01	88	BOLT,TIGHTEN OR LOOSEN WITH WRENCH STARTS-WITH MOVE WRENCH TO SCREW/BOLT INCLUDES-ALL THE MOTIONS NECESSARY TO POSITION A WRENCH ON FASTENER AND TIGHTEN OR LOOSEN ENDS-WITH WRENCH REMOVED FROM BOLT
AF	60X	OBW	221810X	MTLHBXX	VARIABLE	HOLE,BURR STARTS-WITH POSITION TOOL TO HOLE INCLUDES-ALL THE MOTIONS NECESSARY TO POSITION THE TOOL TO THE HOLE TO BE DEBURRED AND USING THE TOOL TO REMOVE BURRS IN THE HOLE ENDS-WITH TOOL REMOVED FROM HOLE
					71	CASE 01 BURR WITH COUNTERSINK-PER HOLE-10 POUNDS PRESSURE APPLIED TO TOOL
					116	02 BURR 0-2 INCH DIAMETER HOLE WITH A SCRAPER-CHECK RESULTS AFTER REMOVE TOOL-ROUND HOLE-10 POUNDS PRESSURE APPLIED TO TOOL
					315	03 BURR 0-2 INCH SQUARE CUTOUT WITH A SCRAPER-CHECK RESULTS AFTER REMOVE TOOL-10 POUNDS PRESSURE APPLIED TO TOOL
					292	04 BURR 0-1 INCH DIAMETER HOLE THROUGH A THREADED DIAMETER WITH THREAD FILE AND REAMER-10 POUNDS PRESSURE APPLIED TO TOOL
AF	60X	OBW	2217-11	TTLEFXX	TABLE	EDGE,FILE STARTS-WITH POSITION FILE TO EDGE OF WORK INCLUDES-ALL THE MOTIONS NECESSARY TO MANIPULATE FILE TO REMOVE BURR OR SHARP EDGE AND RETRACT FILE AFTER COMPLETION ENDS-WITH FILE RETRACTED CONDITIONS-ROCKWELL,SCALE C-0 TO 20-SOFT METAL;20 TO 35-MEDIUM METAL;35 AND UP-HARD METAL.HOLD OR BALANCE WITH LEFT HAND.MINIMUM AND MAXIMUM PRESSURES AVERAGED TO ALLOW OVERLAP FOR VARIABLE BURR SIZES.START INCHES ARE USED EVERY 12 INCHES EDGE LENGTH,OR EACH TIME EDGE CHANGES DIRECTIONS.FORWARD FILE TRAVEL IS THREE INCHES.TIMES ARE PER INCH FILED.

METALS		FIRST OR START	EACH ADDITIONAL	CORNER
		A	B	C
SOFT	A	79	26	71
MEDIUM	B	91	30	82
HARD	C	109	35	98

NF	600	MAF	1159	MTLPM01	169	PART,MOVE INTO OR OUT OF POSITION WITH HAMMER STARTS-WITH REACH TO HAMMER INCLUDES-ALL MOTIONS NECESSARY TO GET HAMMER, TAP PART FIVE BLOWS AND ASIDE HAMMER ENDS-WITH RELEASE OF HAMMER

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NF	601	MAF	1125	MEMBP01	535	BLADE(BANDSAW),POSITION ON TWO ROLLERS OF AN AUTOMATIC SHARPENING MACHINE STARTS-WITH WALK TO FIRST ROLLER INCLUDES-ALL MOTIONS NECESSARY TO POSITION A BANDSAW BLADE ON TWO ROLLERS OF AN AUTOMATIC SHARPENING MACHINE ENDS-WITH DISENGAGE SAW
NF	601	MAF	2447	MEMBP02	76	BLADE(SAW),POSITION ON ARBOR OR REMOVE(FOR SHARPENING) STARTS-WITH REACH TO BLADE INCLUDES-ALL MOTIONS NECESSARY TO GET SAW BLADE AND POSITION IT ON ARBOR ENDS-WITH RELEASE BLADE
NF	601	MAF	3424	MEMBR01	94	BLADE(SAW),REPOSITION 180 DEGREES ON ARBOR FOR SHARPENING STARTS-WITH REACH TO SAW BLADE INCLUDES-ALL MOTIONS NECESSARY TO MOVE BLADE OFF ARBOR,TURN 180 DEGREES, AND POSITION ON ARBOR ENDS WITH RELEASE OF ARBOR
NF	601	MAF	1127	MEMFT01	295	FLYWHEEL,TURN BY HAND ON FILER OF AUTOMATIC SAW SHARPENING MACHINE STARTS-WITH REACH TO WHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN THE FLYWHEEL OF AN AUTOMATIC SAW SHARPENING MACHINE ONE REVOLUTION ENDS-WITH RELEASE OF FLYWHEEL
NO	603	MAO	LGR1V	BCLHC01	994	HOUSING AND COVER(WHEEL),CLEAN WITH SCRAPER, LARGE WHEEL STARTS-WITH SCRAPER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE SCRAPER TO HOUSING,MAKE 15 STROKES WITH PRESSURE,MOVE SCRAPER TO COVER,MAKE 15 STROKES WITH PRESSURE,AND MOVE SCRAPER FROM COVER ENDS-WITH SCRAPER IN HAND
NO	603	MAO	LGR2N4	BCLHC02	676	HOUSING(WHEEL),CLEAN WITH SCRAPER,SMALL WHEEL STARTS-WITH SCRAPER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO SCRAPE SMALL WHEEL HOUSING TO REMOVE FOREIGN MATTER ENDS-WITH SCRAPER IN HAND
NO	603	MAO	LGR1D1	MCLCC01	212	CHUCK,CLEAN WITH SQUEEGEE,TO THREE SQUARE FEET STARTS-WITH REACH TO SQUEEGEE INCLUDES-ALL MOTIONS NECESSARY TO MOVE SQUEEGEE TO CHUCK,CLEAN CHUCK,AND LAY SQUEEGEE ASIDE ENDS-WITH RELEASE OF SQUEEGEE
NO	603	MAO	LGR1E1	MCLCC02	256	CHUCK,CLEAN WITH RAG,TO THREE SQUARE FEET STARTS-WITH REACH TO RAG IN POCKET INCLUDES-ALL MOTIONS NECESSARY TO GET RAG TO CHUCK,LIGHTLY WIPE TO THREE SQUARE FEET,AND REPLACE RAG IN POCKET ENDS-WITH RELEASE OF RAG CONDITION-DOES NOT INCLUDE JOGGING TABLE
NO	603	MAO	LGR3C3	MEMAS01	166	STROKE(WHEEL OSCILLATION),ADJUST,CYLINDRICAL GRINDER STARTS-WITH REACH TO KNOB INCLUDES-ALL MOTIONS NECESSARY TO TURN KNOB TO ADJUST STROKE OF WHEEL OSCILLATION ENDS-WITH RELEASE OF KNOB

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	603	MAO	LGR2G	MEMCA01	164	CONTROL(CROSS FEED),ADJUST,SURFACE GRINDER STARTS-WITH REACH TO SPEED CONTROL NUT INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN NUT, TURN WHEEL TO ADJUST CROSS FEED SPEED,AND TIGHTEN SPEED CONTROL NUT ENDS-WITH RELEASE OF NUT
NO	603	MAO	LGR4L3	MEMCM01	90	CROSS SLIDE(WHEELHEAD),MOVE FOR OPERATION, INTERNAL GRINDER STARTS-WITH REACH TO HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO CRANK HANDWHEEL 3/4 REVOLUTION TO APPROXIMATE LOCATION AND MOVE HANDWHEEL TO OBTAIN EXACT ALIGNMENT OF CROSS SLIDE ENDS-WITH RELEASE OF HANDWHEEL
NO	603	MAO	LGR3V5	MEMCO01	286	COLLET,OPEN AND CLOSE STARTS-WITH REACH TO COLLET LOCKING WHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN WHEEL WITH BOTH HANDS TO OPEN COLLET;AND GET WHEEL AND TURN TO CLOSE COLLET ENDS-WITH RELEASE OF WHEEL CONDITION-THIS ELEMENT NOT APPLICABLE TO LEVER OPERATED COLLETS
NO	603	MAO	LGR1A1	MEMCT01	128	CHUCK(MAGNETIC),TURN ON AND OFF STARTS-WITH SIDESTEP TO SWITCH INCLUDES-ALL MOTIONS NECESSARY TO REACH TO FIRST SWITCH,PUSH SWITCH,REACH TO SECOND SWITCH,PUSH SWITCH,AND SIDESTEP TO FRONT OF MACHINE.THIS MOTION SEQUENCE IS REPEATED TO TURN MAGNETIC CHUCK OFF ENDS-WITH OPERATOR AT FRONT OF MACHINE
NO	603	MAO	LGR3R7	MEMCW01	46	CHUCK,WIPE HOLDING SURFACES OF THREE JAWS STARTS-WITH REACH TO FIRST JAW INCLUDES-ALL MOTIONS NECESSARY TO WIPE THE HOLDING SURFACES OF A 3-JAW CHUCK WITH THE HAND ENDS-WITH COMPLETION OF WIPING THIRD JAW
NO	603	MAO	LGR3D3	MEMDP01	112	DOG(DRIVING),PLACE ON PART AND REMOVE STARTS-WITH REACH TO DOG INCLUDES-ALL MOTIONS NECESSARY TO GET PART, MOVE DOG ON PART,REACH TO PART,REMOVE DOG,AND PLACE DOG ASIDE ENDS-WITH PART IN HAND CONDITION-TIME FOR SECURING DOG TO PART NOT INCLUDED
NO	603	MAO	LGRG3	MEMGL01	90	GUARD(WORKHEAD),LOWER AND RAISE,INTERNAL GRINDER STARTS-WITH REACH TO GUARD HANDLE INCLUDES-ALL MOTIONS NECESSARY TO LOWER GUARD OVER WORK,REACH TO GUARD HANDLE,AND RAISE GUARD ENDS-WITH RELEASE OF GUARD HANDLE
NO	603	MAO	LGR3J5	MEMGP01	96	GAUGE(ARNOLD),POSITION TO PART AND REMOVE STARTS-WITH REACH TO GAUGE INCLUDES-ALL MOTIONS NECESSARY TO POSITION GAUGE TO PART AND TO MOVE GAUGE FROM PART ENDS-WITH RELEASE OF GAUGE
NO	603	MAO	LGR3A3	MEMGR01	58	GUARD(SPLASH),REMOVE AND REPLACE,CYLINDRICAL GRINDER STARTS-WITH REACH TO SPLASH GUARD INCLUDES-ALL MOTIONS NECESSARY TO REMOVE GUARD,PLACE ASIDE,GET GUARD,AND INSTALL ON MACHINE ENDS-WITH RELEASE OF GUARD

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	603	MAO	LGR3Y2	MEMLA01	76	LUBRICANT(CENTER),APPLY TO BOTH ENDS OF PART STARTS-WITH PART IN HAND AND REACH TO BRUSH IN CONTAINER OF LUBRICANT INCLUDES-ALL MOTIONS NECESSARY TO GET BRUSH FROM CONTAINER,WIPE OFF EXCESS LUBRICANT,APPLY LUBRICANT TO BOTH ENDS OF PART,AND RETURN BRUSH TO CONTAINER ENDS-WITH RELEASE OF BRUSH,PART IN HAND
NO	603	MAO	LGR3A5	MEMLE01	65	LEVER(RAPID CROSS FEED),ENGAGE OR DISENGAGE, CYLINDRICAL GRINDER STARTS-WITH SIMO REACH TO RAPID CROSS FEED LEVER AND HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO MOVE LEVER AND TURN HANDWHEEL TO ENGAGE OR DISENGAGE LEVER ENDS-WITH RELEASE OF LEVER AND HANDWHEEL
NO	603	MAO	LGR3B1	MEMLM01	52	LEVER(INFEED),MOVE DOWN AND BACK,CYLINDRICAL GRINDER STARTS-WITH REACH TO LEVER INCLUDES-ALL MOTIONS NECESSARY TO MOVE INFEED LEVER DOWN AND BACK ENDS-WITH RELEASE OF LEVER
NO	603	MAO	LGR3N5	MEMLS01	36	LEVER(SPINDLE LOCKING),SHIFT STARTS-WITH REACH TO LEVER INCLUDES-ALL MOTIONS NECESSARY TO MOVE LEVER ONE WAY ENDS-WITH RELEASE OF LEVER
NO	603	MAO	LGR1F2	MEMMS01	61	MOTION(HEAD),START AND STOP,BLANCHARD ROTARY GRINDER STARTS-WITH REACH TO CONTROL KNOB INCLUDES-ALL MOTIONS NECESSARY TO PULL KNOB OUT,MOVE TO RIGHT TO START HEAD MOTION,REACH TO KNOB,AND MOVE KNOB TO LEFT TO STOP MOTION ENDS-WITH RELEASE OF KNOB
NO	603	MAO	LGR2F2	MEMMS02	44	MOTION(TABLE),START AND STOP,SURFACE GRINDER STARTS-WITH REACH TO CONTROL KNOB INCLUDES-ALL MOTIONS NECESSARY TO START AND STOP TABLE MOTION ENDS-WITH RELEASE OF KNOB
NO	603	MAO	LGR3K23	MEMMUXX	VARIABLE	MANDREL(NUT OR HYDRAULIC),USE STARTS-WITH GET ARBOR INCLUDES-ALL MOTIONS NECESSARY TO PLACE WASHER ON ARBOR,GET PART,PLACE ON ARBOR,GET WRENCH, TIGHTEN NUT;GET WRENCH,LOOSEN NUT,REMOVE PART FROM ARBOR,WIPE PART WITH CLOTH,ASIDE PART, REMOVE AND ASIDE WASHER,WIPE ARBOR WITH CLOTH, AND PLACE ARBOR AND CLOTH ASIDE ENDS-WITH RELEASE OF ARBOR CASE 01 FIRST OR SINGLE PART 02 EACH ADDITIONAL PART(INCLUDES GET AND ASIDE PART,PLACE PART ON MANDREL AND REMOVE,AND WIPE PART WITH CLOTH)
					757 258	
NO	603	MAO	LGR3H2	MEMNA01	78	NOZZLE(COOLANT),ADJUST TO WORK STARTS-WITH REACH TO NOZZLE INCLUDES-ALL MOTIONS NECESSARY TO POSITION COOLANT NOZZLE TO WORK ENDS-WITH RELEASE OF NOZZLE

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	603	MAO	LGR3B3	MEMOS01	58	OSCILLATION(WHEEL),START AND STOP,CYLINDRICAL GRINDER STARTS-WITH REACH TO LEVER INCLUDES-ALL MOTIONS NECESSARY TO MOVE LEVER TO START OSCILLATION,GET LEVER,AND MOVE TO STOP OSCILLATION ENDS-WITH RELEASE OF LEVER CONDITION-THIS ELEMENT TO BE USED ONLY WHEN WHEEL THICKNESS IS TWO INCHES OR LESS
NO	603	MAO	LGR3A2	MEMPA01	110	PRESSURE,ADJUST ON PART BETWEEN CENTERS, CYLINDRICAL GRINDER STARTS-WITH SIMO REACH TO PART AND TENSION SCREW INCLUDES-ALL MOTIONS NECESSARY TO TIGHTEN OR LOOSEN SCREW TO ADJUST TENSION ON PART HELD BETWEEN CENTERS ENDS-WITH RELEASE OF TENSION SCREW
NO	603	MAO	LGR3S3	MEMPI01	208	PART,INSTALL ON AND REMOVE FROM MANDREL STARTS-WITH PART AND ARBOR IN HANDS INCLUDES-ALL MOTIONS NECESSARY TO PLACE PART ON ARBOR,TAP END OF ARBOR ON BOARD TO SEAT PART;AND MOVE PART AND ARBOR TO BOARD,TAP END OF ARBOR TO LOOSEN PART,AND REMOVE PART ENDS-WITH PART AND ARBOR IN HANDS
NO	603	MAO	LGR3W2	MEMPP01	171	PART,PLACE BETWEEN CENTERS AND REMOVE, CYLINDRICAL GRINDER STARTS-WITH PART IN HAND INCLUDES-ALL MOTIONS NECESSARY TO REACH TO FOOTSTOCK CENTER LEVER,WITHDRAW FOOTSTOCK CENTER,POSITION PART TO HEADSTOCK CENTER, POSITION PART AND ENGAGE TAILSTOCK CENTER,AND MOVE DOG AGAINST DRIVER;AND REACH TO PART, WITHDRAW TAILSTOCK CENTER,REMOVE PART,AND RETURN TAILSTOCK CENTER TO NORMAL ENDS-WITH PART IN HAND
NO	603	MAO	LGR3Q7	MEMRS01	43	ROTATION(WORK),START OR STOP,CYLINDRICAL GRINDER STARTS-WITH REACH TO SAFETY LATCH INCLUDES-ALL MOTIONS NECESSARY TO REMOVE SAFETY LATCH,REACH TO START LEVER,AND MOVE TO START ROTATION OF WORK ENDS-WITH RELEASE OF LEVER
NO	603	MAO	LGR1Z2	MEMSA01	98	SPEED(CHUCK),ADJUST,BLANCHARD ROTARY GRINDER STARTS-WITH SIDESTEP TO SPEED CONTROL INCLUDES-ALL MOTIONS NECESSARY TO REACH TO CONTROL AND MOVE TO DESIRED SPEED SETTING ENDS-WITH SIDESTEP TO FRONT OF MACHINE
NO	603	MAO	LGR3S	MEMSC01	468	SPEED(SPINDLE),CHANGE,4-STEP PULLEY, CYLINDRICAL GRINDER STARTS-WITH GET WRENCH INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN BELT TENSION,RELEASE MOTOR BRAKE,MOVE BELT ON PULLEYS TO CHANGE SPINDLE SPEED,SET BRAKE,AND ADJUST BELT TENSION ENDS-WITH ASIDE WRENCH
NO	603	MAO	LGR4H2	MEMSI01	113	STOP(BARREL),INDEX ONE POSITION,INTERNAL GRINDER STARTS-WITH SIDESTEP AND BEND TO STOP INCLUDES-ALL MOTIONS NECESSARY TO INDEX BARREL STOP ONE POSITION ENDS-WITH ARISE AND SIDESTEP TO WORK AREA

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	603	MAO	LGR3A7	MEMSR01	224	SHAFT(OR PART),REMOVE FROM CENTERS,LENGTH-GREATER THAN 36 INCHES STARTS-WITH REACH TO CENTER LOCK LEVER INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN TAILSTOCK CENTER,SIDESTEP TO END OF TAILSTOCK, TURN CRANK TO WITHDRAW CENTER WHILE HOLDING PART WITH LEFT HAND,TAKE TWO SIDESTEPS TO CENTER OF PART,AND REMOVE PART FROM HEADSTOCK CENTER ENDS-WITH PART IN HAND
NO	603	MAO	LGR3G5	MEMSS01	35	SPINDLE(WORK),START AND STOP WITH KNOB, CYLINDRICAL GRINDER STARTS-WITH REACH TO KNOB INCLUDES-ALL MOTIONS NECESSARY TO PULL KNOB OUT TO START WORK SPINDLE AND TO PUSH KNOB IN TO STOP SPINDLE ENDS-WITH RELEASE OF KNOB
NO	603	MAO	LGR3H1	MEMTFXX	VARIABLE	TABLE,FEED IN OR OUT 1/16 INCH WITH HANDWHEEL, CYLINDRICAL GRINDER STARTS-WITH REACH TO HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN HANDWHEEL ONE REVOLUTION TO MOVE TABLE 1/16 INCH ENDS-WITH RELEASE OF HANDWHEEL
					34	CASE 01 FIRST REVOLUTION(1/16 INCH TRAVEL)
					14	02 EACH ADDITIONAL REVOLUTION(1/16 INCH TRAVEL)
NO	603	MAO	LGR1C1	MEMTJ01	130	TABLE,JOG STARTS-WITH TURN FROM MACHINE TABLE INCLUDES-ALL MOTIONS NECESSARY TO WALK ONE PACE,REACH TO CONTROL,PUSH BUTTON THREE TIMES TO JOG TABLE,TURN,AND WALK ONE PACE TO TABLE ENDS-WITH OPERATOR AT MACHINE TABLE
NO	603	MAO	LGR3D1	MEMTMXX	VARIABLE	TABLE,MOVE WITH HAND WHEEL,CYLINDRICAL GRINDER STARTS-WITH REACH TO HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN WHEEL ONE REVOLUTION FOR 3/4 INCH TABLE MOVEMENT ENDS-WITH RELEASE OF HANDWHEEL
					34	CASE 01 FIRST REVOLUTION(3/4 INCH TRAVEL)
					14	02 EACH ADDITIONAL REVOLUTION(3/4 INCH TRAVEL)
NO	603	MAO	LGR2K29	MEMTPXX	VARIABLE	TABLE,POSITION TO GRIND,SURFACE GRINDER STARTS-WITH REACH TO CROSS FEED LEVER INCLUDES-ALL MOTIONS NECESSARY TO ENGAGE CROSS FEED LEVER,TURN COOLANT ON,CRANK GRINDING WHEEL DOWN ONE REVOLUTION,FINAL ADJUST GRINDING WHEEL .005 INCH,START TABLE MOTION, CRANK TABLE TEN REVOLUTIONS TO MOVE WORK UNDER WHEEL,DISENGAGE CROSS FEED LEVER,STOP COOLANT FLOW,CRANK GRINDING WHEEL UP ONE REVOLUTION, STOP TABLE MOTION,AND CRANK TABLE TEN REVOLUTIONS TO MOVE WORK FROM WHEEL.NOTE-CASE 02 DOES NOT REQUIRE CRANKING GRINDING WHEEL UP AND DOWN OR THE FINAL ADJUSTMENT OF THE WHEEL. ENDS-WITH RELEASE OF TABLE CRANK
					871	CASE 01 POSITION TABLE TO GRIND FIRST SIDE OF PART(S)
					607	02 POSITION TABLE TO GRIND SIDE OF PART(S) OPPOSITE PREVIOUSLY GROUND SIDE
NO	603	MAO	LGR3Y	MEMTR01	30	TRAVERSE(TABLE),REVERSE BY HAND,CYLINDRICAL GRINDER STARTS-WITH REACH TO TRAVERSE LEVER INCLUDES-ALL MOTIONS NECESSARY TO MOVE LEVER TO REVERSE TABLE TRAVERSE ENDS-WITH RELEASE OF LEVER

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	603	MAD	LGR3C1	MEMTS01	59	TRAVERSE(TABLE),START AND STOP,CYLINDRICAL GRINDER STARTS-WITH REACH TO ENGAGING KNOB INCLUDES-ALL MOTIONS NECESSARY TO ENGAGE AND DISENGAGE TABLE TRAVERSE ENDS-WITH RELEASE OF KNOB
NO	603	MAD	LGR3W5	MEMWCXX	VARIABLE	WHEEL(GRINDING),CROSSFEED TO AND FROM WORK, CYLINDRICAL GRINDER STARTS-WITH REACH TO HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO CRANK HANDWHEEL FOUR REVOLUTIONS TO BRING WHEEL NEAR WORK,TURN HANDWHEEL CAREFULLY TO TOUCH GRINDING WHEEL TO WORK,AND TO CRANK WHEEL AWAY FROM WORK ENDS-WITH RELEASE OF HANDWHEEL
					285	CASE 01 FIRST DIAMETER
					128	02 EACH ADDITIONAL DIAMETER
NO	603	MAD	LGR4Y2	MEMWR01	248	WHEEL(GRINDING),REMOVE AND INSTALL,INTERNAL GRINDER STARTS-WITH HAND ON WHEEL INCLUDES-ALL MOTIONS NECESSARY TO REMOVE WHEEL AND SCREW FROM QUILL,REMOVE WHEEL FROM SCREW,PLACE WHEEL ASIDE,GET BLOTTER,PLACE ON SCREW,GET WHEEL,PLACE ON SCREW,GET SECOND BLOTTER,PLACE ON SCREW,AND MOUNT WHEEL TO QUILL ENDS-WITH RELEASE OF WHEEL CONDITION-TIME FOR LOOSENING AND TIGHTENING SCREW NOT INCLUDED

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFD	603	FAA	KMG0DXX	TEMGEXX	TABLE	GRINDER,GRIND EXTERNAL STARTS=WITH WHEEL LOCATED TO PART INCLUDES=ALL GRINDING TIME TO REMOVE SPECIFIED AMOUNT OF MATERIAL ENDS=WITH GRINDING WHEEL CLEAR OF WORK CONDITIONS=APPLIES TO EXTERNAL GRINDING ONLY. DOES NOT INCLUDE WHEEL DRESSING OR MEASUREMENT,APPLIES TO GIVEN AMOUNT,SIZE AND LENGTH ONLY.CYLINDRICAL GRINDERS. THE OPERATING PARAMETERS ARE ESTABLISHED AS= (A)CUTTING SPEED=65 SURFACE FEET PER MINUTE (B)STOCK REMOVAL=1/8 INCH PER REVOLUTION LINEAL TRAVERSE WITH .001 INFEED PER PASS (C)FINISH OR SIZE=1/16 INCH LINEAL TRAVERSE PER REVOLUTION=.0001 INFEED PER PASS FOR A TOTAL OF .002 STOCK REMOVAL (D)TARRY=2 REVOLUTIONS PER PASS FOR STOCK REMOVAL.3 REVOLUTIONS PER PASS FOR FINISH

REMOVE .010 INCH FROM RADIUS

OD INCHES		LENGTH OF GRIND (INCHES) 1.000 A	1.500 B	2.000 C	2.500 D	3.000 E
0.50	A	1617	2283	2967	3633	4317
0.75	B	2417	3417	4417	5417	6433
1.00	C	3200	4533	5867	7200	8533
1.50	D	4850	6867	8884	10917	12934
2.00	E	6450	9143	11834	14517	17200
2.50	F	8000	11334	14667	18000	21334
3.00	G	9634	13650	17667	21684	25700
3.50	H	11267	15967	20650	25350	30050
4.00	J	12900	18284	23650	29034	34417
4.50	K	14550	20600	26667	32734	38784
5.00	L	16000	22667	29334	36000	42668
5.50	M	17784	25184	32601	40000	47401
6.00	N	19517	27651	35767	43901	52034
7.00	O	22217	31484	40767	50001	59268
8.00	P	25800	36567	47318	58068	68818
9.00	Q	28567	40484	52384	64285	76185
10.00	R	32000	45334	58668	72000	85335
12.00	S	38100	53968	69835	85718	101584
14.00	T	44450	62968	81485	100000	118519
16.00	U	53334	75552	97785	120002	142219
18.00	V	57151	80952	104769	128569	152386
24.00	W	80002	113336	146670	180004	213338

REMOVE .040 INCH FROM RADIUS

OD INCHES		LENGTH OF GRIND (INCHES) 1.000 F	1.500 G	2.000 H	2.500 J	3.000 K
0.50	A	3633	3700	4783	5867	6934
0.75	B	3917	5516	7134	8734	10333
1.00	C	5200	7334	9467	11600	13734
1.50	D	7883	11117	14334	17584	20800
2.00	E	10484	14784	19084	23384	27684
2.50	F	13000	18334	23667	29000	34334
3.00	G	15666	22084	28517	34934	41367
3.50	H	18317	25817	33334	40834	48351
4.00	J	20967	29567	38167	46768	55384
4.50	K	23634	33334	43034	52734	62418
5.00	L	26000	36667	47334	58001	68668
5.50	M	28884	40734	52601	64451	76301
6.00	N	31000	44718	57718	70735	83735
7.00	O	36117	50934	65735	80552	95369
8.00	P	41934	59134	76352	93552	110752

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFD	603	FAA	KMGODXX	TEMGEXX		

REMOVE .040 INCH FROM RADIUS

LENGTH OF GRIND (INCHES)

OD INCHES		1.000 F	1.500 G	2.000 H	2.500 J	3.000 K
9.00	Q	46434	65468	84502	103569	122619
10.00	R	52000	73335	94669	116002	137336
12.00	S	61901	87302	112702	138103	163503
14.00	T	73218	101852	131486	161120	190754
16.00	U	86668	122219	157786	193337	228888
18.00	V	92852	130952	169053	207154	236905
24.00	W	130002	183337	236671	290005	343340

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FF	603	FAA	KMGDIXX	TEMGIXX	TABLE	GRINDER,GRIND INTERNAL STARTS-WITH WHEEL LOCATED TO PART INCLUDES-ALL GRINDING TO REMOVE SPECIFIED AMOUNT OF MATERIAL ENDS-WITH STOCK REMOVED AND WHEEL CLEAR OF PART CONDITIONS-APPLIES ONLY TO INTERNAL GRINDING OF THE SPECIFIED DIAMETER AND LENGTH.DOES NOT INCLUDE WHEEL DRESSING OR MEASUREMENT. THE OPERATING PARAMETERS ESTABLISHED ARE- (A)CUTTING SPEED-70 SURFACE FEET PER MINUTE (B)DEPTH OF CUT-.0005 PER PASS TO REMOVE STOCK-.0001 PER PASS FOR FINISH WITH A MAXIMUM OF .002 REMOVED (C)FEED PER REVOLUTION-.100 FOR STOCK REMOVAL, .050 FOR FINISH (D)TARRY-3 REVOLUTIONS PER PASS STOCK REMOVAL, 4 REVOLUTIONS PER PASS FOR FINISH

REMOVE .010 INCH FROM RADIUS

ID INCHES		LENGTH OF GRIND(INCHES) .500 A	1.000 B	1.500 C	2.000 D	3.000 E
0.50	A	1367				
0.75	B	2066	3466	4866		
1.00	C	2750	4616	6483	8366	
1.50	D	4116	6933	9733	12549	18166
2.00	E	5516	9266	13033	16799	24316
2.50	F	6850	11533	16199	20866	30215
3.00	G	8233	13849	19466	25099	36332
3.50	H	9650	16233	22799	29382	42548
4.00	J	10950	18399	25866	33333	48265
4.50	K	12433	20899	29382	37848	54798
5.00	L	13833	23266	32699	42132	60998
5.50	M	15283	25699	36115	46531	67364
6.00	N	16295	27399	38515	49631	71847
7.00	O	19299	32449	45615	58764	85080
8.00	P	22216	37365	52531	67681	97979
9.00	Q	24490	41115	75781	74447	107779
10.00	R	27166	45682	64197	82713	119745
12.00	S	33333	56064	78780	101513	146961
14.00	T	38598	64914	91230	117549	170160
16.00	U	43132	72547	101963	131161	190192
18.00	V	48881	82213	115545	148877	215541
24.00	W	66664	112112	157560	203025	293922

REMOVE .040 INCH FROM RADIUS

ID INCHES		LENGTH OF GRIND(INCHES) .500 F	1.000 G	1.500 H	2.000 J	3.000 K
0.50	A	2867				
0.75	B	3400	7116	9933		
1.00	C	5750	9483	13233	16983	
1.50	D	8616	14233	19829	25466	34449
2.00	E	11533	19049	26566	34082	46115
2.50	F	14333	23682	33015	42365	57314
3.00	G	17233	28466	39698	50931	68914
3.50	H	20183	33333	46481	59648	80697
4.00	J	22882	37815	52731	67664	91546
4.50	K	25982	42932	59881	76830	103946
5.00	L	28432	44465	66664	85530	115712
5.50	M	31949	61114	73614	94446	127778
6.00	N	34065	56298	78514	100729	136294
7.00	O	40348	66664	92980	119925	161394
8.00	P	46465	76784	107062	137361	185859
9.00	Q	51115	84480	117779	151111	204442

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FF	603	FAA	KMGDIXX	TEMGIXX		REMOVE .040 INCH FROM RADIUS

ID INCHES		LENGTH OF GRIND (INCHES) .500 F	1.000 G	1.500 H	2.000 J	3.000 K
10.00	R	56781	93830	130861	167893	227158
12.00	S	69697	115145	160594	206058	278772
14.00	T	80697	133328	185959	238590	322787
16.00	U	90196	149011	207825	266656	360769
18.00	V	102213	168877	235540	302205	408867
24.00	W	139394	230291	321204	412100	557544

NO	603	MAO	LGR2Z3	BJPIA01	99	INDICATOR(MAGNETIC),ATTACH TO AND REMOVE FROM WHEEL GUARD STARTS-WITH INDICATOR IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE INDICATOR TO WHEEL GUARD AND ATTACH,AND REACH TO AND REMOVE INDICATOR FROM WHEEL GUARD ENDS-WITH INDICATOR IN HAND
NO	603	MAO	LGR1M	MOHBG01	476	BAFFLE(PLYWOOD),GET AND RETURN,BLANCHARD ROTARY GRINDER STARTS-WITH TURN FROM MACHINE INCLUDES-ALL MOTIONS NECESSARY TO WALK THREE PACES TO BENCH,BEND,GET BAFFLE,ARISE,TURN FROM BENCH,WALK THREE PACES TO MACHINE,AND PLACE BAFFLE TO CHUCK;REACH TO BAFFLE,PICK UP,TURN FROM MACHINE,CARRY BAFFLE THREE PACES TO BENCH,BEND,ASIDE BAFFLE,ARISE,TURN,AND RETURN TO MACHINE ENDS-WITH OPERATOR AT FRONT OF MACHINE
NO	603	MAO	LGR1E2	MOHPL01	366	PART,LIFT FROM FLOOR TO CHUCK AND RETURN STARTS-WITH STOOP TO PART ON FLOOR INCLUDES-ALL MOTIONS NECESSARY TO LIFT PART FROM FLOOR,ARISE,TURN,WALK THREE PACES,MOVE PART TO CHUCK,REACH TO PART,MOVE PART FROM CHUCK,TURN,WALK THREE PACES,STOOP,AND PLACE PART ON FLOOR ENDS-WITH ARISE FROM STOOP CONDITIONS-PART WEIGHS TO 20 POUNDS
NO	603	MAO	LGR1T	MOHWR01	152	WHEEL(GRINDING),REMOVE FROM MACHINE TABLE AND PLACE ASIDE STARTS-WITH REACH TO GRINDING WHEEL INCLUDES-ALL MOTIONS NECESSARY TO LIFT WHEEL, TURN,WALK THREE PACES TO BENCH,AND LAY WHEEL ASIDE ENDS-WITH RELEASE OF WHEEL CONDITION-APPLICABLE TO MOVEMENT OF GRINDING WHEELS WEIGHING TO 25 POUNDS
NO	603	MAO	LGR3G1	BSUHM01	103	HOLDER(DIAMOND),MOUNT ON AND REMOVE FROM MACHINE STARTS-WITH DIAMOND HOLDER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE HOLDER TO FOOTSTOCK AND MOUNT,AND TO REMOVE HOLDER ENDS-WITH HOLDER IN HAND
NO	603	MAO	LGR3N3	MSUAD01	82	DRESSER(RADIUS),ADJUST STARTS-WITH REACH TO WRENCH INCLUDES-ALL MOTIONS NECESSARY TO USE WRENCH TO ADJUST RADIUS DRESSER ENDS-WITH ASIDE WRENCH
NO	603	MAO	LGR4U	MSUAG01	42	GUARD(WHEEL),ADJUST LENGTH,INTERNAL GRINDER STARTS-WITH REACH TO GUARD INCLUDES-ALL MOTIONS NECESSARY TO MOVE GUARD TO DESIRED LENGTH ENDS-WITH RELEASE OF GUARD

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	603	MAO	LGR4S2	MSUBM01	179	BASE(TRUING UNIT),MOVE,INTERNAL GRINDER STARTS-WITH REACH TO TRUING UNIT BASE INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN BASE WITH A PUSH/PULL AND MOVE BASE UP TO THREE INCHES TO DESIRED LOCATION ENDS-WITH RELEASE OF BASE
NO	603	MAO	LGR3P5	MSU8P01	225	BRACKET(DIAMOND HOLDER),PLACE ON AND REMOVE FROM MACHINE STARTS-WITH REACH TO BRACKET ON WORKBENCH INCLUDES-ALL MOTIONS NECESSARY TO TURN,WALK TWO PACES TO MACHINE,PLACE BRACKET ON TABLE, POSITION OVER BOLT,AND POSITION TO WHEEL;AND REACH TO BRACKET,MOVE BRACKET FROM TABLE,TURN, WALK TWO PACES,PLACE BRACKET ON WORKBENCH ENDS-WITH RELEASE OF BRACKET CONDITION-TIME FOR SECURING BRACKET NOT INCLUDED
NO	603	MAO	LGR3P2	MSUBR01	136	BLOTTER,REMOVE AND REPLACE,PER BLOTTER STARTS-WITH REACH TO BLOTTER INCLUDES-ALL MOTIONS NECESSARY TO REMOVE AND PLACE BLOTTER ASIDE,GET NEW BLOTTER,POSITION TO FLANGE,AND SLIDE FINGER OVER BLOTTER TO SMOOTH ENDS-WITH RELEASE OF BLOTTER
NO	603	MAO	LGR4A3	MSUBT01	118	BELT(WHEELHEAD DRIVE),TIGHTEN AND LOOSEN, INTERNAL GRINDER STARTS-WITH REACH TO MOTOR INCLUDES-ALL MOTIONS NECESSARY TO SIDESTEP AND APPLY PRESSURE TO MOVE MOTOR TO TIGHTEN BELT; AND REACH TO REAR OF MOTOR AND APPLY PRESSURE TO MOVE MOTOR FORWARD TO LOOSEN BELT ENDS-WITH RELEASE OF MOTOR
NO	603	MAO	LGR1G	MSUCA01	46	CONTROL(HEAD FEED),ADJUST,BLANCHARD ROTARY GRINDER STARTS-WITH REACH TO HEAD FEED CONTROL INCLUDES-ALL MOTIONS NECESSARY TO TURN KNOB 45 DEGREES TO ADJUST HEAD FEED ENDS-WITH RELEASE OF CONTROL
NO	603	MAO	LGR3H3	MSUC101	475	CENTER,INSTALL IN AND REMOVE FROM HEADSTOCK OR FOOTSTOCK STARTS-WITH REACH TO CENTER INCLUDES-ALL MOTIONS NECESSARY TO MOVE CENTER AND POSITION IN HEADSTOCK OR FOOTSTOCK,GET KNOCKOUT BAR,SIDESTEP,PLACE BAR IN SPINDLE, STRIKE CENTER WITH BAR TO LOOSEN,REMOVE CENTER,REMOVE KNOCKOUT BAR,AND ASIDE CENTER AND BAR ENDS-WITH SIDESTEP TO FRONT OF MACHINE
NO	603	MAO	LGR3M1	MSUCL01	85	COVER(SPINDLE PULLEY),LOWER AND RAISE, CYLINDRICAL GRINDER STARTS-WITH REACH TO COVER INCLUDES-ALL MOTIONS NECESSARY TO LOWER COVER, GET COVER,AND RAISE COVER ENDS-WITH RELEASE OF COVER
NO	603	MAO	LGR2T3	MSUC001	252	COVER(WHEEL),OPEN AND CLOSE,LARGE COVER STARTS-WITH REACH TO RETAINING KNOB INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN AND SWING KNOB ASIDE,OPEN COVER,CLOSE COVER,AND SECURE WITH KNOB ENDS-WITH RELEASE OF KNOB

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	603	MAD	LGR3A4	MSUCP01	262	CHUCK,PLACE ON AND REMOVE FROM SPINDLE NOSE, CYLINDRICAL GRINDER STARTS-WITH REACH TO CHUCK INCLUDES-ALL MOTIONS NECESSARY TO PLACE CHUCK ON BOARD,REGRASP,LIFT AND ALIGN CHUCK TO SPINDLE NOSE;AND REACH TO CHUCK;REMOVE FROM SPINDLE NOSE TO BOARD,REGRASP,AND MOVE CHUCK ASIDE ENDS-WITH RELEASE OF CHUCK CONDITIONS-APPLICABLE TO CHUCK,FACE PLATE,OR FIXTURE WITH UP TO 30 POUNDS ENW.NO TIME INCLUDED FOR INSTALLING OR REMOVING FASTENERS.
NO	603	MAD	LGR2G4	MSUCR01	144	COVER(WHEEL),REMOVE AND INSTALL STARTS-WITH REACH TO GRINDING WHEEL COVER INCLUDES-ALL MOTIONS NECESSARY TO LIFT COVER FROM WHEEL AND PLACE ASIDE ON TABLE AND TO GET WHEEL COVER FROM TABLE AND POSITION TO SECURING SCREWS ENDS-WITH RELEASE OF COVER CONDITION-TIME FOR LOOSENING AND TIGHTENING COVER FASTENERS NOT INCLUDED
NO	603	MAD	LGR3Z1	MSUDA01	213	DRESSER(RADIUS OR ANGLE),ATTACH AND REMOVE, CYLINDRICAL GRINDER STARTS-WITH DRESSER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO PLACE DRESSER ON MACHINE BED,POSITION FOR USE,AND REMOVE AFTER USE ENDS-WITH DRESSER IN HAND
NO	603	MAD	LGR3J1	MSUDB01	162	DIAMOND POINT,BRING TO WHEEL STARTS-WITH HAND ON HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN HANDWHEEL TO BRING DIAMOND POINT IN CONTACT WITH GRINDING WHEEL ENDS-WITH RELEASE OF HANDWHEEL
NO	603	MAD	LGR3F1	MSUDI01	60	DIAMOND,INSERT IN AND REMOVE FROM HOLDER STARTS-WITH SIMO REACH TO HOLDER AND DIAMOND INCLUDES-ALL MOTIONS NECESSARY TO INSERT DIAMOND IN HOLDER AND REMOVE DIAMOND FROM HOLDER ENDS-WITH RELEASE OF HOLDER AND DIAMOND
NO	603	MAD	LGR2M	MSUDM01	49	DOG(TABLE REVERSING),MOVE TO NEW POSITION STARTS-WITH REACH TO GUARD INCLUDES-ALL MOTIONS NECESSARY TO RAISE GUARD, MOVE DOG TO DESIRED LOCATION,AND LOWER GUARD ENDS-WITH RELEASE OF GUARD
NO	603	MAD	LGR3L2	MSUDP01	53	DRIVER(WORK),POSITION ON HEADSTOCK,CYLINDRICAL GRINDER STARTS-WITH REACH TO DRIVER INCLUDES-ALL MOTIONS NECESSARY TO MOVE WORK DRIVER TO DESIRED POSITION ON HEADSTOCK ENDS-WITH RELEASE OF DRIVER
NO	603	MAD	LGR3G7	MSUDR01	160	DRESSER(WHEEL),REMOVE FROM MACHINE,CYLINDRICAL GRINDER STARTS-WITH SIMO REACH TO WHEEL DRESSER AND "T" BOLT INCLUDES-ALL MOTIONS NECESSARY TO REMOVE AND PALM BOLT,REMOVE WHEEL DRESSER,STOOP,PLACE DRESSER ASIDE ON SHELF,AND ARISE ENDS-WITH OPERATOR IN STANDING POSITION CONDITION-ALSO APPLICABLE TO REMOVAL OF STEADY REST

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NO	603	MAO	LGR3B2	MSUDS01	117	DIAMOND,SET ON RADIUS DRESSER WITH GAUGE BLOCK STARTS-WITH REACH TO GAUGE BLOCK INCLUDES-ALL MOTIONS NECESSARY TO POSITION BLOCK ON FACE,MOVE DIAMOND TO GAUGE BLOCK,AND REMOVE BLOCK ENDS-WITH RELEASE OF BLOCK
NO	603	MAO	LGR3A1	MSUFM01	100	FOOTSTOCK,MOVE 12 INCHES,CYLINDRICAL GRINDER STARTS-WITH SIDESTEP TO GET FOOTSTOCK INCLUDES-ALL MOTIONS NECESSARY TO MOVE FOOTSTOCK 12 INCHES ENDS-WITH SIDESTEP TO WORK POSITION CONDITION-UNLOCK AND LOCK FOOTSTOCK NOT INCLUDED
NO	603	MAO	LGR2P	MSUFR01	119	FLANGE(BALANCE),REMOVE AND REPLACE,SURFACE GRINDER STARTS-WITH REACH TO FLANGE WITH BOTH HANDS INCLUDES-ALL MOTIONS NECESSARY TO REMOVE FLANGE AND PLACE ON TABLE;AND GET FLANGE FROM TABLE AND MOUNT TO WHEEL ENDS-WITH RELEASE OF FLANGE
NO	603	MAO	LGR3G3	MSUGA01	122	GAUGE(ARNOLD),ADJUST DIAL TO SIZE STARTS-WITH REACH TO INDICATOR CLAMP INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN CLAMP,TURN DIAL,AND TIGHTEN CLAMP ENDS-WITH RELEASE OF CLAMP
NO	603	MAO	LGR3E3	MSUGM01	208	GAUGE(ARNOLD),MOUNT ON AND REMOVE FROM HOLDER STARTS-REACH TO GAUGE INCLUDES-ALL MOTIONS NECESSARY TO MOUNT GAUGE ON HOLDER ARM AND TO REMOVE GAUGE FROM HOLDER ENDS-WITH ASIDE GAUGE
NO	603	MAO	LGR3C2	MSUGR01	210	GUARD(TOP WHEEL),REMOVE AND REPLACE, CYLINDRICAL GRINDER STARTS-WITH SIMO REACH TO GUARD AND BOLT INCLUDES-ALL MOTIONS NECESSARY TO REMOVE BOLT, REMOVE GUARD,AND ASIDE GUARD;AND REACH TO BOLT AND GUARD,PLACE GUARD OVER WHEEL,ALIGN,AND INSTALL BOLT ENDS-WITH RELEASE OF BOLT
NO	603	MAO	LGR3D2	MSUGR02	115	GUARD(LOWER WHEEL),REMOVE AND REPLACE, CYLINDRICAL GRINDER STARTS-WITH REACH TO GUARD INCLUDES-ALL MOTIONS NECESSARY TO LIFT GUARD FROM WHEEL AND PLACE ASIDE;AND TO GET GUARD AND POSITION OVER WHEEL ENDS-WITH RELEASE OF GUARD
NO	603	MAO	LGR3E2	MSUGR03	119	GUARD(SIDE WHEEL),REMOVE AND REPLACE, CYLINDRICAL GRINDER STARTS-WITH REACH TO GUARD INCLUDES-ALL MOTIONS NECESSARY TO SWING SIDE WHEEL GUARD OUT,REACH TO GUARD,SWING GUARD TO WHEEL,AND POSITION TO STUDS AND AGAINST MATING GUARD ENDS-WITH RELEASE OF GUARD
NO	603	MAO	LGR3M2	MSUGR04	384	GUARD(REAR SPLASH),REMOVE AND REPLACE,ONE GUARD,CYLINDRICAL GRINDER STARTS-WITH REACH TO GUARD INCLUDES-ALL MOTIONS NECESSARY TO REMOVE GUARD FROM MACHINE,TURN,BEND,PLACE GUARD ON FLOOR, ARISE,AND TURN BACK TO WORK POSITION;TURN, BEND,GET GUARD,ARISE,TURN TO MACHINE,AND POSITION GUARD TO MACHINE ENDS-WITH RELEASE OF GUARD CONDITION-GUARD WEIGHS TO 20 POUNDS

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NO	603	MAO	LGR3F3	MSUGS01	224	GAUGE(ARNOLD),SET TO PART STARTS-WITH REACH TO ANVIL INCLUDES-ALL MOTIONS NECESSARY TO SLIDE ANVIL PARTIALLY OUT,MOVE GAUGE OVER PART,SLIDE ANVIL IN,POSITION,READ DIAL,SET CENTER STOP IN CORRECT POSITION,AND MOVE GAUGE FROM PART ENDS-WITH GAUGE IN HAND
NO	603	MAO	LGR3S2	MSUHR01	159	HOLDER ASSEMBLY(DIAMOND),REMOVE FROM AND INSTALL ON RADIUS DRESSER STARTS-WITH SIMO REACH TO DRESSER AND HOLDER INCLUDES-ALL MOTIONS NECESSARY TO REMOVE HOLDER ASSEMBLY FROM DRESSER AND TO MOVE ASSEMBLY TO DRESSER AND INSTALL ENDS-WITH RELEASE OF DRESSER AND ASSEMBLY
NO	603	MAO	LGR4B3	MSUHSXX	VARIABLE	HEAD(WORK),SWIVEL 1/2 INCH TAPER PER FOOT, INTERNAL GRINDER STARTS-WITH SIDESTEP TO WORM KNOB INCLUDES-ALL MOTIONS NECESSARY TO TURN KNOB TWO REVOLUTIONS TO SWIVEL WORK HEAD 1/2 INCH TAPER ENDS-WITH SIDESTEP TO WORK AREA CASE 01 FIRST 1/2 INCH TAPER PER FOOT 297 02 EACH ADDITIONAL 1/2 INCH TAPER PER FOOT 199
NO	603	MAO	LGR4D4	MSUID01	88	DRESSER(RADIUS),INSTALL AND REMOVE,INTERNAL GRINDER STARTS-WITH DRESSER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE DRESSER AND ALIGN TO TRUING UNIT AND TO GET DRESSER AND REMOVE FROM TRUING UNIT ENDS-WITH DRESSER IN HAND
NO	603	MAO	LGR3W3	MSUIM01	268	INDICATOR,MOUNT AND REMOVE FOR SHOULDER OR STEP GRINDING STARTS-WITH REACH TO INDICATOR INCLUDES-ALL MOTIONS NECESSARY TO PLACE INDICATOR POST IN TABLE SLOT AND SECURE,MOVE INDICATOR TO STOP,AND TIGHTEN INDICATOR ARM; AND LOOSEN POST,REMOVE INDICATOR FROM TABLE SLOT,AND ASIDE INDICATOR ENDS-WITH RELEASE OF INDICATOR
NO	603	MAO	LGR2V3	MSULA01	89	LEVERS(REVERSING PAWL),ADJUST FOR TABLE STROKE LENGTH,SURFACE GRINDER STARTS-WITH REACH TO FIRST LEVER INCLUDES-MOTIONS NECESSARY TO RELEASE PAWL LEVER LOCK,MOVE LEVER TO NEW POSITION,AND ENGAGE LOCK.THIS MOTIONS SEQUENCE IS REPEATED FOR SECOND LEVER. ENDS-WITH RELEASE OF SECOND LEVER
NO	603	MAO	LGR4Z2	MSUMB01	197	BELT(WHEELHEAD DRIVE),MOUNT AND REMOVE, INTERNAL GRINDER STARTS-WITH REACH TO BELT INCLUDES-ALL MOTIONS NECESSARY TO MOVE BELT TO WHEELHEAD,PLACE BELT OVER MOTOR PULLEY,AND DRAW BELT TO AND PLACE OVER WHEELHEAD PULLEY; AND REACH TO BELT,REMOVE FROM MOTOR PULLEY AND FROM WHEELHEAD PULLEY,AND PLACE BELT ASIDE ENDS-WITH RELEASE OF BELT CONDITION-DOES NOT INCLUDE LOOSEN OR TIGHTEN BELT
NO	603	MAO	LGR4J3	MSUMC01	163	CROSS SLIDE(WHEELHEAD),MOVE FOR SETUP,INTERNAL GRINDER STARTS-WITH REACH TO HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO CRANK HANDWHEEL 10 REVOLUTIONS TO MOVE CROSS SLIDE .300 INCH ENDS-WITH RELEASE OF HANDWHEEL

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NO	603	MAO	LGR4F3	MSUMT01	153	TABLE,MOVE 1/2 INCH BY HAND,INTERNAL GRINDER STARTS-WITH SIDESTEP AND SIMO REACH TO HANDWHEEL AND ENGAGING LEVER INCLUDES-ALL MOTIONS NECESSARY TO ENGAGE LEVER,TURN HANDWHEEL ONE REVOLUTION TO MOVE TABLE 1/2 INCH,AND DISENGAGE LEVER ENDS-WITH SIDESTEP TO WORK AREA
NO	603	MAO	LGR4U2	MSUMW01	397	WHEELHEAD,MOUNT AND REMOVE,INTERNAL GRINDER STARTS-WITH REACH TO WHEELHEAD INCLUDES-ALL MOTIONS NECESSARY TO MOVE WHEELHEAD TO MACHINE,POSITION,AND SLIDE ON MACHINE;AND REACH TO WHEELHEAD,PUSH/PULL TO LOOSEN,REMOVE FROM MACHINE,AND PLACE ASIDE ENDS-WITH RELEASE OF WHEELHEAD
NO	603	MAO	LGR2H	MSUNS01	134	NOZZLE(COOLANT),SWING ASIDE AND RETURN STARTS-WITH SIMO REACH TO NOZZLE AND LOCK KNOB INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN KNOB, SWING NOZZLE AWAY FROM GRINDING WHEEL,TIGHTEN KNOB;SIMO REACH TO NOZZLE AND KNOB,LOOSEN KNOB,SWING NOZZLE TO WHEEL,AND TIGHTEN KNOB ENDS-WITH RELEASE OF NOZZLE AND KNOB
NO	603	MAO	LGR3S5	MSUPR01	330	PIN(ZERO ALIGNMENT),REMOVE AND REPLACE, HEADSTOCK UNIT,CYLINDRICAL GRINDER STARTS-WITH GET WRENCH AND ROD INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN PIN WITH WRENCH,PALM WRENCH,GRASP PIN,PLACE ROD UNDER PIN WITH OTHER HAND,PUSH PIN OUT WITH ROD,AND ASIDE PIN,WRENCH,AND ROD;AND GET PIN, PLACE IN HOLE,AND PRESS TO SEAT ENDS-WITH RELEASE OF PIN
NO	603	MAO	LGR4C4	MSURH01	107	HOLDER(DIAMOND),REMOVE AND REPLACE,INTERNAL GRINDER STARTS-WITH REACH TO HOLDER UNIT INCLUDES-ALL MOTIONS NECESSARY TO REMOVE UNIT, PLACE ASIDE,GET UNIT,AND MOUNT HOLDER UNIT ENDS-WITH RELEASE OF UNIT
NO	603	MAO	LGR2Y3	MSURR01	46	RAILS,RAISE ON SIDE AND END OF MAGNETIC CHUCK STARTS-WITH REACH TO FIRST RAIL INCLUDES-ALL MOTIONS NECESSARY TO LIFT TWO RAILS 1/8 INCH ABOVE CHUCK ENDS-WITH RELEASE OF SECOND RAIL
NO	603	MAO	LGR4F4	MSURS01	39	RADIUS,SET ON RADIUS DRESSER STARTS-WITH SIMO REACH TO DRESSER AND DIAMOND HOLDER INCLUDES-ALL MOTIONS NECESSARY TO POSITION HOLDER TO DESIRED RADIUS ENDS-WITH RELEASE OF DRESSER AND HOLDER CONDITION-DOES NOT INCLUDE TIME TO LOOSEN AND TIGHTEN SET SCREW
NO	603	MAO	LGR3Y7	MSUSA01	158	STEADY REST,ADJUST TO PART,TWO PADS STARTS-WITH SIMO REACH TO UPPER PAD AND LOCKING KNOB INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN LOCKING KNOB,MOVE UPPER PAD TO WORK,TIGHTEN LOCKING KNOB,AND MOVE LOWER PAD TO WORK BY TURNING ADJUSTING SCREW ENDS-WITH RELEASE OF ADJUSTING SCREW
NO	603	MAO	LGR4W4	MSUSB01	206	SPINDLE(WHEELHEAD),BLOCK TO REMOVE AND INSTALL QUILL,INTERNAL GRINDER STARTS-WITH REACH TO BLOCK INCLUDES-ALL MOTIONS NECESSARY TO POSITION BLOCK TO PULLEY,GET PIN,PLACE IN PULLEY,TURN SPINDLE TO LOCK,REMOVE PIN AND BLOCK,AND PLACE ASIDE ENDS-WITH RELEASE OF PIN AND BLOCK

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NO	603	MAO	LGR3D4	MSUSL01	71	SPINDLE(WORKHEAD),LOCK AND UNLOCK,CYLINDRICAL GRINDER STARTS-WITH REACH TO LOCK PIN INCLUDES-ALL MOTIONS NECESSARY TO APPLY PRESSURE TO PIN TO LOCK SPINDLE;AND GET PIN AND PULL TO UNLOCK SPINDLE ENDS-WITH RELEASE OF PIN
NO	603	MAO	LGR3W7	MSUSM01	195	STEADY REST(OR WHEEL DRESSER),MOUNT ON CYLINDRICAL GRINDER STARTS-WITH STOOP TO STEADY REST INCLUDES-ALL MOTIONS NECESSARY TO GET STEADY REST FROM SHELF,ARISE,PLACE STEADY REST ON MACHINE TABLE,ALIGN,GET "T" BOLT,PLACE BOLT IN TABLE SLOT AND SLIDE TO STEADY REST ENDS-WITH RELEASE OF BOLT CONDITION-NO TIME INCLUDED FOR TIGHTENING "T" BOLT
NO	603	MAO	LGR1Q3	MSUSR01	398	SEGMENTS(GRINDING WHEEL),REPLACE,TWO EACH STARTS-WITH REACH TO FIRST SEGMENT INCLUDES-ALL MOTIONS NECESSARY TO REMOVE TWO SEGMENTS,GET TWO REPLACEMENT SEGMENTS,AND INSTALL ENDS-WITH RELEASE OF SECOND SEGMENT
NO	603	MAO	LGR4U3	MSUSS01	225	STOP,SET ON WHEELHEAD CROSS SLIDE HANDWHEEL, INTERNAL GRINDER STARTS-WITH REACH TO COMPENSATING KNOB INCLUDES-ALL MOTIONS NECESSARY TO TURN KNOB TO FIVE REVOLUTIONS TO SET STOP ENDS-WITH RELEASE OF KNOB
NO	603	MAO	LGR3F4	MSUST01	46	SPINDLE(WORKHEAD),TURN 1/4 REVOLUTION BY HAND, CYLINDRICAL GRINDER STARTS-WITH REACH TO SPINDLE INCLUDES-ALL MOTIONS NECESSARY TO TURN SPINDLE 1/4 REVOLUTION BY HAND ENDS-WITH RELEASE OF SPINDLE
NO	603	MAO	LGR3H7	MSUTA01	964	TABLE,ALIGN(SWIVEL),CYLINDRICAL GRINDER STARTS-WITH GET WRENCH INCLUDES-ALL MOTIONS NECESSARY TO TURN,WALK FOUR PACES TO TABLE CLAMP ON LEFT,TURN TO CLAMP,LOOSEN ONE BOLT,TURN,WALK SEVEN PACES TO CLAMP ON RIGHT,TURN,LOOSEN ONE BOLT,PLACE WRENCH ON SCREW,CRANK TWO REVOLUTIONS TO SWIVEL TABLE,SET TO EXACT POSITION,TIGHTEN ONE BOLT,TURN,WALK SEVEN PACES TO CLAMP ON LEFT, TURN,TIGHTEN ONE BOLT,TURN,WALK FOUR PACES TO WORK AREA ENDS-WITH ASIDE WRENCH
NO	603	MAO	LGR3J7	MSUTM01	243	TAILSTOCK,MOVE 24 INCHES,LARGE CYLINDRICAL GRINDER STARTS-WITH SIDESTEP TO END OF TAILSTOCK INCLUDES-ALL MOTIONS NECESSARY TO SLIDE TAILSTOCK 24 INCHES ENDS-WITH RELEASE OF TAILSTOCK CONDITION-UP TO 10 POUNDS ENW PRESSURE REQUIRED TO MOVE TAILSTOCK
NO	603	MAO	LGR4Q2	MSUTR01	103	TRIP,REGULATE FOR AUTOMATIC DIAMOND RISE, INTERNAL GRINDER STARTS-WITH BEND AND REACH TO TRIP INCLUDES-ALL MOTIONS NECESSARY TO MOVE TRIP TO SET FOR AUTOMATIC DIAMOND RISE ENDS-WITH ARISE FROM BEND

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NO	603	MAO	LGR3F2	MSUTSXX	VARIABLE	TRIP(TABLE),SET,CYLINDRICAL GRINDER STARTS-WITH REACH TO TABLE TRIP INCLUDES-ALL MOTIONS NECESSARY TO MOVE ONE TABLE TRIP TO DESIRED POSITION ENDS-WITH RELEASE OF TRIP
					78	CASE 01 INITIAL ADJUSTMENT
					38	02 FINAL ADJUSTMENT
NO	603	MAO	LGR4R2	MSUUM01	95	UNIT(TRUING),MOVE FORWARD,INTERNAL GRINDER STARTS-WITH REACH TO TRUING UNIT INCLUDES-ALL MOTIONS NECESSARY TO MOVE TRUING UNIT FORWARD UP TO THREE INCHES AND ALIGN TO CORRECT POSITION ENDS-WITH RELEASE OF UNIT
NO	603	MAO	LGR4P2	MSUUS01	116	UNIT(TRUING),SET FOR AUTOMATIC DIAMOND RISE, INTERNAL GRINDER STARTS-WITH REACH TO ARM INCLUDES-ALL MOTIONS NECESSARY TO POSITION ARM FOR AUTOMATIC DIAMOND RISE ENDS-WITH RELEASE OF ARM
FFD	603	TBA	KMGDWID	MSUWD01	2458	WHEEL(INTERNAL),DRESS STARTS-WITH WHEEL CLEAR OF PART INCLUDES-ALL THE TIME REQUIRED TO DRESS AND/OR SHARPEN INTERNAL WHEEL ENDS-WITH GRINDING WHEEL RETURNED TO POSITION CONDITIONS-NOT TO BE USED FOR NEW WHEELS OR FORMING DRESSING
FFD	603	TAA	KMGDWNW	MSUWD02	6761	WHEEL(NEW),DRESS,TRUE UP AND OR SHAPE STARTS-WITH WHEEL MOUNTED ON SPINDLE INCLUDES-ROUGH HAND DRESS AND FINAL TRUE UP WITH DIAMOND OR FORM DRESSER ENDS-WITH WHEEL DRESSED AND READY TO BE POSITIONED CONDITIONS-APPLIES TO BOTH INTERNAL AND EXTERNAL WHEELS.DOES NOT INCLUDE MOUNTING OR OFF THE MACHINE BALANCING
NO	603	MAO	LGR3B5	MSUWF01	462	WHEEL(GRINDING),FEED TO OR FROM WORK,RAPID CROSS FEED WITH HANDWHEEL,CYLINDRICAL GRINDER STARTS-WITH REACH TO HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO CRANK HANDWHEEL 20 REVOLUTIONS TO MOVE GRINDING WHEEL IN OR OUT ENDS-WITH RELEASE OF HANDWHEEL
NO	603	MAO	LGR3C5	MSUWF02	218	WHEEL(GRINDING),FEED TO OR FROM WORK,FINE CROSS FEED WITH HANDWHEEL,CYLINDRICAL GRINDER STARTS-WITH REACH TO HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO CRANK HANDWHEEL TEN REVOLUTIONS TO FINE FEED GRINDING WHEEL TO OR FROM WORK ENDS-WITH RELEASE OF HANDWHEEL
NO	603	MAO	LGR2S	MSUWGXX	VARIABLE	WHEEL(GRINDING),GET NEW WHEEL FROM RACK AND PLACE USED WHEEL IN RACK STARTS-WITH REACH TO WHEEL INCLUDES-ALL MOTIONS NECESSARY TO GET WHEEL FROM SLOT IN RACK AND TO PLACE USED WHEEL IN SLOT OF RACK ENDS-WITH RELEASE OF USED WHEEL AND WITH NEW WHEEL IN HAND CONDITION-TIME TO WALK TO AND FROM STORAGE RACK NOT INCLUDED.WHEEL WEIGHS TO 30 POUNDS
					251	CASE 01 WHEEL STORED AT FLOOR LEVEL(STOOP AND ARISE ALLOWED)
					124	02 WHEEL STORED AT WAIST LEVEL

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NO	603	MAO	LGR1W	MSUWI01	177	WHEEL(GRINDING),INSTALL TO POT CHUCK,BLANCHARD ROTARY GRINDER STARTS-WITH REACH TO GRINDING WHEEL ON BENCH INCLUDES-ALL MOTIONS NECESSARY TO LIFT GRINDING WHEEL,TURN,WALK THREE PACES TO MACHINE,AND POSITION WHEEL TO POT CHUCK ENDS-WITH RELEASE OF GRINDING WHEEL CONDITION-APPLICABLE TO GRINDING WHEELS WEIGHING TO 50 POUNDS
NO	603	MAO	LGR3V7	MSUWM01	497	WORKHEAD,MOVE 12 INCHES ON TABLE,CYLINDRICAL GRINDER STARTS-WITH TURN FROM WORK AREA INCLUDES-ALL MOTIONS NECESSARY TO WALK FIVE PACES TO SIDE OF WORKHEAD,GET WORKHEAD AND MOVE 12 INCHES,WALK THREE PACES TO FRONT OF WORKHEAD,TURN,PUSH WORKHEAD TO SEAT IN POSITION,TURN,WALK TWO PACES,AND TURN TO WORK AREA ENDS-WITH OPERATOR AT FRONT OF MACHINE
NO	603	MAO	LGR2Q	MSUWR01	328	WHEEL(GRINDING),REMOVE AND REPLACE,LARGE WHEEL STARTS-WITH REACH TO WHEEL INCLUDES-ALL MOTIONS NECESSARY TO REMOVE WHEEL FROM FLANGE,TURN,WALK THREE PACES,AND PLACE WHEEL ON WORKBENCH;AND GET NEW WHEEL,TURN,WALK THREE PACES TO MACHINE,AND SLIDE WHEEL ON FLANGE ENDS-WITH RELEASE OF WHEEL CONDITION-ENW OF WHEEL IS UP TO 50 POUNDS
NO	603	MAO	LGR2J4	MSUWR02	125	WHEEL(GRINDING),REMOVE AND REPLACE,SMALL WHEEL STARTS-WITH REACH TO WHEEL INCLUDES-ALL MOTIONS NECESSARY TO REMOVE WHEEL FROM SPINDLE AND PLACE ASIDE;AND TO PICK UP WHEEL AND SLIDE ON SPINDLE ENDS-WITH RELEASE OF WHEEL CONDITION-ENW OF WHEEL IS 2.5 POUNDS OR LESS
NO	603	MAO	LGR3N2	MSUWR03	1382	WHEEL(GRINDING),REMOVE AND REPLACE,CYLINDRICAL GRINDER STARTS-WITH REACH TO FLANGE INCLUDES-ALL MOTIONS NECESSARY TO REMOVE FLANGE,TURN,PLACE ASIDE,TURN,REMOVE WHEEL,TURN,BEND,PLACE WHEEL AT FLOOR LEVEL,AND ARISE;AND BEND,GET WHEEL,ARISE,TURN TO MACHINE,POSITION WHEEL ON HUB,TURN,GET FLANGE,TURN TO MACHINE,MOUNT FLANGE ON HUB,AND PLACE KEY TO KEYWAY ENDS-WITH RELEASE OF KEY CONDITION-WHEEL WEIGHS TO 20 POUNDS
NO	603	MAO	LGR1B	MSUWS01	100	WHEEL,CHUCK,AND HEAD FEED,START AND STOP, BLANCHARD ROTARY GRINDER STARTS-WITH REACH TO FIRST CONTROL BUTTON INCLUDES-ALL MOTIONS NECESSARY TO PUSH BUTTON TO TURN ON,REACH TO EACH OF TWO ADDITIONAL BUTTONS,AND PUSH TO TURN ON.THIS MOTION SEQUENCE IS REPEATED FOR STOPPING WHEEL,CHUCK, AND HEAD FEED ENDS-WITH RELEASE OF LAST CONTROL
NO	603	MAO	LGR2H4	MSUWT01	107	WASHER(RETAINING),TAKE OFF AND INSTALL STARTS-WITH REACH TO WASHER INCLUDES-ALL MOTIONS NECESSARY TO REMOVE WASHER FROM SPINDLE AND PLACE ASIDE AND TO GET WASHER AND PLACE ON SPINDLE ENDS-WITH RELEASE OF WASHER

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NO	603	MAO	LGR1M1	MVSVC01	480	VISE,CLOSE AND OPEN STARTS-WITH VISE HANDLE IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE HANDLE TO VISE,INSERT IN SHAFT,TURN HANDLE TO CLOSE VISE;REMOVE HANDLE FROM SHAFT;MOVE HANDLE TO SHAFT,INSERT IN SHAFT,TURN HANDLE TO OPEN VISE,AND REMOVE HANDLE FROM SHAFT ENDS-WITH HANDLE IN HAND CONDITION-HANDLE IS REMOVED AFTER EACH HALF REVOLUTION
AE	604	MAW	SKHEAH1	BEMDI01	121	DOG(CAM GRIP),INSTALL AND REMOVE STARTS-WITH DOG IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE DOG TO PART,OPEN CAM,PLACE DOG ON PART,POSITION, REACH TO DOG,APPLY PRESSURE TO DRIVE FINGER, AND MOVE DOG OFF PART ENDS-WITH DOG IN HAND
NO	604	MAO	LEL1Z	BEMTP01	54	TOOL,PUT IN TOOL HOLDER STARTS-WITH TOOL IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE TOOL TO HOLDER,POSITION,AND SLIDE INTO HOLDER ENDS-WITH RELEASE OF TOOL
NO	604	MAO	LTL3P3	MEMBP01	127	BLOCK(TURRET STOP),POSITION,TURRET LATHE STARTS-WITH BEND TO STOP BLOCK INCLUDES-ALL MOTIONS NECESSARY TO MOVE BLOCK TO NEW LOCATION ENDS-WITH RELEASE OF BLOCK
AE	604	MAW	SKHTSXX	MEMCDXX	VARIABLE	CENTER(TAIL STOCK),ENGAGE AND DISENGAGE STARTS-WITH REACH TO LEVER OR CRANK INCLUDES-ALL MOTIONS NECESSARY TO ENGAGE AND DISENGAGE TAIL STOCK CENTER WITH LEVER OR CRANK ENDS-WITH RELEASE OF LEVER OR CRANK
					96	CASE 01 LEVER OPERATED,ENGAGE AND DISENGAGE
					511	02 CRANK OPERATED,ENGAGE,LOCK,UNLOCK, AND DISENGAGE,PART TO 60 POUNDS
					725	03 CRANK OPERATED,ENGAGE,LOCK,UNLOCK,AND DISENGAGE,PART OVER 60 POUNDS(TIME FOR HANDLING PART WITH HOIST NOT INCLUDED)
FFE	604	MAO	KMLHMC1	MEMCE01	82	CLUTCH(FEED OR SPINDLE),ENGAGE AND DISENGAGE STARTS-WITH REACH TO CLUTCH HANDLE INCLUDES-MOTIONS TO ENGAGE AND DISENGAGE CLUTCH ENDS-WITH CLUTCH RELEASED
FFE	604	MAA	KMLHML1	MEMCL01	306	CARRIAGE,LOCK AND UNLOCK STARTS-WITH REACH FOR WRENCH INCLUDES-MOTIONS TO LOCK AND UNLOCK THE CARRIAGE ENDS-WITH CARRIAGE UNLOCKED AND WRENCH PLACED ASIDE
NO	604	MAO	LEL1U	MEMCMXX	VARIABLE	CARRIAGE,MOVE WITH HANDWHEEL STARTS-WITH SIDESTEP TO CARRIAGE WHEEL INCLUDES-ALL MOTIONS NECESSARY TO GET HANDWHEEL AND TURN TO MOVE CARRIAGE ENDS-WITH RELEASE OF HANDWHEEL CONDITION-APPLICABLE TO ENGINE LATHES
					54	CASE 01 MOVE CARRIAGE FIRST INCH
					28	02 MOVE CARRIAGE EACH ADDITIONAL INCH
NO	604	MAO	LTL3J	MEMCM03	79	CARRIAGE,MOVE SIX INCHES BY HAND,TURRET LATHE STARTS-WITH REACH TO CRANK INCLUDES-ALL MOTIONS NECESSARY TO TURN CRANK THREE REVOLUTIONS TO MOVE CARRIAGE SIX INCHES ENDS-WITH RELEASE OF CRANK

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DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	604	MAF	3164	MEMCT01	183	CHUCK(LATHE),TURN 3/4 REVOLUTION STARTS-WITH REACH TO CHUCK INCLUDES-ALL THE MOTIONS NECESSARY TO REACH, GRASP AND TURN CHUCK 3/4 REVOLUTION ENDS-WITH RELEASE CHUCK
NO	604	MAO	LEL1Z2	MEMDI01	765	DOG,INSTALL ON AND REMOVE FROM PART,BENT TAIL TYPE DOG STARTS-WITH REACH TO DOG AND PART INCLUDES-ALL MOTIONS NECESSARY TO LIFT PART, ALIGN DOG ON PART,TURN BOLT IN FINGER TIGHT, GET WRENCH,TIGHTEN BOLT,LAY WRENCH ASIDE,LAY PART ASIDE ON BENCH,GET WRENCH,LOOSEN BOLT ON LATHE DOG,LAY ASIDE WRENCH,TURN BOLT OUT WITH FINGERS,REMOVE DOG,LAY PART AND DOG ASIDE ENDS-WITH RELEASE OF PART AND DOG CONDITION-PART WEIGHT TO 2.5 POUNDS
NO	604	MAO	LEL1Y4	MEMDS01	179	DIAL(CROSS FEED),SET TO MARK,ENGINE LATHE STARTS-WITH REACH TO CROSS FEED DIAL LOCK INCLUDES-ALL MOTIONS NECESSARY TO UNLOCK DIAL, TURN DIAL TO POSITION TO LINE,AND LOCK DIAL ENDS-WITH RELEASE OF DIAL
NO	604	MAO	LEL1U2	MEMFA01	741	FOLLOW REST,ADJUST TO WORK STARTS-WITH REACH TO KNURLED KNOB INCLUDES-ALL MOTIONS NECESSARY TO TURN KNOBS TO MOVE TWO PADS TO WORK AND HAND TIGHTEN NUTS ENDS-WITH RELEASE OF NUT CONDITION-NO TIME INCLUDED FOR USE OF TOOL TO LOOSEN AND TIGHTEN NUTS
NO	604	MAO	LEL2G2	MEMFC01	108	FEED,CHANGE ON CARRIAGE OR CROSS SLIDE,ENGINE LATHE STARTS-WITH BEND TO LEVER INCLUDES-ALL MOTIONS NECESSARY TO PULL OUT LEVER AND ENGAGE IN PROPER POSITION ENDS-WITH ARISE FROM BEND
NO	604	MAO	LTL3D	MEMIS01	91	STOP(ROLL),INDEX,TURRET LATHE STARTS-WITH BEND TO INDEX KNOB INCLUDES-ALL MOTIONS NECESSARY TO GET INDEX KNOB AND ROLL TO NEXT STATION ENDS-WITH ARISE FROM BEND
NO	604	MAO	LEL2H2	MEMIT01	142	TURRET(SQUARE),INDEX,ONE STATION,ENGINE LATHE STARTS-WITH REACH TO TURRET HANDLE INCLUDES-ALL MOTIONS NECESSARY TO UNLOCK TURRET,TURN TO NEXT STATION,AND LOCK TURRET ENDS-WITH RELEASE OF HANDLE
NO	604	MAO	LTL3M3	MEMLP01	89	LONGITUDINAL STOP ROD,PLACE TO CORRECT POSITION,TURRET LATHE STARTS-WITH REACH TO ROD INCLUDES-ALL MOTIONS NECESSARY TO MOVE STOP ROD AND POSITION IN GROOVE ENDS-WITH RELEASE OF ROD
AE	604	MAW	SKMEAT3	MEMLR01	49	LOCK,RELEASE ON CRANK TYPE CENTER STARTS-WITH REACH TO LOCK LEVER INCLUDES-ALL MOTIONS NECESSARY TO APPLY PRESSURE AND UNLOCK CENTER ENDS-WITH RELEASE OF LOCK LEVER

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	604	MUO	LTL3H	MEMMCXX	VARIABLE	CROSS SLIDE,MOVE,TURRET LATHE STARTS-WITH REACH TO WHEEL OR LEVER INCLUDES-ALL MOTIONS NECESSARY TO MOVE CROSS SLIDE 1/4 INCH WITH HAND WHEEL OR TO ACTUATE RAPID TRAVEL LEVER TO MOVE CROSS SLIDE SIX INCHES ENDS-WITH RELEASE OF WHEEL OR LEVER CASE 01 MOVE 1/4 INCH WITH HAND WHEEL (92) 02 MOVE SIX INCHES WITH RAPID TRAVEL LEVER (107)
NO	604	MAO	LEL1M3	MEMMS01	615	MICROMETER STOP,SET ON ENGINE LATHE STARTS-WITH REACH TO MICROMETER STOP INCLUDES-ALL MOTIONS NECESSARY TO SLIDE STOP AGAINST CARRIAGE,LOOSEN THUMBSCREW,ALIGN MICROMETER BARREL WITH EIGHT TURNS,AND TIGHTEN THUMBSCREW ENDS-WITH RELEASE OF THUMBSCREW CONDITION-NO TOOLS USED FOR LOOSENING OR TIGHTENING THUMBSCREW
NO	604	MUO	LTL3P1	MEMMTXX	VARIABLE	TURRET SADDLE,MOVE,TURRET LATHE STARTS-WITH REACH TO WHEEL OR LEVER INCLUDES-ALL MOTIONS NECESSARY TO TURN WHEEL TO MOVE SADDLE SIX INCHES OR TO OPERATE RAPID TRAVERSE LEVER TO MOVE SADDLE 18 INCHES ENDS-WITH RELEASE OF WHEEL OR LEVER CASE 01 MOVE SIX INCHES WITH HAND WHEEL (213) 02 MOVE 18 INCHES WITH RAPID TRAVERSE LEVER (186)
FFE	604	MAA	KMLHPC1	MEMPC01	1006	PART(FIRST),CHUCK IN SCROLL CHUCK OR IN A CUSHMAN COLLET CHUCK STARTS-WITH REACH TO CHUCK WRENCH INCLUDES-ALL MOTIONS NECESSARY TO GET AND ASIDE WRENCH AND PART;OPEN AND CLOSE THE CHUCK AS NECESSARY ENDS-WITH THE PART AND WRENCH ASIDE
FFE	604	MAA	KMLHPC2	MEMPC02	640	PART(ADDITIONAL),CHUCK IN SCROLL CHUCK OR IN A CUSHMAN COLLET CHUCK STARTS-WITH REACH TO SECOND PART INCLUDES-TIGHTEN CHUCK,CHUCK WRENCH ASIDE,GET CHUCK WRENCH,OPEN CHUCK,REMOVE PART AND ASIDE ENDS-WITH PART ASIDE AND READY TO GET NEXT PART OR SET CHUCK WRENCH ASIDE
FFE	604	MAA	KMLHPC5	MEMPI01	610	PART,INSERT AND REMOVE FROM COLLET STARTS-WITH REACH TO PART INCLUDES-MOTIONS REQUIRED TO PUT A PART IN A COLLET,TIGHTEN;LOOSEN,AND REMOVE FROM COLLET ENDS-WITH PART ASIDE CONDITIONS-LIMITED TO HAND-WHEEL TYPE COLLET HEADS
NO	604	MAO	LEL1L	MEMPP01	642	PART(CENTER OR TOOL),PUT IN AND REMOVE FROM TAILSTOCK STARTS-WITH CENTER OR TOOL IN HAND INCLUDES-ALL MOTIONS NECESSARY TO TURN AND WALK TWO PACES TO TAILSTOCK,CRANK SPINDLE OUT,INSERT CENTER OR TOOL IN SPINDLE,ALIGN TANG,SEAT CENTER,RETURN TO WORK AREA,TURN AND WALK TWO PACES TO TAILSTOCK,TAKE HOLD OF CENTER OR TOOL,CRANK SPINDLE OUT,REMOVE CENTER OR DRILL,AND LAY ASIDE ENDS-WITH RELEASE OF CENTER OR DRILL CONDITIONS-TIME FOR WALKING BETWEEN MACHINE AND WORK BENCH NOT INCLUDED.APPLICABLE TO ENGINE LATHES

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	604	MAO	LEL1B3	MEMPS01	771	PART,SUSPEND BETWEEN AND REMOVE FROM CENTERS, WEIGHT TO 16 POUNDS STARTS-WITH REACH TO PART INCLUDES-ALL MOTIONS NECESSARY TO MOVE PART TO LATHE,ALIGN DOG TO SLOT IN FACE PLATE,HOLD PART TO HEADSTOCK CENTER,SIDESTEP TO TAILSTOCK,CRANK TAILSTOCK CENTER TO PART,LOCK TAILSTOCK SPINDLE,UNLOCK SPINDLE,CRANK CENTER FROM PART,SIDESTEP TO HEADSTOCK,DISENGAGE PART FROM CENTER AND DOG FROM FACEPLATE,AND LAY PART ASIDE ENDS-WITH RELEASE OF PART
AE	604	MAW	SMLGA05	MEMPS02	1499	PART,SUSPEND BETWEEN AND REMOVE FROM CENTERS WEIGHT 50-500 POUNDS,HANDLED WITH A CRANE STARTS-WITH PART HELD ON CRANE NEAR CENTERS INCLUDES-ALL MOTIONS NECESSARY TO LUBRICATE CENTERS,SECURE PART BETWEEN CENTERS,ATTACH LATHE DOG,REMOVE LATHE DOG,AND REMOVE PART FROM CENTERS ENDS-WITH PART ON CRANE,DISENGAGED FROM CENTERS CONDITION-TIME TO GET AND ASIDE PART WITH CRANE NOT INCLUDED.APPLICABLE TO PARTS WEIGHING 50-500 POUNDS HANDLED WITH A CRANE
NO	604	MAO	LTL3F3	MEMRC01	271	CHASER(THREAD),REMOVE FROM AND INSTALL IN DIE HEAD,TURRET LATHE STARTS-WITH REACH TO CAM LOCK PIN IN DIE HEAD INCLUDES-ALL MOTIONS NECESSARY TO PULL LOCK PIN,OPEN CAM,REMOVE CHASER,LAY CHASER ASIDE, SELECT CORRECT CHASER,PLACE IN DIE HEAD,AND CLOSE AND LOCK CAM ENDS-WITH RELEASE OF LOCK PIN
NO	604	MAO	LEL1M2	MEMSA01	153	SPINDLE(TAILSTOCK),ADVANCE ONE INCH WITH CRANK,ENGINE LATHE STARTS-WITH REACH TO CRANK(HAND WHEEL) INCLUDES-ALL MOTIONS NECESSARY TO TURN CRANK FOUR REVOLUTIONS TO MOVE TAILSTOCK ONE INCH ENDS-WITH RELEASE OF CRANK
FFE	604	MAA	KMLHMS1	MEMSC01	132	SPINDLE,CHANGE SPEED,ONE LEVER STARTS-WITH REACH TO LEVER INCLUDES-MOTIONS TO CHANGE SPINDLE SPEED BY MOVING ONE LEVER ENDS-WITH HAND AT SIDE
NO	604	MAO	LEL1T1	MEMSC02	556	SPINDLE,CHANGE SPEED,ENGINE LATHE STARTS-WITH SIDESTEP TO SPEED LEVERS INCLUDES-ALL MOTIONS NECESSARY TO SELECT PROPER SPEED FROM CHART;UNLOCK,MOVE,AND LOCK THREE LEVERS TO OBTAIN CORRECT SPEED;JOG SPINDLE(START & STOP) TWICE; SIDESTEP TO FRONT OF LATHE ENDS-WITH OPERATOR AT FRONT OF LATHE
NO	604	MAO	LEL1F2	MEMSMXX	VARIABLE	SLIDE,MOVE IN OR OUT,ONE INCH,ENGINE LATHE STARTS-WITH REACH TO HAND WHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN HAND WHEEL TO MOVE SLIDE ONE INCH ENDS-WITH RELEASE OF HAND WHEEL CASE 01 COMPOUND SLIDE,FIRST INCH — 146 02 COMPOUND SLIDE,EACH ADDITIONAL INCH — 104 03 CROSS SLIDE,FIRST INCH — 114 04 CROSS SLIDE,EACH ADDITIONAL INCH — 72
NO	604	MAO	LEL1E2	MEMSM05	118	SLIDE(COMPOUND),MOVE TO WORK STARTS-WITH REACH TO HAND WHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN HAND WHEEL TWO REVOLUTIONS AND ADJUST COMPOUND SLIDE TO WORK ENDS-WITH RELEASE OF HAND WHEEL

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	604	MAO	LEL1H2	MEMSM06	117	SLIDE(CROSS),MOVE TO WORK STARTS-WITH REACH TO HANDLE INCLUDES-ALL MOTIONS NECESSARY TO TURN HANDLE TWO REVOLUTIONS AND ADJUST SLIDE TO WORK ENDS-WITH RELEASE OF HANDLE
AE	604	MAW	SMLEAC1	MEMSM07	84	SLIDE,MOVE TO GRADUATE LINE ON DIAL STARTS-WITH HAND ON HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN HANDWHEEL TO CLOSELY ALIGN TO PROPER MARK ENDS-WITH RELEASE OF HANDWHEEL
AE	604	MAW	SMLEAXX	MEMS001	316	STEADY REST,OPEN AND CLOSE STARTS-WITH REACH TO NUT INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN NUT, OPEN TOP OF STEADY REST,GET TOP OF STEADY REST,CLOSE,AND TIGHTEN NUT ENDS-WITH RELEASE OF NUT CONDITION-NO TOOLS USED
NO	604	MAO	LEL1J1	MEMSS01	353	SLIDE(COMPOUND),SET TO ANGLE STARTS-WITH REACH TO COMPOUND SLIDE INCLUDES-ALL MOTIONS NECESSARY TO MOVE AND ALIGN BY HAND TO DESIRED ANGLE ENDS-WITH RELEASE OF SLIDE CONDITION-DOES NOT INCLUDE LOOSEN OR TIGHTEN NUTS
FFE	604	MAA	KMLHMT8	MEMTA01	251	TAILSTOCK,ADVANCE AND RETURN ON A 12 INCH LATHE STARTS-WITH REACH TO GET THE LOCKING LEVER TO UNLOCK INCLUDES-MOTIONS TO UNLOCK AND LOCK-SLIDE TO PROPER POSITION AND RETURN ENDS-WITH THE TAILSTOCK MOVED AWAY AND THE OPERATOR IN FRONT OF THE MACHINE CONDITIONS-USE WITH LATHES WITH TAILSTOCKS THAT ARE MOVED MANUALLY BY SLIDING-CHANGE TOOL NOT INCLUDED.TAILSTOCK MOVED 21-27 INCHES.
FFE	604	MAA	KMLHMT1	MEMTC01	357	TOOL HOLDER,CHANGE IN QUICK CHANGE TOOL POST STARTS-WITH REACH TO HOLDER HANDLE INCLUDES-ALL MOTIONS NECESSARY TO CHANGE FROM ONE TOOL HOLDER TO ANOTHER ENDS-WITH DIFFERENT TOOL HOLDER INSTALLED CONDITIONS-DOES NOT INCLUDE CHANGING OR INSTALLING TOOL BIT
NO	604	MAO	LEL1A1	MEMTI01	367	TOOL HOLDER,INSTALL IN SINGLE TOOL POST STARTS-WITH WRENCH AND HOLDER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO PUT WRENCH ON BOLT IN POST,SLIDE HOLDER INTO POST, POSITION HOLDER,TIGHTEN BOLT AGAINST HOLDER, AND LAY WRENCH ASIDE ENDS-WITH RELEASE OF WRENCH
NO	604	MAO	LEL1T	MEMTM01	105	TAILSTOCK,MOVE FOUR INCHES WITH ONE REVOLUTION OF CRANK STARTS-WITH REACH TO CRANK INCLUDES-ALL MOTIONS NECESSARY TO TURN CRANK AND MOVE TAILSTOCK FOUR INCHES ENDS-WITH RELEASE OF CRANK CONDITION-APPLICABLE TO ENGINE LATHES

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KML80XX	TEML8XX	TABLE	LATHE(ENGINE),BORE HOLE STARTS-WITH CHANGE TOOLS IN QUICK CHANGE TOOL HOLDER INCLUDES-HANDLING ELEMENTS,MACHINE TIME,TRIAL CUTS,MEASURING,AND A THREE PERCENT TOOL SHARPEN ALLOWANCE ENDS-WITH SPINDLE STOPPED AND CARRIAGE BACKED FROM MATERIAL CONDITIONS-GROUPS OF MATERIAL ARE- GROUP 1 ALUMINUM ALLOYS 24ST-75ST,PLEXIGLASS, BEARING BRONZE(YELLOW BRASS),MAGNESIUM GROUP 2 PHOSPHOR BRONZE,COPPER,BAKELITE,HARD RUBBER,SAE1112 AND SAE1120,FIBER PHENOLIC,PLASTIC,SOFT CAST IRON, SAE1020,COMMERCIAL BRASS. GROUP 3 MANGANESE BRONZE,NICKEL ALUMINUM, BRONZE,NAVAL (TOBIN) BRASS,MEDIUM CAST IRON SAE4130 ANNEALED TO 145000 PSI,TEFLON SAE4140 ANNEALED TO 145000 PSI,SAE5130 ANNEALED,SAE4340 ANNEALED, SAE8640 ANNEALED,SAE8740 ANNEALED ALUMINUM ALLOYS-3SO,51SO,52SO,61SO. GROUP 4 SAE4130 AND SAE4140-145000 TO 180000 PSI,TOOL STEELS,BERYLLIUM COPPER, SAE52100 ANNEALED,OILITE,SAE1095, STAINLESS 18-8,321,316,430,416,430F, 303,STEEL CASTING,CHROME MOLY FORG-INGS,TITANIUM. MACHINE SPEEDS ARE AS FOLLOWS- GROUP 1-UP TO 1.0 INCH DIAMETER-183 SFPM 1.0-6.0 INCH DIAMETER-350 SFPM GROUP 2-UP TO 1.0 INCH DIAMETER-183 SFPM 1.0-6.0 INCH DIAMETER-110 SFPM GROUP 3-70 SFPM GROUP 4-40 SFPM FEEDS FOR ALL GROUPS ARE .006 INCH FOR ROUGH CUTS AND .003 INCH FOR FINISH CUTS

INCH DIAMETER		GROUP 1 MATERIAL DEPTH OF HOLE LESS THAN 1.0 INCH A	GROUP 1 MATERIAL ADD. INCH B	GROUP 2 MATERIAL DEPTH OF HOLE LESS THAN 1.0 INCH C	GROUP 2 MATERIAL ADD. INCH D
LESS THAN .5	A	10177	1254	10320	1254
.5-1.0	B	10177	1254	10743	1554
1.0-1.5	C	10177	1254	12131	2584
1.5-2.0	D	10177	1254	13537	3596
2.0-2.5	E	10620	1471	14945	4626
2.5-3.0	F	12639	2727	20348	8569
3.0-3.5	G	14775	4189	26126	13461
3.5-4.0	H	17159	5871	32691	18473
4.0-4.5	J	19773	7767	39995	24455
4.5-5.0	K	22628	9876	40865	31116
5.0-5.5	L	25728	12191	56913	38438
5.5-6.0	M	29063	14727	66513	46459

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE
FFE	604	FAA	KMLBOXX	TEMLBXX	

OPERATION/ELEMENT DESCRIPTION

INCH DIAMETER		GROUP 3 MATERIAL DEPTH OF HOLE LESS THAN 1.0 INCH E	GROUP 3 MATERIAL ADD. INCH F	GROUP 4 MATERIAL DEPTH OF HOLE LESS THAN 1.0 INCH G	GROUP 4 MATERIAL ADD. INCH H
LESS THAN .5	A	10327	1245	11637	2206
.5-1.0	B	12011	2493	14633	4385
1.0-1.5	C	14258	4115	18608	7326
1.5-2.0	D	16473	5769	22583	10212
2.0-2.5	E	18719	7391	26559	13153
2.5-3.0	F	27106	13721	41098	24361
3.0-3.5	G	36106	21113	56672	37458
3.5-4.0	H	46323	29596	74459	52551
4.0-4.5	J	57757	39171	94369	69586
4.5-5.0	K	70417	49869	116477	88562
5.0-5.5	L	84295	61629	140726	109428
5.5-6.0	M	99410	74480	167207	132288

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLCOXX	TEMLCXX	TABLE	LATHE(ENGINE),CUT OFF

STARTS=WITH SIDE STEP TO HEADSTOCK TO CHANGE FEED AND SPEED

INCLUDES=CHANGE TOOL BIT,CHANGE FEED AND SPEED,MEASURE,AND MACHINE TIME WITH A THREE PERCENT TOOL SHARPEN ALLOWANCE

ENDS=WITH SPINDLE STOPPED AND CARRIAGE BACKED OFF WORK

CONDITIONS=GROUPS OF MATERIAL ARE=

GROUP 1 ALUMINUM ALLOYS 24ST=75ST,PLEXIGLASS, BEARING BRONZE(YELLOW BRASS), MAGNESIUM.

GROUP 2 PHOSPHOR BRONZE,COPPER,BAKELITE,HARD RUBBER,SAE1112 AND SAE1120,FIBER PHENOLIC,PLASTIC,SOFT CAST IRON, SAE1020,COMMERCIAL BRASS.

GROUP 3 MANGANESE BRONZE,NICKEL ALUMINUM, BRONZE NAVAL (TOBIN) BRASS,MEDIUM CAST IRON,SAE4130 ANNEALED TO 145000 PSI, TEFLON,SAE4140 ANNEALED TO 145000 PSI, SAE5130 ANNEALED,SAE4340 ANNEALED, SAE8640 ANNEALED,SAE8740 ANNEALED, ALUMINUM ALLOYS=3SO,51SO,52SO,61SO.

GROUP 4 SAE4130 AND SAE4140=145000 TO 180000 PSI,TOOL STEELS,BERYLLIUM COPPER, SAE52100 ANNEALED,OILITE,SAE1095, STAINLESS 18=8,321,316,430,416,430F 303,STEEL CASTING,CHROME MOLY FORG=INGS,TITANIUM.

MACHINE SPEEDS ARE AS FOLLOWS=

GROUP 1=UP TO 1.0 INCH START DIAMETER=183 SURFACE FEET PER MINUTE(SFPM)
1.0=6.0 INCH START DIAMETER=220 SFPM

GROUP 2=UP TO 1.0 INCH START DIAMETER=183 SFPM
1.0=6.0 INCH START DIAMETER=60 SFPM

GROUP 3=40 SFPM

GROUP 4=25 SFPM

FEEDS ARE AS FOLLOWS=

GROUP 1=.004 INCH

GROUP 2=.004 INCH

GROUP 3=.002 INCH

GROUP 4=.002 INCH

START DIAMETER		GROUP 1 MATERIAL TOOL TRAVEL FIRST 1/8 IN	GROUP 1 MATERIAL TOOL TRAVEL ADD 1/8 IN	GROUP 2 MATERIAL TOOL TRAVEL FIRST 1/8 IN	GROUP 2 MATERIAL TOOL TRAVEL ADD 1/8 IN
LESS THAN		A	B	C	D
.5	A	2586	77	2586	77
.5=1.0	B	2586	77	2728	182
1.0=1.5	C	2604	87	2910	291
1.5=2.0	D	2658	125	3091	418
2.0=2.5	E	2707	158	3255	528
2.5=3.0	F	2762	191	3437	637
3.0=3.5	G	2811	229	3601	764
3.5=4.0	H	2865	262	3783	873
4.0=4.5	J	2914	300	3946	1000
4.5=5.0	K	2969	332	4128	1110
5.0=5.5	L	3018	371	4292	1237
5.5=6.0	M	3073	403	4474	1346

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE
FFE	604	FAO	KMLCOXX	TEMLCXX	

OPERATION/ELEMENT DESCRIPTION

START DIAMETER LESS THAN		GROUP 3 MATERIAL TOOL TRAVEL FIRST 1/8 IN E	GROUP 3 MATERIAL TOOL TRAVEL ADD 1/8 IN F	GROUP 4 MATERIAL TOOL TRAVEL FIRST 1/8 IN G	GROUP 4 MATERIAL TOOL TRAVEL ADD 1/8 IN H
.5	A	2786	163	2912	263
.5-1.0	B	3290	545	3789	877
1.0-1.5	C	3780	871	4666	1491
1.5-2.0	D	4325	1253	5456	2018
2.0-2.5	E	4869	1634	6333	2632
2.5-3.0	F	5359	1961	7210	3246
3.0-3.5	G	5904	2342	8088	3772
3.5-4.0	H	6449	2669	8965	4387
4.0-4.5	J	6939	3050	9755	5001
4.5-5.0	K	7483	3377	10632	5615
5.0-5.5	L	8028	3758	11509	6141
5.5-6.0	M	8518	4085	12386	6755

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLDRXX	TEMLDXX	TABLE	LATHE(ENGINE),DRILL HOLE STARTS-WITH DRILL INSTALLED INTO DRILL CHUCK INCLUDES-CHANGE SPINDLE SPEED,CHANGE DRILLS, CENTER DRILL,BACK DRILL TO CLEAR CHIPS,APPLY OIL TO DRILL POINT ENDS-WITH SPINDLE STOPPED AND DRILL ASIDE CONDITIONS-MACHINE TIME FREQUENCY EQUALS DEPTH X 1.05,BACK DRILL TO CLEAR CHIPS AND RETURN ONCE FOR EACH DOUBLE DRILL DIAMETER. GROUPS OF MATERIAL ARE- GROUP 1-ALUMINUM ALLOYS 24ST-75ST,PLEXIGLASS, BEARING BRONZE(YELLOW BRASS),MAGNESIUM GROUP 2-PHOSPHOR BRONZE,COPPER,BAKELITE,HARD RUBBER,SAE 1112,SAE 1120,FIBER PHENOLIC,PLASTIC,SOFT CAST IRON, SAE 1020,COMMERCIAL BRASS GROUP 3-MANGANESE BRONZE,NICKEL ALUMINUM, BRONZE,NAVAL(TOBIN)BRASS,MEDIUM CAST IRON,SAE 4130 ANNEALED TO 145000 PSI, SAE 4140 ANNEALED TO 145000 PSI,SAE 5130 ANNEALED,SAE 4340 ANNEALED,SAE 8640 ANNEALED,SAE 8740 ANNEALED, TEFLON,ALUMINUM ALLOYS 3S0,51S0,52S0, 61S0 GROUP 4-SAE 4130 AND 4140-145000-180000 PSI, TOOL STEELS,BERYLLIUM COPPER,SAE 52100 ANNEALED,SAE 1095,OILITE,STAINLESS 18-8,321,316,430,416,430F,303,STEEL CASTING,CHROME MOLY FORGINGS,TITANIUM MACHINING SPEEDS ARE AS FOLLOWS- GROUP 1-183 SURFACE FEET PER MINUTE(SFPM) GROUP 2-183 SFPM GROUP 3-UP TO 1/2 INCH DRILL-183 SFPM 1/2-2 INCH DRILL-70 SFPM GROUP 4-UP TO 1/4 INCH DRILL-183 SFPM 1/4-2 INCH DRILL-30 SFPM FEEDS ARE AS FOLLOWS- GROUP 1-UP TO 1/8 INCH DRILL-.002 INCH 1/8-1/4 INCH DRILL-.003 INCH 1/4-2 INCH DRILL-.005 INCH GROUP 2-UP TO 1/8 INCH DRILL-.0015 INCH 1/8-1/4 INCH DRILL-.002 INCH 1/4-1/2 INCH DRILL-.004 INCH 1/2-2 INCH DRILL-.014 INCH GROUP 3-UP TO 1/8 INCH DRILL-.001 INCH 1/8-1/4 INCH DRILL-.0015 INCH 1/4-1/2 INCH DRILL-.003 INCH 1/2-2 INCH DRILL-.012 INCH GROUP 4-UP TO 1/8 INCH DRILL-.0005 INCH 1/8-1/4 INCH DRILL-.001 INCH 1/4-1/2 INCH DRILL-.002 INCH 1/2-2 INCH DRILL-.008 INCH

GROUP 1 MATERIAL

DEPTH OF HOLE IN INCHES		DRILL DIAMETER IN INCHES UP TO 1/16 A	1/16 TO 1/8 B	1/8 TO 1/4 C	1/4 TO 1/2 D	1/2 TO 2 E
TO .5	A	4240	4108	3823	3731	
.5-1.0	B	5603	5099	4580	4220	6319
1.0-1.5	C	7425	6325	5326	4527	6664
1.5-2.0	D	9684	7764	6568	5184	7401
2.0-2.5	E	12403	9439	7312	5741	8039
2.5-3.0	F			8047	6311	9008
3.0-3.5	G			8790	6563	9341
3.5-4.0	H			9849	7133	9992

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE
FFE	604	FAA	KMLDRXX	TEMLDXX	

OPERATION/ELEMENT DESCRIPTION

GROUP 1 MATERIAL

DEPTH OF HOLE IN INCHES		DRILL DIAMETER IN INCHES UP TO 1/16 A	1/16 TO 1/8 B	1/8 TO 1/4 C	1/4 TO 1/2 D	1/2 TO 2 E
4.0-4.5	J			10592	7385	10320
4.5-5.0	K			11327	7955	10970
5.0-6.0	L				8776	12233
6.0-7.0	M				9468	13082
7.0-8.0	N				10743	14514

GROUP 2 MATERIAL

DEPTH OF HOLE IN INCHES		DRILL DIAMETER IN INCHES UP TO 1/16 F	1/16 TO 1/8 G	1/8 TO 1/4 H	1/4 TO 1/2 J	1/2 TO 2 K
TO .5	A	4447	4312	4028	3860	
.5-1.0	B	6016	5509	4991	4411	6857
1.0-1.5	C	8049	6946	5947	4782	7321
1.5-2.0	D	10515	8592	7396	5502	8240
2.0-2.5	E	13444	10477	8356	6122	9053
2.5-3.0	F			9298	6755	10202
3.0-3.5	G			10251	7070	10709
3.5-4.0	H			11516	7702	11541
4.0-4.5	J			12470	8018	12049
4.5-5.0	K			13412	8650	12874
5.0-6.0	L				9598	14829
6.0-7.0	M				10546	15777
7.0-8.0	N				11816	17433

GROUP 3 MATERIAL

DEPTH OF HOLE IN INCHES		DRILL DIAMETER IN INCHES UP TO 1/16 L	1/16 TO 1/8 M	1/8 TO 1/4 N	1/4 TO 1/2 O	1/2 TO 2 P
TO .5	A	4894	4762	4260	3956	
.5-1.0	B	6923	6419	5461	4626	7465
1.0-1.5	C	9401	8301	6644	5111	8106
1.5-2.0	D	12326	10406	8331	5949	9276
2.0-2.5	E	15699	12735	9511	6682	10332
2.5-3.0	F			10691	7433	11728
3.0-3.5	G			11871	7862	12480
3.5-4.0	H			13374	8613	13563
4.0-4.5	J			14554	9041	14314
4.5-5.0	K			15734	9792	15387
5.0-6.0	L				10972	17379
6.0-7.0	M				12151	19213
7.0-8.0	N				13654	21361

GROUP 4 MATERIAL

DEPTH OF HOLE IN INCHES		DRILL DIAMETER IN INCHES UP TO 1/16 Q	1/16 TO 1/8 R	1/8 TO 1/4 S	1/4 TO 1/2 T	1/2 TO 2 U
TO .5	A	6346	6214	5504	5373	
.5-1.0	B	9827	9323	7950	7210	12474
1.0-1.5	C	13756	12656	10305	8787	14612
1.5-2.0	D	18133	16213	13236	10791	17738
2.0-2.5	E	22958	19994	15660	12618	20705

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLDRXX	TEMLDXX		

GROUP 4 MATERIAL

DEPTH OF HOLE IN INCHES	DRILL DIAMETER IN INCHES UP TO 1/16 Q	1/16 TO 1/8 R	1/8 TO 1/4 S	1/4 TO 1/2 T	1/2 TO 2 U
2.5-3.0 F			18085	14535	24068
3.0-3.5 G			20436	16057	26730
3.5-4.0 H			23184	17974	29769
4.0-4.5 J			25608	19496	32431
4.5-5.0 K			28032	21413	35471
5.0-6.0 L				24851	40933
6.0-7.0 M				28290	46635
7.0-8.0 N				32052	52659

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLFFXX	TEMLFXX	TABLE	LATHE(ENGINE),FACE FINISH CUT STARTS=WITH CHANGE FEED FOR FIRST 1/8 INCH CUT,AND WITH TOOL CUTTING AT START OF ADDITIONAL 1/8 INCH CUT INCLUDES=CHANGE TOOL BIT,CHANGE FEED AND SPEED SET MICROMETER STOP,MEASURE AND MACHINE TIME ENDS=WITH SPINDLE STOPPED CARRIAGE BACKED OFF AND MICROMETER STOP ASIDE CONDITIONS=GROUPS OF MATERIAL ARE= GROUP 1=ALUMINUM ALLOYS 24ST=75ST,PLEXIGLASS, BEARING BRONZE(YELLOW BRASS),MAGNESIUM GROUP 2=PHOSPHOR BRONZE,COPPER,BAKELITE,HARD RUBBER,SAE 1112,SAE 1120,FIBER PHENOLIC,PLASTIC,SOFT CAST IRON, SAE 1020,COMMERCIAL BRASS GROUP 3=MANGANESE BRONZE,NICKEL ALUMINUM, BRONZE,NAVAL(TOBIN)BRASS,MEDIUM CAST IRON,SAE 4130 ANNEALED TO 145000 PSI, SAE 4140 ANNEALED TO 145000 PSI,SAE 5130 ANNEALED,SAE 4340 ANNEALED,SAE 8640 ANNEALED,SAE 8740 ANNEALED, TEFLON,ALUMINUM ALLOYS 3SO,51SO,52SO, 61SO GROUP 4=SAE 4130 AND 4140=145000=180000 PSI, TOOL STEELS,BERYLLIUM COPPER,SAE 52100 ANNEALED,SAE 1095,OILITE,STAINLESS 18=8,321,316,430,416,430F,303,STEEL CASTING,CHROME MOLY FORGINGS,TITANIUM MACHINING SPEEDS ARE AS FOLLOWS= GROUP 1=UP TO 2.5 INCH START DIAMETER=183 SURFACE FEET PER MINUTE(SFPM) 2.5=10 INCH START DIAMETER=350 SFPM GROUP 2=UP TO .5 INCH START DIAMETER 183 SFPM .5=10 INCH START DIAMETER=110 SFPM GROUP 3=UP TO .5 INCH START DIAMETER 183 SFPM .5=10 INCH START DIAMETER=70 SFPM GROUP 4=UP TO .5 INCH START DIAMETER=183 SFPM .5=10 INCH START DIAMETER=45 SFPM FEED FOR ALL GROUPS AND SIZES IS .003 INCH

START DIAMETER		GROUP 1 MATERIAL TOOL TRAVEL FIRST 1/8 IN A	ADD 1/8 IN B	GROUP 2 MATERIAL TOOL TRAVEL FIRST 1/8 IN C	ADD 1/8 IN D
TO .5	A	2974	103	2974	103
.5=1.0	B	2974	103	3008	132
1.0=1.5	C	2974	103	3140	212
1.5=2.0	D	2974	103	3272	304
2.0=2.5	E	3001	120	3391	383
2.5=3.0	F	3043	145	3524	463
3.0=4.0	G	3101	187	3709	595
4.0=5.0	H	3180	241	3960	767
5.0=6.0	J	3259	295	4211	939
6.0=7.0	K	3383	349	4462	1110
7.0=8.0	L	3421	403	4727	1282
8.0=9.0	M	3499	457	4978	1454
9.0=10.	N	3578	506	5229	1613

START DIAMETER		GROUP 3 MATERIAL TOOL TRAVEL FIRST 1/8 IN E	ADD 1/8 IN F	GROUP 4 MATERIAL TOOL TRAVEL FIRST 1/8 IN G	ADD 1/8 IN H
TO .5	A	2974	103	2984	97
.5=1.0	B	3135	208	3307	323

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLFFXX	TEMLFXX		

START DIAMETER		GROUP 3 MATERIAL TOOL TRAVEL FIRST 1/8 IN E	GROUP 3 MATERIAL TOOL TRAVEL ADD 1/8 IN F	GROUP 4 MATERIAL TOOL TRAVEL FIRST 1/8 IN G	GROUP 4 MATERIAL TOOL TRAVEL ADD 1/8 IN H
1.0-1.5	C	3322	333	3630	549
1.5-2.0	D	3530	478	3921	743
2.0-2.5	E	3738	624	4244	969
2.5-3.0	F	3925	749	4567	1195
3.0-4.0	G	4237	957	5051	1518
4.0-5.0	H	4633	1227	5665	1937
5.0-6.0	J	5049	1498	6310	2389
6.0-7.0	K	5444	1768	6956	2809
7.0-8.0	L	5839	2038	7570	3229
8.0-9.0	M	6255	2330	8215	3681
9.0-10.	N	6650	2600	8861	4101

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLFRXX	TEMLRXX	TABLE	LATHE(ENGINE),FACE ROUGH CUT

STARTS=WITH CHANGE FEED FOR FIRST 1/8 INCH CUT,AND WITH TOOL CUTTING AT START OF ADDITIONAL 1/8 INCH CUT

INCLUDES=CHANGE FEED,ADJUST MICROMETER STOP, MEASURE AND MACHINE TIME WITH THREE PERCENT TOOL SHARPEN TIME

ENDS=WITH SPINDLE STOPPED AND CARRIAGE BACKED OFF WORK

CONDITIONS=GROUPS OF MATERIAL ARE=

GROUP 1=ALUMINUM ALLOYS 24ST=75ST,PLEXIGLASS, BEARING BRONZE(YELLOW BRASS),MAGNESIUM

GROUP 2=PHOSPHOR BRONZE,COPPER,BAKELITE,HARD RUBBER,SAE 1112,SAE 1120,FIBER PHENOLIC,PLASTIC,SOFT CAST IRON, SAE 1020,COMMERCIAL BRASS

GROUP 3=MANGANESE BRONZE,NICKEL ALUMINUM, BRONZE,NAVAL(TOBIN)BRASS,MEDIUM CAST IRON,SAE 4130 ANNEALED TO 145000 PSI, SAE 4140 ANNEALED TO 145000 PSI,SAE 5130 ANNEALED,SAE 4340 ANNEALED,SAE 8640 ANNEALED,SAE 8740 ANNEALED, TEFLON,ALUMINUM ALLOYS 3SO,51SO,52SO, 61SO

GROUP 4=SAE 4130 AND 4140=145000=180000 PSI, TOOL STEELS,BERYLLIUM COPPER,SAE 52100 ANNEALED,SAE 1095,OILITE,STAINLESS 18=8,321,316,430,416,430F,303,STEEL CASTING,CHROME MOLY FORGINGS,TITANIUM

MACHINING SPEEDS ARE AS FOLLOWS=

GROUP 1=UP TO 2 INCH START DIAMETER=183 SFPM
2=10 INCH START DIAMETER=350 SFPM

GROUP 2=UP TO .5 INCH START DIAMETER=183 SFPM
.5=10 INCH START DIAMETER=110 SFPM

GROUP 3=UP TO .5 INCH START DIAMETER=183 SFPM
.5=10 INCH START DIAMETER=70 SFPM

GROUP 4=UP TO .5 INCH START DIAMETER=183 SFPM
.5=10 INCH START DIAMETER=45 SFPM

FEED FOR EACH GROUP IS .006 INCH

START DIAMETER		GROUP 1 MATERIAL TOOL TRAVEL FIRST 1/8 IN A	ADD 1/8 IN B	GROUP 2 MATERIAL TOOL TRAVEL FIRST 1/8 IN C	ADD 1/8 IN D
TO .5	A	1432	52	1432	52
.5 1.0	B	1432	52	1449	66
1.0=1.5	C	1432	52	1515	106
1.5=2.0	D	1432	52	1581	152
2.0=2.5	E	1446	60	1641	191
2.5=3.0	F	1467	72	1707	231
3.0=4.0	G	1496	93	1799	297
4.0=5.0	H	1535	120	1925	383
5.0=6.0	J	1574	147	2050	469
6.0=7.0	K	1614	174	2175	554
7.0=8.0	L	1655	201	2307	640
8.0=9.0	M	1694	228	2433	726
9.0=10.	N	1734	253	2558	805

START DIAMETER		GROUP 3 MATERIAL TOOL TRAVEL FIRST 1/8 IN E	ADD 1/8 IN F	GROUP 4 MATERIAL TOOL TRAVEL FIRST 1/8 IN G	ADD 1/8 IN H
TO .5	A	1432	52	1438	48
.5=1.0	B	1513	104	1599	161
1.0=1.5	C	1607	166	1761	274

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE
FFE	604	FAA	KMLFRXX	TEMLRXX	

OPERATION/ELEMENT DESCRIPTION

START DIAMETER		GROUP 3 MATERIAL TOOL TRAVEL FIRST 1/8 IN E	GROUP 3 MATERIAL TOOL TRAVEL ADD 1/8 IN F	GROUP 4 MATERIAL TOOL TRAVEL FIRST 1/8 IN G	GROUP 4 MATERIAL TOOL TRAVEL ADD 1/8 IN H
1.5-2.0	D	1711	239	1906	371
2.0-2.5	E	1815	312	2067	484
2.5-3.0	F	1908	374	2229	597
3.0-4.0	G	2064	478	2471	759
4.0-5.0	H	2262	614	2777	968
5.0-6.0	J	2470	749	3100	1194
6.0-7.0	K	2667	884	3423	1404
7.0-8.0	L	2865	1030	3730	1614
8.0-9.0	M	3073	1165	4052	1840
9.0-10.	N	3271	1300	4375	2050

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLTXXX	TEMLYXX	TABLE	LATHE(ENGINE),EXTERNAL TURN,GROUP 1 AND 2 MATERIALS

STARTS-WITH CHANGE TOOLS IN QUICK CHANGE TOOL HOLDER

INCLUDES-ALL TIME AND MOTIONS TO MACHINE THE REQUIRED AMOUNT OF STOCK FROM THE FIRST OR ADDITIONAL LONGITUDINAL INCH OF MATERIAL

ENDS-WITH SPINDLE STOPPED AND CARRIAGE BACKED OFF MATERIAL

GROUPS OF MATERIAL ARE-

GROUP 1-ALUMINUM ALLOYS 24ST-75ST,PLEXIGLASS, BEARING BRONZE(YELLOW BRASS),MAGNESIUM

GROUP 2-PHOSPHOR BRONZE,COPPER,BAKELITE,HARD RUBBER,SAE 1112,SAE 1120, FIBER PHENOLIC,PLASTIC,SOFT CAST IRON, SAE 1020,COMMERCIAL BRASS

MACHINING SPEEDS ARE AS FOLLOWS-

GROUP 1-CASES AA-AH,BA-BK,CA-CP,DA-DK,AND EA-ED-183 SFPM
CASES DL-DP,EE-ER,FA-FB,GA-GB,HA-HB, JA-JB-350 SFPM
CASES FC-FR,GC-GR,HC-HR,JC-JR-350 SFPM

GROUP 2-CASES KA-KH,LA-LD-183 SFPM
CASES LE-LK,MA-MP,NA-NP,PA-PR,QA-QR, RA-RR,SA-SR,TA,TR-110 SFPM

FEEDS ARE AS FOLLOWS-

GROUP 1-CASES AA-AF,BA-BB,CA-CB,DA-DB,EA-EB, FA-FB,GA-GB,HA-HB,JA-JB-.004 INCH
CASES AG-AH,BC-BK,CC-CP,DC-DP,EC-ER, FC-FR,GC-GR,HC-HR,JC-JR-.008 INCH
FOR ROUGH CUT AND .004 FOR FINISH

GROUP 2-CASES KA-KB,LA-LB,MA-MB,NA-NB,PA-PB- QA-QB,RA-RB,SA-SB,TA-TB, .004 INCH
CASES KC-KH,LC-LK,MC-MP,NC-NP,PC-PR, QC-QR,RC-RR,SC-SR,TC-TR-.008 INCH ROUGH CUT AND .004 INCH FINISH

GROUP 1 MATERIAL

AVERAGE FINISH DIAMETER

STOCK REMOVED		.001 TO .250 A	.251 TO .500 B	.501 TO 1.00 C	1.00 TO 1.50 D	1.50 TO 2.00 E
UP TO .033						
FIRST INCH	A	5690	5535	5535	5535	5535
ADD INCH	B	627	627	627	627	627
0.033-0.250						
FIRST INCH	C	7044	6699	6699	6699	6699
ADD INCH	D	1254	947	947	947	947
0.251-0.500						
FIRST INCH	E	8439	8168	8168	8168	8227
ADD INCH	F	1254	947	947	947	986
0.501-1.000						
FIRST INCH	G	9582	9511	9511	9511	9701
ADD INCH	H	1267	1267	1267	1267	1400
1.001-1.500						
FIRST INCH	J		10075	10075	10075	10577
ADD INCH	K		1587	1587	1587	1954
1.501-2.000						
FIRST INCH	L			11205	11508	11835
ADD INCH	M			2227	2459	3017
2.001-2.500						
FIRST INCH	N			11993	12741	13554
ADD INCH	P			2546	3133	3770
2.501-3.000						
FIRST INCH	Q					14523
ADD INCH	R					4602

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLTXXX	TEMLYXX		

		2.00 TO 3.00 F	3.00 TO 4.00 G	4.00 TO 5.00 H	5.00 TO 6.00 J
UP TO .033					
FIRST INCH	A	5790	6227	6668	7105
ADD INCH	B	814	1133	1452	1772
0.033-0.250					
FIRST INCH	C	7104	7800	8497	9193
ADD INCH	D	1228	1707	2185	2665
0.251-0.500					
FIRST INCH	E	8688	9425	10253	10990
ADD INCH	F	1284	1762	2302	2781
0.501-1.000					
FIRST INCH	G	10386	11302	12103	13018
ADD INCH	H	1878	2516	3075	3714
		F	G	H	J
1.001-1.500					
FIRST INCH	J	11397	12629	13450	14545
ADD INCH	K	2551	3449	4048	4846
1.501-2.000					
FIRST INCH	L	13324	14959	16412	17865
ADD INCH	M	3857	5115	6233	7350
2.001-2.500					
FIRST INCH	N	14778	16209	17840	19473
ADD INCH	P	4726	5847	7124	8401
2.501-3.000					
FIRST INCH	Q	15881	19015	19729	21540
ADD INCH	R	5680	6937	8733	10170

GROUP 2 MATERIAL

AVERAGE FINISH DIAMETER

STOCK REMOVED		.001 TO .250 K	.251 TO .500 L	.501 TO 1.00 M	1.00 TO 1.50 N	1.50 TO 2.00 P
UP TO .033						
FIRST INCH	A	7508	5535	6030	6452	7146
ADD INCH	B	1881	627	778	1294	1800
0.033-0.250						
FIRST INCH	C	10292	6699	7308	8429	9539
ADD INCH	D	2521	947	1367	2140	2898
0.251-0.500						
FIRST INCH	E	10859	8806	9906	11373	12834
ADD INCH	F	2841	1316	2084	3110	4125
0.501-1.000						
FIRST INCH	G	12199	10819	12137	13881	15635
ADD INCH	H	3161	1968	2930	4198	5480
1.001-1.500						
FIRST INCH	J		13284	15033	17345	19673
ADD INCH	K		3655	4998	6781	8568
1.501-2.000						
FIRST INCH	L			18486	21384	24272
ADD INCH	M			7570	9867	12160
2.001-2.500						
FIRST INCH	N			22520	25992	29449
ADD INCH	P			10658	13470	16268
2.501-3.00						
FIRST INCH	Q					35204
ADD INCH	R					20890

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE
FFE	604	FAA	KMLTXXX	TEMLYXX	

OPERATION/ELEMENT DESCRIPTION		2.00 TO 3.00 Q	3.00 TO 4.00 R	4.00 TO 5.00 S	5.00 TO 6.00 T
UP TO .033					
FIRST INCH	A	8198	9596	11005	12404
ADD INCH	B	2573	3595	4617	5639
0.033-0.250					
FIRST INCH	C	10938	13163	15394	17619
ADD INCH	D	3864	5396	6928	8460
0.251-0.500					
FIRST INCH	E	14658	17587	20883	23806
ADD INCH	F	5398	7440	9739	11781
0.501-1.000					
FIRST INCH	G	18257	21754	24817	28314
ADD INCH	H	7388	9939	12169	14725
1.001-1.500					
FIRST INCH	J	23151	28377	31854	36501
ADD INCH	K	11243	15265	17939	21511
1.501-2.000					
FIRST INCH	L	28620	35133	40913	46703
ADD INCH	M	15607	20778	25369	29959
2.001-2.500					
FIRST INCH	N	34644	40720	47648	54577
ADD INCH	P	20472	25394	31005	36615
2.501-3.000					
FIRST INCH	Q	41256	48318	58415	66486
ADD INCH	R	25857	31660	39949	46578

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLTXXX	TEMLZXX	TABLE	LATHE(ENGINE),EXTERNAL TURN GROUP 3 AND 4 MATERIALS

STARTS-WITH CHANGE TOOLS IN QUICK CHANGE TOOL HOLDER

INCLUDES-ALL THE TIME AND MOTIONS TO MACHINE THE REQUIRED AMOUNT OF STOCK FROM THE FIRST OR ADDITIONAL LONGITUDINAL INCH OF MATERIAL

ENDS-WITH SPINDLE STOPPED AND CARRIAGE BACKED OFF MATERIAL

CONDITIONS-GROUPS OF MATERIAL ARE-

GROUP 3-MANGANESE BRONZE,NICKEL ALUMINUM, BRONZE,NAVAL(TOBIN)BRASS,MEDIUM CAST IRON,SAE 4130 ANNEALED TO 145000 PSI, SAE 4140 ANNEALED TO 145000 PSI,SAE 5130 ANNEALED,SAE 4340 ANNEALED,SAE 8640 ANNEALED,SAE 8740 ANNEALED, TEFLON,ALUMINUM ALLOYS 3SO,51SO,52SO, 61SO

GROUP 4-SAE 4130 AND 4140-145000-180000 PSI, TOOL STEELS,BERYLLIUM COPPER,SAE 52100 ANNEALED,SAE 1095,OILITE,STAINLESS 18-8,321,316,430,416,430F,303,STEEL CASTING,CHROME MOLY FORGINGS,TITANIUM

MACHINING SPEEDS ARE AS FOLLOWS-

GROUP 3-70 SURFACE FEET PER MINUTE(SFPM)

GROUP 4-40 SFPM

FEEDS ARE AS FOLLOWS

GROUP 3-UP TO .033 INCH STOCK REMOVAL-.004 INCH
.033-3.00 INCH STOCK REMOVAL-.008 INCH ROUGH CUT AND .004 INCH FINISH CUT

GROUP 4-UP TO .033 INCH STOCK REMOVAL-.004 INCH
.003-3.00 INCH STOCK REMOVAL-.008 INCH ROUGH CUT AND .004 INCH FINISH CUT

GROUP 3 MATERIAL

AVERAGE FINISH DIAMETER

STOCK REMOVED		.001 TO .250 A	.251 TO .500 B	.501 TO 1.00 C	1.00 TO 1.50 D	1.50 TO 2.00 E
UP TO .033						
FIRST INCH	A	6716	5538	6381	7504	8627
ADD INCH	B	1274	622	1246	2058	2884
0.033-0.250						
FIRST INCH	C	9228	7146	8487	10274	12052
ADD INCH	D	1715	1268	2181	3397	4638
0.251-0.500						
FIRST INCH	E	12710	9902	11665	14013	16360
ADD INCH	F	2845	2095	3318	4964	6594
0.501-1.000						
FIRST INCH	G	13507	12410	14501	17302	20109
ADD INCH	H	4201	3129	4658	6718	8753
1.001-1.500						
FIRST INCH	J		16083	18875	22596	26316
ADD INCH	K		5817	7962	10832	13695
1.501-2.000						
FIRST INCH	L			24148	28789	33422
ADD INCH	M			12093	15775	19464
2.001-2.500						
FIRST INCH	N			30356	35909	41463
ADD INCH	P			17035	21527	26044
2.501-3.000						
FIRST INCH	Q					50402
ADD INCH	R					33435

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE
FFE	604	FAA	KMLTXXX	TEMLZXX	

OPERATION/ELEMENT DESCRIPTION

		2.00 TO 3.00 F	3.00 TO 4.00 G	4.00 TO 5.00 H	5.00 TO 6.00 J
UP TO .033					
FIRST INCH	A	10296	12496	14789	17036
ADD INCH	B	4117	5755	7393	9031
0.033-0.250					
FIRST INCH	C	14283	17848	21420	24985
ADD INCH	D	6182	8639	11096	13553
0.251-0.500					
FIRST INCH	E	19286	23974	29262	33950
ADD INCH	F	8646	11922	15610	18886
0.501-1.000					
FIRST INCH	G	24320	29928	34835	40443
ADD INCH	H	11834	15929	19509	23604
1.001-1.500					
FIRST INCH	J	31886	40263	45840	53281
ADD INCH	K	18001	24444	28749	34482
1.501-2.000					
FIRST INCH	L	40387	50808	60090	69357
ADD INCH	M	24986	33293	40664	48035
2.001-2.500					
FIRST INCH	N	49786	59505	70612	81711
ADD INCH	P	32807	40692	49701	58710
2.501-3.000					
FIRST INCH	Q	60112	71438	87607	100540
ADD INCH	R	41430	50743	64050	74697

GROUP 4 MATERIAL

AVERAGE FINISH DIAMETER

STOCK REMOVED		.001 TO .250 K	.251 TO .500 L	.501 TO 1.00 M	1.00 TO 1.50 N	1.50 TO 2.00 P
UP TO .033						
FIRST INCH	A	7944	6193	7690	9677	11664
ADD INCH	B	2220	1103	2192	3661	5104
0.033-0.250						
FIRST INCH	C	10893	8544	10898	14068	17225
ADD INCH	D	2982	2232	3865	6028	8233
0.251-0.500						
FIRST INCH	E	13618	12175	15304	19480	23630
ADD INCH	F	4982	3688	5865	8790	11688
0.501-1.000						
FIRST INCH	G	17515	15667	19395	24361	29353
ADD INCH	H	7390	5512	8232	11891	15510
1.001-1.500						
FIRST INCH	J		21973	26789	33373	39998
ADD INCH	K		10273	14081	19196	24284
1.501-2.000						
FIRST INCH	L			35816	44045	52262
ADD INCH	M			21399	27942	34499
2.001-2.500						
FIRST INCH	N			46460	56322	66156
ADD INCH	P			30173	38157	46182
FIRST INCH	Q					81698
ADD INCH	R					59280

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLTXXX	TEMLZXX		

		2.00 TO 3.00 Q	3.00 TO 4.00 R	4.00 TO 5.00 S	5.00 TO 6.00 T
UP TO .033					
FIRST INCH	A	14659	18633	22607	26581
ADD INCH	B	7309	10222	13134	16047
0.033-0.250					
FIRST INCH	C	21212	27540	33881	40208
ADD INCH	D	10968	15336	19703	24071
0.251-0.500					
FIRST INCH	E	28828	36869	44515	54842
ADD INCH	F	15334	21157	27701	33524
0.501-1.000					
FIRST INCH	G	36795	46740	55461	65406
ADD INCH	H	20993	28270	34624	41902
1.001-1.500					
FIRST INCH	J	49902	64730	74633	87870
ADD INCH	K	31914	43395	51027	61215
1.501-2.000					
FIRST INCH	L	64599	83126	99572	116019
ADD INCH	M	44319	59078	68611	85275
2.001-2.500					
FIRST INCH	N	80943	98190	117900	137597
ADD INCH	P	58179	72202	88212	104221
2.501-3.000					
FIRST INCH	Q	98890	118995	147681	170627
ADD INCH	R	73494	90034	113686	132606

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLREXX	TEMRLXX	TABLE	LATHE(ENGINE),REAM HOLE

STARTS-WITH INSTALL REAMER INTO TAILSTOCK
INCLUDES-CHANGE SPEED,CHANGE TOOLS,ADVANCE AND RETURN TAILSTOCK BACK TO CLEAR CHIPS AWAY AND APPLY OIL
ENDS-WITH SPINDLE STOPPED AND REAMER ASIDE
CONDITIONS-GROUPS OF MATERIAL ARE-
GROUP 1-ALUMINUM ALLOYS 24ST-75ST,PLEXIGLASS, BEARING BRONZE(YELLOW BRASS),MAGNESIUM
GROUP 2-PHOSPHOR BRONZE,COPPER,BAKELITE,HARD RUBBER,SAE 1112,SAE 1120,FIBER PHENOLIC,PLASTIC,SOFT CAST IRON, SAE 1020,COMMERCIAL BRASS
GROUP 3-MANGANESE BRONZE,NICKEL ALUMINUM, BRONZE,NAVAL(TOBIN)BRASS,MEDIUM CAST IRON,SAE 4130 ANNEALED TO 145000 PSI, SAE 4140 ANNEALED TO 145000 PSI,SAE 5130 ANNEALED,SAE 4340 ANNEALED,SAE 8640 ANNEALED,SAE 8740 ANNEALED, TEFLON,ALUMINUM ALLOYS 3SO,51SO,52SO, 61SO
GROUP 4-SAE 4130 AND 4140-145000-180000 PSI, TOOL STEELS,BERYLLIUM COPPER,SAE 52100 ANNEALED,SAE 1095,OILITE,STAINLESS 18-8,321,316,430,416,430F,303,STEEL CASTING,CHROME MOLY FORGINGS,TITANIUM
MACHINING SPEEDS ARE AS FOLLOWS-
GROUP 1-150 SURFACE FEET PER MINUTE(SFPM)
GROUP 2-70(SFPM)
GROUP 3-45(SFPM)
GROUP 4-20(SFPM)
FEEDS ARE AS FOLLOWS-
GROUP 1-UP TO 1/4 INCH REAMER-.006 INCH
1/4-1/2 INCH REAMER-.010 INCH
1/2-1 5/8 INCH REAMER-.020 INCH
GROUP 2-UP TO 1/4 INCH REAMER-.004 INCH
1/4-1/2 INCH REAMER-.008 INCH
1/2-1 5/8 INCH REAMER-.016 INCH
GROUP 3-UP TO 1/4 INCH REAMER-.003 INCH
1/4-1/2 INCH REAMER-.006 INCH
1/2-1 5/8 INCH REAMER-.012 INCH
GROUP 4-UP TO 1/4 INCH REAMER-.002 INCH
1/4-1/2 INCH REAMER-.004 INCH
1/2-1 5/8 INCH REAMER-.008 INCH

DEPTH OF HOLE IN INCHES		GROUP 1 MATERIAL REAMER DIAMETER UP TO 1/4 A	1/4 TO 1/2 B	1/2 TO 1 5/8 C	GROUP 2 MATERIAL REAMER DIAMETER UP TO 1/4 D	1/4 TO 1/2 E	1/2 TO 1 5/8 F
TO .5	A	1590	1607		1644	1675	
.5-1.0	B	1945	1718	1718	2064	1879	2026
1.0-1.5	C	2318	2015	1910	2501	2270	2277
1.5-2.0	D	2757	2477	2038	3005	2820	2528
2.0-2.5	E	3114	2855	2434	3437	3291	3028
2.5-3.0	F	3466	2910	2506	3854	3439	3241
3.0-3.5	G	4141	3288	2579	4593	3911	3436
3.5-4.0	H	4493	3664	2651	5038	4374	3631
4.0-4.5	J	4850	4042	3047	5442	4845	4149
4.5-5.0	K	5525	4097	3119	6182	4993	4344
5.0-6.0	L		4501	3229		5535	4640
6.0-7.0	M		5254	3697		6469	5353
7.0-8.0	N		5687	3860		7089	5743

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLREXX	TEMRLXX		

DEPTH OF HOLE IN INCHES		GROUP 3 MATERIAL REAMER DIAMETER UP TO 1/4 G	1/4 TO 1/2 H	1/2 TO 1 5/8 J	GROUP 4 MATERIAL REAMER DIAMETER UP TO 1/4 K	1/4 TO 1/2 L	1/2 TO 1 5/8 M
TO .5	A	1727	1792		2114	2334	
.5-1.0	B	2247	2155	2443	3098	3431	4377
1.0-1.5	C	2785	2703	2903	4100	4715	5804
1.5-2.0	D	3389	3404	3362	5168	6112	7230
2.0-2.5	E	3938	4033	4089	6259	7477	8924
2.5-3.0	F	4454	4340	4492	7240	8519	10294
3.0-3.5	G	5294	4970	4896	8544	9883	11665
3.5-4.0	H	5811	5583	5299	9525	11193	13035
4.0-4.5	J	6360	6213	6026	10615	12558	14729
4.5-5.0	K	7200	6520	6429	11919	13600	16709
5.0-6.0	L		7295	7042		15458	19650
6.0-7.0	M		8538	8172		18133	23037
7.0-8.0	N		9474	9076		20539	26101

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	604	FAA	KMLCDP1	SEMLC01	1305	LATHE(ENGINE),CENTER DRILL STARTS-WITH INSTALL CENTER DRILL IN CHUCK INCLUDES-INSTALL CENTER DRILL IN CHUCK CHANGE SPINDLE SPEED AND MACHINE TIME TO CENTER DRILL MATERIAL ENDS-WITH SPINDLE STOPPED AND CENTER DRILL ASIDE
DL	604	MAA	604-1	SEMTC01	893	TOOL,CHANGE AND REPOSITION,TAILSTOCK STARTS-WITH SIDESTEP TO TAILSTOCK TO UNLOCK TO SLIDE BACK TO CHANGE TOOLS INCLUDES-MOTIONS TO SLIDE TAILSTOCK BACK; CHANGE TOOLS;REPOSITION TAILSTOCK FOR THE NEXT OPERATION ENDS-WITH TOOLS CHANGED AND TAILSTOCK IN POSITION FOR THE NEXT OPERATION CONDITIONS-USE WITH LATHES WITH TAILSTOCKS THAT ARE MOVED MANUALLY BY SLIDING
FFE	604	MAL	GTLPSA1	MJPPP01	574	PLATE(SURFACE),PREPARE FOR USE STARTS-WITH TURN BODY TO WALK TO SURFACE PLATE INCLUDES-ALL THE MOTIONS NECESSARY TO REMOVE AND INSTALL COVER,WIPE OFF SURFACE PLATE WITH PAPER TOWEL,MAKE READY FOR USE ENDS-WITH TURN TO WALK AWAY
NO	604	MAO	LEL3A3	MSUAS01	1367	ATTACHMENT(TAPER),SET STARTS-WITH REACH TO WRENCH INCLUDES-ALL MOTIONS NECESSARY TO WALK TO REAR OF MACHINE,LOOSEN THREE SLIDE NUTS,TURN CONTROL KNOB WHILE OBSERVING INDICATOR, TIGHTEN NUTS,AND WALK TO FRONT OF MACHINE ENDS-WITH ASIDE OF WRENCH
NO	604	MAO	LEL1V2	MSUBI01	1209	BAR(BORING),INSTALL IN,ADJUST,AND REMOVE FROM COMPOUND SLIDE STARTS-WITH REACH TO BORING BAR AND HOLDER INCLUDES-ALL MOTIONS NECESSARY TO GET BORING BAR AND HOLDER,SET HOLDER IN SLOT IN SLIDE, ADJUST BAR TO CORRECT POSITION;USE SCALE TO MEASURE POSITION,TURN BAR TO PROPER ALIGNMENT, TURN IN NUT ON TOP OF HOLDER WITH FINGERS,GET WRENCH,TIGHTEN NUT,LAY WRENCH ASIDE,GET WRENCH,LOOSEN NUT,LAY WRENCH ASIDE,REMOVE BORING BAR AND HOLDER,AND LAY ASIDE ENDS-WITH RELEASE OF BORING BAR AND HOLDER CONDITION-WALKING TO AND FROM TOOL STORAGE NOT INCLUDED

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	604	MAO	LEL1N	MSUCI01	1888	COLLET,INSTALL IN AND REMOVE FROM COLLET CHUCK STARTS-WITH SIDESTEP TO HEADSTOCK INCLUDES-ALL MOTIONS NECESSARY TO GET CHUCK KEY,PLACE IN CHUCK,GET COLLET,PLACE IN CHUCK, ALIGN KEY,SEAT COLLET,TIGHTEN CHUCK ON COLLET, REMOVE WRENCH,LAY ASIDE,SIDESTEP TO FRONT OF MACHINE,SIDESTEP TO HEADSTOCK,GET WRENCH, LOOSEN CHUCK,GET COLLET,REMOVE FROM CHUCK,AND LAY WRENCH AND COLLET ASIDE ENDS-WITH RELEASE OF WRENCH
NO	604	MAO	LEL1J	MSUCK01	395	CENTER,KNOCK OUT OF SPINDLE WITH BAR STARTS-WITH GET BAR FROM STORAGE RACK INCLUDES-ALL MOTIONS NECESSARY TO PLACE BAR IN SPINDLE,STRIKE CENTER WITH BAR,REMOVE LOOSENED CENTER,SLIDE BAR FROM SPINDLE AND PLACE CENTER AND BAR IN STORAGE RACK ENDS-WITH RELEASE OF BAR CONDITIONS-TIME FOR WALKING TO AND FROM STORAGE RACK NOT INCLUDED
NO	604	MAO	LEL2U1	MSUCS01	138	CLIP(DIAL),SET TO DESIRED READING STARTS-WITH REACH TO DIAL CLIP INCLUDES-ALL MOTIONS NECESSARY TO REMOVE CLIP, REPOSITION,AND REPLACE ON DIAL ENDS-WITH RELEASE OF CLIP
NO	604	MAO	LEL3H	MSUDA01	2777	DRAW BAR,ASSEMBLE TO AND DISASSEMBLE FROM COLLET,SPEED LATHE STARTS-WITH GET DRAW BAR INCLUDES-ALL MOTIONS NECESSARY TO SIDESTEP FROM BENCH TO MACHINE,MOVE BAR TO SPINDLE AND PARTIALLY INSERT,SIDESTEP TO BENCH,GET COLLET, RETURN TO MACHINE,SCREW BAR ON COLLET,SIDESTEP TO REAR OF MACHINE,GET SPRING AND PLACE ON BAR END,GET ADJUSTING CAP AND PUT ON BAR HAND TIGHT,GET SPANNER WRENCH,TIGHTEN CAP,ASIDE WRENCH,AND SIDESTEP TO FRONT OF MACHINE;AND SIDESTEP TO REAR OF MACHINE,GET WRENCH,LOOSEN ADJUSTING CAP,ASIDE WRENCH,REMOVE CAP,REMOVE SPRING,REMOVE TUBE FROM SPINDLE,SIDESTEP TO BENCH,ATTACH CAP AND SPRING,AND ASIDE ASSEMBLY ENDS-WITH RELEASE OF ASSEMBLY CONDITIONS-WALKING ASSOCIATED WITH GET AND ASIDE BAR NOT INCLUDED
FFE	604	MAO	KMLHMF1	MSUFC01	326	FEED,CHANGE,TWO LEVERS STARTS-WITH STOOP TO READ FEED CHART INCLUDES-MOTIONS TO READ CHART,SELECT AND POSITION TWO LEVERS TO CHANGE FEED ENDS-WITH OPERATOR STANDING AT FEED GEAR BOX
NO	604	MAO	LEL1Q1	MSUFC02	609	FEED,CHANGE,THREE LEVERS,ENGINE LATHE STARTS-WITH TURN FROM LATHE INCLUDES-ALL MOTIONS NECESSARY TO TURN AND WALK TWO PACES TO HEADSTOCK,UNLOCK TUMBLER LEVER,DISENGAGE GEAR,BEND TO FEED CHART,LOCATE PROPER FEED,CHANGE POSITION OF THREE LEVERS, JOG SPINDLE,ARISE,ENGAGE GEAR,MOVE TUMBLER LEVER TO LOCK POSITION,TURN,WALK TWO PACES TO FRONT OF LATHE ENDS-WITH OPERATOR AT FRONT OF MACHINE

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	604	MAO	LEL1T2	MSUFI01	2160	FOLLOW REST,INSTALL AND REMOVE STARTS-WITH REACH TO FOLLOW REST INCLUDES-ALL MOTIONS NECESSARY TO LIFT FOLLOW REST,PLACE AND ALIGN ON MACHINE,INSTALL THREE BOLTS,GET WRENCH,TIGHTEN BOLTS,ASIDE WRENCH, GET WRENCH,LOOSEN THREE BOLTS,ASIDE WRENCH, REMOVE BOLTS,LIFT FOLLOW REST FROM MACHINE,AND SET ASIDE ENDS-WITH RELEASE OF FOLLOW REST CONDITION-WALKING BETWEEN MACHINE AND STORAGE LOCATION NOT INCLUDED
NO	604	MAO	LEL1A	MSUFL01	2105	FACEPLATE,COLLET,OR CHUCK,LOOSEN AND TIGHTEN, CAM LOCK TYPE STARTS-WITH REACH TO WRENCH ON LATHE HEADSTOCK INCLUDES-ALL MOTIONS NECESSARY TO HOLD CHUCK IN SPINDLE NOSE,GET WRENCH,SNUG SIX CAM LOCKS AND TIGHTEN SIX CAM LOCKS.LOOSEN SIX CAM LOCKS AND ALIGN CAM RELEASE MARKS,ASIDE WRENCH. ENDS-WITH WRENCH ASIDE ON HEADSTOCK CONDITION-SPINDLE IS TURNED WITH THE CHUCK WRENCH.APPLICABLE TO DEVICES ON ENGINE LATHES.
NO	604	MAO	LTL3R3	MSUHI01	279	HOLDER(SHANK TOOL),INSTALL ON AND REMOVE FROM HEX TURRET,TURRET LATHE STARTS-WITH REACH TO TOOL HOLDER INCLUDES-ALL MOTIONS NECESSARY TO INSTALL AND REMOVE A SHANK OR FLANGE TYPE TOOL HOLDER ON/FROM A HEX TURRET ENDS-WITH LAY TOOL HOLDER ASIDE CONDITION-TIGHTENING OR LOOSENING TOOL NOT INCLUDED
NO	604	MAO	LEL1B	MSUIC01	297	CHUCK,FACEPLATE,OR COLLET CHUCK,INSTALL AND REMOVE 50 POUNDS OR LESS STARTS-WITH CHUCK ON THE WAYS BOARD AND REACH TO THE SPINDLE DISENGAGE LEVER INCLUDES-ALL MOTIONS NECESSARY TO DISENGAGE THE SPINDLE,ROTATE THE SPINDLE AND CHUCK TO ALIGN THE KEYS,LIFT THE CHUCK AND FIT TO SPINDLE NOSE,REMOVE FROM SPINDLE NOSE,LOWER CHUCK TO BOARD AND ENGAGE SPINDLE ENDS-WITH SPINDLE ENGAGED AND CHUCK ON BOARD CONDITIONS-WALKING TO AND FROM STORAGE AREA IS NOT INCLUDED,APPLICABLE TO CAM LOCK OR TAPERED SPINDLES
NF	604	MAF	4117	MSUJPXX	VARIABLE	JAW(CHUCK),POSITION USING WRENCH STARTS-WITH REACH TO WRENCH INCLUDES-ALL MOTIONS NECESSARY TO POSITION WRENCH TO SOCKET ON CHUCK JAW,POSITION JAW TO MARK,AND REMOVE AND ASIDE WRENCH ENDS-WITH RELEASE OF WRENCH 83 CASE 01 FIRST JAW 73 02 EACH ADDITIONAL JAW(INCLUDES MOVE CHUCK TO NEXT SOCKET)
AE	604	MAW	SMLGA06	MSULS01	9147	LATHE(ENGINE),SET UP WITH CENTERS STARTS-WITH GET LATHE DOG INCLUDES-ALL MOTIONS NECESSARY TO GET AND SET UP FACE PLATE,GET AND INSTALL CENTERS,MOVE TAILSTOCK TO TWO FEET,LOOSEN AND TIGHTEN TAILSTOCK,CLEAN CENTERS WITH AIR,REMOVE CENTERS,REMOVE FACE PLATE,AND LAY ASIDE ALL TOOLS AND FIXTURES ENDS-WITH LAY ASIDE TOOLS AND FIXTURES CONDITION-TIME FOR WALKING TO AND FROM TOOL STORAGE NOT INCLUDED

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	604	MAO	LEL1W	MSUPRO1	337	POST(TOOL),REMOVE AND INSTALL STARTS-WITH REACH TO TOOL POST ON LATHE INCLUDES-ALL MOTIONS NECESSARY TO PULL TOOL POST FROM SLOT,LAY POST ASIDE,REACH TO TOOL POST,MOVE TO COMPOUND,RAISE COLLAR,AND PLACE TOOL POST INTO SLOT ENDS-WITH RELEASE OF POST CONDITION-TOOL POST ON MACHINE OR BENCH WITHIN REACH OF OPERATOR.APPLICABLE TO TOOL POSTS INSTALLED ON 12-16 INCH ENGINE LATHES
NO	604	MAO	LTL3V2	MSURPO1	201	POST(BACK TOOL HOLDER),REPLACE STARTS-WITH REACH TO TOOL HOLDER POST INCLUDES-ALL MOTIONS NECESSARY TO REMOVE POST, LAY ASIDE,GET POST,AND INSTALL ENDS-WITH RELEASE OF INSTALLED POST
NO	604	MAO	LEL1F1	MSUSI01	170	SHIM,INSTALL UNDER AND REMOVE FROM TOOL STARTS-WITH REACH TO SHIM INCLUDES-ALL MOTIONS NECESSARY TO GET SHIM, MOVE TO TOOL POST,RAISE TOOL,SLIDE SHIM UNDER TOOL,REACH TO TOOL AND SHIM,RAISE TOOL,REMOVE SHIM,AND LAY ASIDE ENDS-WITH RELEASE OF SHIM
NO	604	MAO	LEL1S	MSUSL01	73	SPINDLE(TAILSTOCK),LOCK OR UNLOCK STARTS-WITH REACH TO LOCK LEVER INCLUDES-ALL MOTIONS NECESSARY TO UNLOCK OR LOCK SPINDLE ENDS-WITH RELEASE OF LEVER CONDITION-APPLICABLE TO ENGINE LATHES
NO	604	MAO	LEL1S2	MSUSP01	871	STEADY REST,PLACE ON MACHINE,SECURE,AND REMOVE STARTS-WITH REACH TO CLAMP INCLUDES-ALL MOTIONS NECESSARY TO TURN CLAMP, LIFT STEADY REST,PLACE ON MACHINE,POSITION IN GROOVE,PLACE AND SECURE CLAMP,GET CLAMP, LOOSEN,SLIDE STEADY REST FROM GROOVE,LIFT FROM MACHINE,AND PLACE ASIDE ENDS-WITH RELEASE OF STEADY REST CONDITION-NO TIME ALLOWED FOR WALKING BETWEEN MACHINE AND STORAGE LOCATION.WEIGHT OF STEADY REST TO 40 POUNDS
FFE	604	MAA	KMLHMS5	MSUSS01	295	STOP(CARRIAGE MICROMETER),SET STARTS-WITH REACH TO STOP INCLUDES-MOTIONS TO MOVE STOP TO CARRIAGE, TIGHTEN,LOOSEN AND MOVE STOP ASIDE ENDS-WITH STOP LOOSE AND ASIDE AND WRENCH ASIDE CONDITION-ALIGNMENT OF BARREL NOT INCLUDED
NO	604	MAO	LEL1P2	MSUST01	847	TOOL(THREADING),SET TO WORK WITH CENTER GAUGE STARTS-WITH REACH TO GAUGE INCLUDES-ALL MOTIONS NECESSARY TO POSITION GAUGE TO WORK,CRANK CROSS SLIDE IN TO POSITION TOOL TO GAUGE,POSITION GAUGE TO TOOL,LOOSEN BOLT,ADJUST TOOL BY TAPPING WITH WRENCH,CRANK CROSS SLIDE OUT AND IN TO CHECK,TIGHTEN BOLT, FINAL CHECK TOOL WITH GAUGE,MOVE TOOL FROM GAUGE,SET GAUGE ASIDE,AND LAY WRENCH ASIDE ENDS-WITH RELEASE OF WRENCH CONDITION-COMPOUND PREVIOUSLY SET TO 30 DEGREES
NO	604	MAO	LEL1C5	MSUSU01	340	STOP(THREAD CHASING),UNLOCK AND LOCK,ENGINE LATHE STARTS-WITH REACH TO LOCK SCREW INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN AND TIGHTEN LOCK SCREW BY HAND ENDS-WITH RELEASE OF LOCK SCREW CONDITION-TIME FOR ADJUSTING STOP NOT INCLUDED

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	604	MAO	LEL1E1	MSUTC01	132	TOOL,CHANGE IN SQUARE TURRET STARTS-WITH REACH TO TOOL INCLUDES-ALL MOTIONS NECESSARY TO MOVE TOOL TO SQUARE TURRET,PLACE TOOL IN HOLDER,REACH TO TOOL,MOVE TOOL FROM HOLDER,AND LAY ASIDE ENDS-WITH RELEASE OF TOOL
FFE	604	MAA	KMLHMT2	MSUTI01	2942	TOOL,INSTALL AND ADJUST IN A KDK QUICK CHANGE BAR STARTS-WITH BLOW CHIPS FROM ALLEN SCREWS IN PREPARATION TO REMOVE THE OLD TOOL INCLUDES-MOTIONS TO REMOVE THE OLD TOOL, INSTALL AND ADJUST THE NEW TOOL TO CENTER ENDS-WITH THE TOOL ADJUSTED TO CENTER AND TIGHTENED IN PLACE CONDITIONS-APPLIES TO TURNING AND PARTING TOOL ONLY,DOES NOT COVER THE MOTIONS TO ALIGN A THREADING TOOL
FFE	604	MAA	KMLHMT3	MSUTI02	4950	TOOL(THREADING),INSTALL AND ADJUST IN A KDK TOOL BAR STARTS-WITH BLOW CHIPS FROM ALLEN SCREWS IN PREPARATION TO REMOVE THE OLD TOOL INCLUDES-MOTIONS TO REMOVE THE OLD TOOL, INSTALL AND ADJUST THE NEW TOOL TO CENTER AND TO THE PROPER ANGLE ENDS-WITH THE NEW TOOL INSTALLED AND COMPLETELY ADJUSTED TO CENTER AND ON THE PROPER ANGLE CONDITIONS-LIMITED TO EXTERNAL THREADING TOOLS ONLY
NO	604	MAO	LEL1H1	MSUTRXX	VARIABLE	TURRET(SQUARE),REMOVE AND REPLACE STARTS-WITH REACH TO SQUARE TURRET INCLUDES-ALL MOTIONS NECESSARY TO REMOVE TURRET FROM SLOT ON CARRIAGE,LAY ASIDE,REACH TO SQUARE TURRET,PLACE TO SLOT ON CARRIAGE,AND MOVE AND POSITION TWO KEYS TO HOLES IN TURRET ENDS-WITH RELEASE OF SECOND KEY
					251	CASE 01 ENGINE LATHE
					385	02 TURRET LATHE
NO	604	MAO	LEL1Y	MSUTS01	166	TOOL(AND HOLDER),SET FOR JOB CLEARANCE STARTS-WITH REACH TO TOOL AND CROSS SLIDE HANDLE INCLUDES-ALL MOTIONS NECESSARY TO CRANK CROSS SLIDE,MOVE TOOL AND HOLDER,REACH TO CHUCK,AND MOVE CHUCK ENDS-WITH RELEASE OF CHUCK CONDITION-APPLICABLE TO ENGINE LATHES.TOOL HOLDER NOT SECURED
NF	605	MAF	1015	MACCEXX	VARIABLE	CRANK,ENGAGE AND DISENGAGE STARTS-WITH SIDE STEP OR TURN AND WALK TO CRANK INCLUDES-ALL MOTIONS TO ENGAGE AND DISENGAGE CRANK ON VERTICAL MOVEMENT OR ON HORIZONTAL SLIDE ENDS-WITH STEP BACK TO WORK AREA
					187	CASE 01 ENGAGE AND DISENGAGE CRANK ON VERTICAL MOVEMENT
					206	02 ENGAGE AND DISENGAGE CRANK ON HORIZONTAL SLIDE
FFE	605	MAA	KMMSUA1	MEMAD01	3848	AXIS,DIAL INDICATE,ONE LONGITUDINAL OR CROSS ON MILLING MACHINE STARTS-WITH REACH TO RAPID TRAVEL LEVER TO RAISE TABLE INCLUDES-MOTIONS TO ALIGN A SURFACE LONGTITUDE OR CROSS AND SECURE PART ENDS-WITH PART ALIGNED AND SECURED CONDITIONS-DOES NOT INCLUDE MOUNTING INDICATOR TO MACHINE OR REMOVAL FROM MACHINE

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FFE	605	MAA	KMMSUA2	MEMAD02	12841	AXIS,DIAL INDICATE,VERTICAL ON MILLING MACHINE STARTS-WITH REACH TO RAPID TRAVEL LEVER TO RAISE TABLE INCLUDES-MOTIONS TO ALIGN THE VERTICAL AXIS OF A PART AND SECURE ENDS-WITH VERTICAL AXIS ALIGNED AND SECURED CONDITIONS-DOES NOT INCLUDE MOUNTING INDICATOR TO MACHINE OR REMOVAL FROM MACHINE
FFE	605	MAA	KMMHMC1	MEMCE01	196	CRANK(LONGITUDINAL),ENGAGE AND DISENGAGE ON MILLING MACHINE STARTS-WITH WALK TO END OF TABLE TO REACH CRANK INCLUDES-MOTIONS NECESSARY TO ENGAGE AND DISENGAGE CRANK ENDS-WITH CRANK DISENGAGED AND OPERATOR STANDING IN FRONT OF MACHINE
FFE	605	MAA	KMMHMC2	MEMCE02	52	CRANK(CROSSFEED),ENGAGE AND DISENGAGE ON MILLING MACHINE STARTS-WITH REACH TO HANDLE INCLUDES-MOTIONS NECESSARY TO ENGAGE AND DISENGAGE CRANK ENDS-WITH CRANK DISENGAGED
FFE	605	MAA	KMMHMC3	MEMCE03	164	CRANK(VERTICAL),ENGAGE AND DISENGAGE ON MILLING MACHINE STARTS-WITH STEP TO FRONT OF CRANK INCLUDES-MOTIONS NECESSARY TO ENGAGE AND DISENGAGE CRANK ENDS-WITH CRANK DISENGAGED
NO	605	MAO	LSHA1W4	MEMCF01	79	FEED,CHANGE,SHAPER STARTS-WITH REACH TO FEED LEVER INCLUDES-ALL MOTIONS NECESSARY TO DISENGAGE LEVER,MOVE TO DESIRED SLOT,AND ENGAGE LEVER ENDS-WITH RELEASE OF LEVER
NF	605	MAF	3465	MEMCT01	220	CENTER(TAILSTOCK),TURN IN AND OUT STARTS-WITH REACH TO CRANK INCLUDES-ALL THE MOTIONS NECESSARY TO TURN THE CRANK TO MOVE CENTER IN 1/2 INCH AND OUT 1/2 INCH ENDS-WITH RELEASE CRANK
FFE	605	EUA	KMMHMF1	MEMFC01	331	FEED(OR SPEED),CHANGE ON POWER CONTROLLED FEED AND SPEED DIALS,MILLING MACHINE STARTS-WITH REACH TO FEED OR SPEED HANDLE INCLUDES-MOTIONS REQUIRED TO CHANGE FEED OR SPEED ENDS-WITH RELEASE OF FEED OR SPEED HANDLE
FFE	605	MAA	KMMHMR3	MEMLE01	123	LEVER,ENGAGE,RAPID TRAVEL AND FEED STARTS-WITH REACH TO RAPID TRAVEL LEVER INCLUDES-MOTIONS TO ENGAGE THE RAPID TRAVEL LEVER AND ENGAGE AND DISENGAGE THE FEED LEVER ENDS-WITH LEVER RELEASED AND HAND AT SIDE CONDITIONS-TRAVEL TIME FOR THE MACHINE NOT INCLUDED
FFE	605	MAA	KMMSUC4	MEMPI01	334	PART,INSTALL AND REMOVE FROM COLLET STARTS-WITH REACH TO PART INCLUDES-MOTIONS TO INSTALL AND REMOVE PART FROM COLLET AND WIPE CLEAN ENDS-WITH PART ASIDE CONDITION-TIME FOR TIGHTENING AND LOOSENING COLLET NOT INCLUDED

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	605	MAA	KMMHML1	MEMSL01	238	SLIDE(CROSS),LOCK AND UNLOCK STARTS-WITH BEND TO REACH HAMMER INCLUDES-MOTIONS TO LOCK AND UNLOCK THE CROSS SLIDE ENDS-WITH TABLE UNLOCKED
ND	605	MAO	LJB1K32	MEMTA01	524	TOOL(BORING),ADJUST STARTS-WITH REACH TO ALLEN WRENCH INCLUDES-MOTIONS REQUIRED TO LOOSEN LOCK SCREW,TURN DIAL TO MOVE BAR AND TIGHTEN LOCKING SCREW ENDS-WITH ALLEN WRENCH PLACED ASIDE
ND	605	MAO	LM2W1	MEMTL01	362	TABLE(LONGITUDINAL),LOCK AND UNLOCK ON CINCINNATI MILLING MACHINE STARTS-WITH GET WRENCH INCLUDES-MOTIONS TO LOCK AND UNLOCK TABLE WITH TWO SCREWS ENDS-WITH WRENCH ASIDE
FFE	605	MAA	KMMHML4	MEMTL02	124	TABLE(LONGITUDINAL),LOCK AND UNLOCK ON MILWAUKEE OR SIMILAR TYPES OF MILLS STARTS-WITH REACH TO HANDLE INCLUDES-MOTIONS NECESSARY TO LOCK AND UNLOCK TABLE ENDS-WITH TABLE UNLOCKED
FFE	605	FAA	KMMPTB1	TEMMBXX	TABLE	MACHINE(MILLING),BORE TIME ONE INCH DIAMETER ONE INCH DEEP STARTS-WITH MACHINE TURNED ON AND TOOL STARTING CUT INCLUDES-TIME REQUIRED FOR TOOL TO ADVANCE ONE INCH ENDS-WITH TOOL CUTTING AT END OF ONE INCH OF CUT CONDITIONS-FOR COMPUTING OCCURENCE FACTOR FOR TIME OTHER THAN 1X1,MULTIPLY THE DIAMETER X LENGTH OF CUT X NUMBER OF CUTS NOT APPLICABLE IF LENGTH OF HOLE DIVIDED BY DIAMETER EXCEEDS FOUR. GROUPS OF MATERIAL ARE- GROUP 1 ALUMINUM ALLOYS 24ST-75ST,PLEXIGLASS, BEARING BRONZE(YELLOW BRASS), MAGNESIUM,MACHINE AT 300 TO 400 SURFACE FEET PER MINUTE GROUP 2 PHOSPHOR BRONZE,COPPER,BAKELITE,HARD RUBBER,SAE1112 AND SAE1120,FIBER PHENOLIC,PLASTIC,SOFT CAST IRON, SAE1020,COMMERCIAL BRASS. MACHINE AT 100 TO 200 SURFACE FEET PER MINUTE GROUP 3 MANGANESE BRONZE,NICKEL ALUMINUM, BRONZE,NAVAL (TOBIN) BRASS,MEDIUM CAST IRON,SAE4130 ANNEALED TO 145000 PSI, TEFLON,SAE4140 ANNEALED TO 145000 PSI. SAE5130 ANNEALED,SAE4340 ANNEALED,SAE 8640 ANNEALED,SAE8740 ANNEALED, ALUMINUM ALLOYS-3SO,51SO,52SO,61SO. MACHINE AT 60 TO 80 SURFACE FEET PER MINUTE GROUP 4 SAE4130 AND SAE4140-145000 TO 180000 PSI,TOOL STEELS,BERYLLIUM COPPER, SAE52100 ANNEALED,OILITE,SAE1095, STAINLESS 18-8,321,316,430,416,430F 303,STEEL CASTING,CHROME MOLY FORG-INGS,TITANIUM. MACHINE AT 35 TO 50 SURFACE FEET PER MINUTE

FEED		GROUP 1 350 SFM A	GROUP 2 150 SFM B	GROUP 3 70 SFM C	GROUP 4 43 SFM D
.003	A	432	1375	2184	3624
.008	B	161	515	819	1359

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTOP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	605	MAA	KMMBXXX	TEMMYXX	TABLE	MACHINE(MILLING),BORE HOLE IN GROUP 1 AND GROUP 2 MATERIAL

STARTS-WITH START SPINDLE

INCLUDES-TIME REQUIRED TO MAKE ONE ROUGH AND TWO FINISH CUTS,MEASURE,DEBURR,TOOL SHARPEN AND ADJUSTMENT

ENDS-WITH SPINDLE STOPPED AND TOOL APPROXIMATELY FIVE INCHES FROM PART

CONDITIONS-VERTICAL MILL,CINCINATTI NUMBER THREE OR SIMILAR.TABLE VALUES ARE COMPUTED FOR HIGH SPEED STEEL TOOLS.GROUPS OF MATERIAL ARE-

GROUP 1 ALUMINUM ALLOYS 24ST-75ST,PLEXIGLASS, BEARING BRONZE(YELLOW BRASS), MAGNESIUM.MACHINE AT 300 TO 400 SURFACE FEET PER MINUTE

GROUP 2 PHOSPHOR BRONZE,COPPER,BAKELITE,HARD RUBBER,SAE1112 AND SAE1120,FIBER PHENOLIC,PLASTIC,SOFT CAST IRON, SAE1020,COMMERCIAL BRASS. MACHINE AT 100 TO 200 SURFACE FEET PER MINUTE

GROUP 1 MATERIAL

DEPTH OF HOLE INCHES		DIAMTER OF HOLE IN INCHES 1.0	1.5	2.0	2.5	3.0	3.5
		A	B	C	D	E	F
.5	A	17132	17388	17645	17901	18157	18923
1.0	B	17676	18188	18701	19213	19726	20748
1.5	C	18220	18989	19758	20310	21295	22574
2.0	D	18764	19789	20814	21839	22864	24399
2.5	E	19308	20589	21871	23152	24433	26224
3.0	F	19852	21389	22927	24464	26002	28049
3.5	G	20396	22190	23984	25777	27571	29875
4.0	H	20940	22990	25040	27090	29140	31700
4.5	J	21484	23790	26097	28403	30709	33525
5.0	K	22028	24590	27153	29715	32278	35350
5.5	L	22572	25391	28210	31028	33847	37176
6.0	M	23116	26191	29266	32341	35416	39001

DEPTH OF HOLE INCHES		DIAMETER OF HOLE IN INCHES 4.0	4.5	5.0	5.5	6.0
		G	H	J	K	L
.5	A	19180	19436	19692	19948	20205
1.0	B	21261	21773	22286	22798	23311
1.5	C	23343	24111	24880	25649	26418
2.0	D	25424	26449	27474	28499	29524
2.5	E	27506	28787	30068	31349	32309
3.0	F	29587	31124	32662	34199	35953
3.5	G	31669	33462	35256	37050	38844
4.0	H	33750	35800	37850	39900	41950
4.5	J	35832	38138	40444	42750	45057
5.0	K	37913	40475	43038	45600	48163
5.5	L	39995	42813	45632	48451	51270
6.0	M	42076	45151	48226	51301	54376

GROUP 2 MATERIAL

DEPTH OF HOLE INCHES		DIAMETER OF HOLE IN INCHES 1.0	1.5	2.0	2.5	3.0	3.5
		M	N	P	Q	R	S
.5	A	19844	20661	21477	22293	23109	24436
1.0	B	21508	23140	24773	26405	28038	30180
1.5	C	23172	25621	28070	30519	32967	35926
2.0	D	24836	28101	31366	34631	37896	41671
2.5	E	26500	30582	34663	38744	41193	47417
3.0	F	28164	33061	37959	42856	47754	53161
3.5	G	29828	35542	41256	46970	52683	58907
4.0	H	31492	38022	44552	51082	57612	64652
4.5	J	33156	40503	47849	55195	62541	70398

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	605	MAA	KMMBXXX	TEMMYXX		

GROUP 2 MATERIAL

DEPTH OF HOLE INCHES		DIAMETER OF HOLE IN INCHES 1.0	1.5	2.0	2.5	3.0	3.5
		M	N	P	Q	R	S
5.0	K	34820	42982	51145	59307	67470	76142
5.5	L	36484	45463	54442	63421	72399	81888
6.0	M	38836	47943	57738	67533	77328	87633

DEPTH OF HOLE INCHES		DIAMETER OF HOLE IN INCHES 4.0	4.5	5.0	5.5	6.0
		T	U	V	W	Y
.5	A	25252	26068	26884	27701	28517
1.0	B	31813	33445	35078	36710	38343
1.5	C	38375	40824	43272	45721	48170
2.0	D	44936	48201	51466	54731	57996
2.5	E	51498	55579	59660	63742	66793
3.0	F	58059	62956	67854	72751	78337
3.5	G	64621	70335	76048	81762	87476
4.0	H	71182	77712	84242	90772	97302
4.5	J	77744	85090	92436	99783	107129
5.0	K	84305	92467	100630	108792	116955
5.5	L	90867	99846	108824	117803	126782
6.0	M	97428	107223	117018	126813	136608

FFE	605	MAA	KMMALXX	TEMPAXX	TABLE	MACHINE(MILLING),ALIGN PART FOR VERTICAL MILLING STARTS=WITH GET INDICATOR INCLUDES=MOUNT INDICATOR TO BORING HEAD AND ALIGN HORIZONTAL AXIS,VERTICAL AXIS,OR HOLE TO SPINDLE ENDS=WITH INDICATOR ASIDE

METHOD OF MOUNTING AND INDICATOR TYPE

AXIS ALIGNMENT		INDICATOR AND ROUND ROD A	INDICATOR AND CLAMP B	INDICATOR AND MAGNETIC BASE C
HORIZ AXIS	A	5222	4590	4210
VERTICAL AXIS	B	14215	13583	13203
HOLE=SPINDLE	C	7413	6781	6401

FFE	605	MBA	KMMHPXX	TEMPHXX	TABLE	PART,HANDLE FOR VERTICAL MILL BORING OPERATION STARTS=WITH GET PART FOR HAND HANDLED ELEMENTS AND GET SLING FOR HOIST HANDLED ELEMENTS INCLUDES=ALL MOTIONS NECESSARY TO GET PART, MOVE TO MACHINE,REMOVE AND ASIDE AFTER WORK IS ACCOMPLISHED ENDS=WITH PART ASIDE CONDITONS=WALK TIME IS NOT INCLUDED. TIME TO UNWRAP AND REWRAP PARTS WITH PROTECTIVE WRAP IS INCLUDED WHERE INDICATED

METHOD OF HANDLING PARTS & WHETHER OR NOT THEY HAVE PROTECTIVE WRAP		METHOD OF SECURING PART TO MACHINE: SIMPLE FIXTURE ONE THD FASTENER A	ONE T-BOLT CLAMP B	TWO T-BOLT CLAMPS C
HAND HNDLD NO WRAP	A	2763	3469	5907
HAND HNDLD WRAPPED	B	4685	5392	7830
HOIST HNDL NO WRAP	C	8051	9262	11700
HOIST HNDL WRAPPED	D	9974	11185	13623

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	605	MAD	LGAU1W	MJPGS01	513	GAUGE(PLANER),SET UP AND DISMANTLE STARTS-WITH REACH TO GAUGE INCLUDES-ALL MOTIONS NECESSARY TO ATTACH EXTENSION PIN,ADJUST GAUGE FOR CHECKING,REACH TO GAUGE,REMOVE EXTENSION PIN,AND LAY PIN AND GAUGE ASIDE ENDS-WITH RELEASE OF GAUGE
FFE	605	FAA	KMMHVXX	MMTMTXX	VARIABLE	MACHINE(MILLING),TRAVERSE ONE INCH STARTS-WITH ENGAGEMENT OF MACHINE FEED CONTROL,TOOL IN POSITION FOR OPERATION INCLUDES-MACHINE TIME FOR HORIZONTAL AND VERTICAL MILLING MACHINES AND TIME FOR ENGAGE AND DISENGAGE FEED CONTROL ENDS-WITH DISENGAGE OF MACHINE FEED CONTROL CONDITION-DOES NOT INCLUDE RUN-UP OR OVER-RUN CUTTER
					6667	CASE 01 MACHINE FEED 1/4 INCH PER MINUTE
					4444	02 MACHINE FEED 3/8 INCH PER MINUTE
					3333	03 MACHINE FEED 1/2 INCH PER MINUTE
					2667	04 MACHINE FEED 5/8 INCH PER MINUTE
					2222	05 MACHINE FEED 3/4 INCH PER MINUTE
					1667	06 MACHINE FEED 1 INCH PER MINUTE
					1333	07 MACHINE FEED 1 1/4 INCH PER MINUTE
					1111	08 MACHINE FEED 1 1/2 INCH PER MINUTE
					833	09 MACHINE FEED TWO INCHES PER MINUTE
					556	10 MACHINE FEED THREE INCHES PER MINUTE
					417	11 MACHINE FEED FOUR INCHES PER MINUTE
					278	12 MACHINE FEED SIX INCHES PER MINUTE
					208	13 MACHINE FEED EIGHT INCHES PER MINUTE
					167	14 MACHINE FEED TEN INCHES PER MINUTE
					139	15 MACHINE FEED 12 INCHES PER MINUTE
FFE	605	FAA	KMMHMR1	MMTTM01	17	MACHINE,TRAVEL(PER INCH),RAPID LONGITUDINAL AND CROSS STARTS-WITH RAPID TRAVEL HANDLE ENGAGED INCLUDES-TIME FOR MACHINE TO MOVE ONE INCH CONTINUOUS TRAVEL ENDS-AT THE END OF ONE INCH OF MACHINE TRAVEL CONDITIONS-LIMITED TO LONGITUDINAL AND CROSS MOVEMENT ON MILL WITH RAPID TRAVEL OF 80-120 INCHES PER MINUTE
FFE	605	FAA	KMMHMR2	MMTTM02	21	MACHINE,TRAVEL(PER INCH),RAPID VERTICAL MOVEMENT STARTS-WITH RAPID TRAVEL HANDLE ENGAGED INCLUDES-TIME FOR MACHINE TO MOVE ONE INCH CONTINUOUS TRAVEL ENDS-AT THE END OF ONE INCH OF MACHINE TRAVEL CONDITIONS-LIMITED TO VERTICAL MOVEMENT ON MILL WITH RAPID TRAVEL OF 60-100 INCHES PER MINUTE
NF	605	MAF	3171	BSUSP01	29	SPACER,POSITION ON OUTSIDE OF CUTTER ON KEY STARTS-WITH SPACER IN HAND INCLUDES-ALL THE MOTIONS NECESSARY TO REGRASP SPACER,POSITION TO KEY,MOVE SPACER ON KEY ENDS-WITH MOVE SPACER ON KEY
NF	605	MAF	1117	BSUWP01	68	WRENCH,PLACE ON AND REMOVE FROM DRAW BAR LOCK NUT STARTS-WITH WRENCH IN HAND,MOVE TO DRAW BAR INCLUDES-ALL MOTIONS NECESSARY TO MOVE WRENCH ONTO LOCK NUT,AND REMOVE WRENCH FROM LOCK NUT ENDS-WITH WRENCH DISENGAGED FROM NUT
NF	605	MAF	1120	BSUWP02	109	WRENCH,PLACE ON AND REMOVE FROM NUT OF THURSTON CHUCK STARTS-WITH MOVE WRENCH TO END OF MILL INCLUDES-ALL MOTIONS NECESSARY TO PLACE WRENCH ON,AND REMOVE FROM NUT OF THURSTON CHUCK ENDS-WITH WRENCH IN HAND DISENGAGED FROM NUT

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTOP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	605	MAF	1122	BSUWP03	123	WRENCH,PLACE ON AND REMOVE FROM ARBOR NUT STARTS-WITH TURN TO END OF ARBOR INCLUDES-ALL MOTIONS NECESSARY TO TURN TO END OF ARBOR,POSITION WRENCH ON NUT,MOVE WRENCH OFF OF NUT AND TURN BACK TO MACHINE ENDS-WITH TURN TO MACHINE
NF	605	MAF	3516	MSUAC01	205	ARM(SUPPORT),CRANK IN OR OUT,TO 12 INCHES, MILLING MACHINE STARTS-WITH REACH TO CRANK INCLUDES-ALL MOTIONS NECESSARY TO TURN CRANK TO MOVE SUPPORT ARM IN OR OUT ENDS-WITH RELEASE OF CRANK
NO	605	MAO	LM2Y2	MSUAI01	1957	ADAPTER,INSTALL AND REMOVE USING HAND DRAW BOLT,HORIZONTAL MILLING MACHINE STARTS-WITH REACH TO ADAPTER INCLUDES-ALL MOTIONS NECESSARY TO WIPE AND MOVE ADAPTER TO SPINDLE,SIDESTEP TO END OF SPINDLE,GET BARREL WRENCH,PLACE WRENCH ON DRAW BOLT,TURN BOLT ON ADAPTER,CHANGE ENDS WITH BARREL WRENCH,TURN LOCKNUT DOWN,GET END WRENCH,TIGHTEN LOCKNUT,AND ASIDE TOOLS;AND GET BARREL WRENCH AND PLACE ON LOCKNUT,GET END WRENCH AND PLACE ON BARREL WRENCH,LOOSEN LOCKNUT,ASIDE END WRENCH,PLACE BARREL WRENCH ON DRAW BOLT,GET HAMMER AND STRIKE WRENCH ONE BLOW,ASIDE HAMMER,TURN ADAPTER OFF DRAW BOLT, REMOVE ADAPTER,AND WIPE WITH CLOTH ENDS-WITH ASIDE ADAPTER
NO	605	MAO	LM2A3	MSUAI02	2199	ADAPTER,INSTALL AND REMOVE USING HAND DRAW BOLT,VERTICAL MILLING MACHINE STARTS-WITH REACH TO ADAPTER INCLUDES-ALL MOTIONS NECESSARY TO WIPE ADAPTER,STEP UP ON MACHINE WAYS,MOVE ADAPTER INTO SPINDLE,TURN DRAW BOLT ON ADAPTER,TURN LOCKNUT DOWN,BEND,PICK UP HAMMER AND WRENCH, ARISE,TIGHTEN LOCKNUT WITH WRENCH,STRIKE WRENCH WITH HAMMER,STEP DOWN FROM MACHINE, ASIDE TOOLS,GET WRENCH AND HAMMER,STEP UP ON MACHINE,PLACE WRENCH ON LOCKNUT,STRIKE WITH HAMMER,LOOSEN LOCKNUT WITH WRENCH,STRIKE DRAW BOLT WITH HAMMER,BEND,ASIDE WRENCH AND HAMMER, ARISE,TURN BOLT OUT,REMOVE ADAPTER FROM MACHINE,AND STEP DOWN FROM MACHINE ENDS-WITH ASIDE ADAPTER
FFE	605	MUA	KMMSUS1	MSUAI03	4353	ADAPTER,INSTALL IN AND REMOVE FROM VERTICAL MILL STARTS-WITH GET WRENCH AND MALLET INCLUDES-ALL MOTIONS NECESSARY TO GET STOOL TO MACHINE,WIPE SPINDLE AND ADAPTER,PLACE ADAPTER IN SPINDLE,ATTACH AND TIGHTEN DRAW BAR,ASIDE TOOLS AND STOOL,GET WRENCH AND MALLET,GET STOOL,LOOSEN AND REMOVE DRAW BAR, REMOVE ADAPTER,AND ASIDE TOOLS AND STOOL ENDS-WITH ASIDE ADAPTER CONDITIONS-DOES NOT INCLUDE GETTING ADAPTER FROM CABINET.TO BE APPLIED TO CINCINNATI NUMBER THREE MILLING MACHINE.
NF	605	MAF	2554	MSUAL01	134	ADAPTER,LOOSEN BY TAPPING END OF DRAW BAR STARTS-WITH REACH TO MAUL INCLUDES-ALL MOTIONS NECESSARY TO GET MAUL,USE TO TAP END OF DRAW BAR TO LOOSEN ADAPTER ENDS-WITH PLACE MAUL ASIDE
NF	605	MAF	2433	MSUAP01	98	ADAPTER,POSITION IN SPINDLE ON MILLING MACHINE STARTS-WITH REACH TO ADAPTER INCLUDES-ALL MOTIONS NECESSARY TO POSITION ADAPTER IN SPINDLE ON MILLING MACHINE ENDS-HOLDING ADAPTER IN POSITION

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	605	MAF	1004	MSUBP01	73	BAR(DRAW),POSITION AND ENGAGE IN ADAPTER STARTS-WITH SIDESTEP TO REACH DRAW BAR INCLUDES-ALL MOTIONS NECESSARY TO POSITION AND ENGAGE DRAW BAR IN ADAPTER ENDS-WITH RELEASE ADAPTER CONDITION-DOES NOT INCLUDE TIME TO TURN DRAW BAR ON ADAPTER
NF	605	MAF	1003	MSUBT01	147	BAR(DRAW),TURN IN OR OUT OF ADAPTER STARTS-WITH HAND ON DRAW BAR INCLUDES-ALL MOTIONS NECESSARY TO TURN DRAW BAR IN OR OUT OF ADAPTER ENDS-WITH RELEASE OF DRAW BAR CONDITION-DRAW BAR PREVIOUSLY ENGAGED ON ADAPTER
NF	605	MAF	2435	MSUCA01	52	CUTTER(OR ARBOR AND ADAPTER),ASSEMBLE STARTS-WITH MOVE CUTTER BAR TO ADAPTER INCLUDES-ALL MOTIONS NECESSARY TO ASSEMBLE CUTTER OR ARBOR AND ADAPTER ENDS-WITH TANG POSITIONED
NF	605	MAF	2437	MSUCA02	157	CUTTER(AND SLEEVE),ASSEMBLE INTO THURSTON CHUCK STARTS-WITH SIDESTEP TO SPINDLE INCLUDES-ALL MOTIONS NECESSARY TO MOVE CUTTER AND SLEEVE TO CHUCK,POSITION SLEEVE IN CHUCK, AND TIGHTEN CHUCK ENDS-WITH RELEASE NUT
FFE	605	MAA	KMMSUC3	MSUCC01	842	COLLET,CHANGE IN COLLET CHUCK STARTS-WITH REACH TO COLLET NUT INCLUDES-MOTIONS TO REMOVE AND INSTALL COLLET AND WIPE COLLET ENDS-WITH COLLET INSTALLED CONDITIONS-DOES NOT INCLUDE GETTING COLLET FROM CABINET
NF	605	MAF	2556/57	MSUCD01	151	CUTTER(OR ARBOR),DISASSEMBLE FROM ADAPTER STARTS-WITH HAND ON ADAPTER AND DRIFT INSERTED IN ADAPTER INCLUDES-ALL MOTIONS NECESSARY TO TRANSFER ADAPTER FROM RIGHT TO LEFT HAND,GET HAMMER, DRIVE CUTTER FROM ADAPTER,ASIDE HAMMER,AND REMOVE CUTTER AND DRIFT ENDS-WITH ASIDE DRIFT AND CUTTER
NF	605	MAF	2449	MSUCK01	113	CENTER,KNOCK OUT OF DIVIDING HEAD STARTS-WITH MOVE BAR TO DIVIDING HEAD INCLUDES-ALL MOTIONS NECESSARY TO USE BAR TO DRIVE OUT CENTER OF DIVIDING HEAD ENDS-WITH ASIDE CENTER AND BAR

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	605	MAA	KMMTCBX	MSUCMXX	VARIABLE	CUT(TRIAL),MAKE FOR BORING HOLE STARTS-WITH ENGAGE SPINDLE INCLUDES-MOTIONS REQUIRED TO MAKE A 1/4 INCH CUT AND MEASURE THE HOLE ENDS-WITH CUTTING TOOL NEAR WORK PRIOR TO TOOL ADJUST CONDITIONS-GROUPS OF MATERIAL ARE- GROUP 1 ALUMINUM ALLOYS 24ST-75ST,PLEXIGLASS, BEARING BRONZE(YELLOW BRASS), MAGNESIUM.MACHINE AT 300 TO 400 SURFACE FEET PER MINUTE GROUP 2 PHOSPHOR BRONZE,COPPER,BAKELITE,HARD RUBBER,SAE 1112 AND SAE 1120,FIBER PHENOLIC,PLASTIC,SOFT CAST IRON, SAE 1020,COMMERCIAL BRASS.MACHINE AT 100 TO 200 SURFACE FEET PER MINUTE GROUP 3 MANGANESE BRONZE,NICKEL ALUMINUM, BRONZE,NAVAL(TOBIN)BRASS,MEDIUM CAST IRON,SAE 4130 ANNEALED TO 145000 PSI,TEFLON,SAE 4140 ANNEALED TO 145000 PSI,SAE 5130 ANNEALED,SAE 4340 ANNEALED,SAE 8640 ANNEALED,SAE 8740 ANNEALED,ALUMINUM ALLOYS-3SO,51SO, 52SO,61SO.MACHINE AT 60 TO 80 SURFACE FEET PER MINUTE GROUP 4 SAE 4130 AND SAE 4140-145000 TO 180000 PSI,TOOL STEELS,BERYLLIUM COPPER, SAE 52100 ANNEALED,OILITE,SAE 1095, STAINLESS 18-8,321,316,430,416,430F 303.STEEL CASTING,CHROME MOLY FORGINGS,TITANIUM.MACHINE AT 35 TO 50 SURFACE FEET PER MINUTE
					2490	CASE 01 GROUP 1 MATERIAL
					2726	02 GROUP 2 MATERIAL
					2928	03 GROUP 3 MATERIAL
					3288	04 GROUP 4 MATERIAL
NF	605	MAF	4050	MSUCP01	171	CUTTER,PLACE ON ARBOR,MILLING MACHINE STARTS-WITH REACH TO CUTTER INCLUDES-ALL MOTIONS NECESSARY TO MOVE CUTTER TO ARBOR,POSITION,MOVE ONTO ARBOR,POSITION TO KEY,AND MOVE ONTO KEY ENDS-WITH RELEASE OF CUTTER
NF	605	MAF	2558	MSUCR01	93	CUTTER(AND SLEEVE),REMOVE FROM THURSTON CHUCK STARTS-WITH REACH TO CHUCK NUT INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN CHUCK NUT AND REMOVE CUTTER AND SLEEVE ASSEMBLY FROM CHUCK AND MOVE TO TABLE ENDS-WITH ASSEMBLY IN HANDS AT TABLE
NF	605	MAF	2559	MSUCR02	72	CUTTER,REMOVE FROM ARBOR STARTS-WITH REACH TO CUTTER INCLUDES-ALL MOTIONS NECESSARY TO REMOVE ONE CUTTER FROM THE ARBOR AND ASIDE CUTTER ENDS-WITH RELEASE OF CUTTER
NF	605	MAF	3496	MSUCS01	317	SPINDLE(TRAVEL),CHANGE DIRECTION STARTS-WITH TURN TO WALK TO CONTROLS INCLUDES-ALL THE MOTIONS NECESSARY TO WALK TO LEVER,RUN SCREW IN AND OUT,MOVE LEVER TO CHANGE TRAVEL DIRECTION ENDS-WITH WALK TO FRONT OF MACHINE CONDITIONS-WALK FOUR PACES ONE WAY TO LEVER, TURN PRIOR TO START AND RETURN

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTOP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	605	MAA	KMMSUA3	MSUHA01	6017	HOLE,ALIGN TO SPINDLE,VERTICAL STARTS-WITH REACH TO RAPID TRAVEL LEVER INCLUDES-ALL MOTIONS NECESSARY TO POSITION PART TO INDICATOR,ADJUST INDICATOR TO SURFACE, AND ALIGN HOLE WITH INDICATOR ENDS-WITH MOVE PART AWAY FROM INDICATOR CONDITIONS-DOES NOT INCLUDE MOUNTING INDICATOR TO SPINDLE
NO	605	MAD	LM1U2	MSUKI01	158	KEY,INSTALL IN AND REMOVE FROM ARBOR STARTS-WITH REACH TO KEY INCLUDES-ALL MOTIONS NECESSARY TO PLACE KEY IN ARBOR,GET KEY,REMOVE FROM ARBOR AND PLACE ASIDE END-WITH RELEASE KEY
AE	605	MAW	SMMEAB1	MSUKL01	256	KNEE,LOCK AND UNLOCK STARTS-WITH BEND TO LEVER INCLUDES-ALL MOTIONS NECESSARY TO GET LEVER, MOVE TO LOCK KNEE,ARISE,BEND TO LEVER,AND MOVE LEVER TO UNLOCK KNEE ENDS-WITH ARISE FROM BEND
FFE	605	MAA	KMMHML3	MSUKL02	598	KNEE,LOCK AND UNLOCK ON CINCINNATI VERTICAL MILL NO 3 OR SIMILAR MILLS STARTS-WITH TURN TO WALK TO LEVER INCLUDES-MOTIONS NECESSARY TO LOCK AND UNLOCK THE KNEE ENDS-WITH KNEE UNLOCKED AND OPERATOR STANDING IN FRONT OF MACHINE
NF	605	MAF	2724	MSULT01	188	LOCKNUT(ARBOR SUPPORT),TIGHTEN OR LOOSEN STARTS-WITH REACH FOR WRENCH INCLUDES-ALL MOTIONS NECESSARY TO GET WRENCH, TIGHTEN OR LOOSEN ARBOR SUPPORT LOCKNUT AND ASIDE WRENCH ENDS-WITH RELEASE WRENCH
NF	605	MAF	1053	MSUMM01	141	MILL,MOUNT,SHELL TYPE MOUNTING(CENTER SCREW) STARTS-WITH MOVE CUTTER TO SPINDLE INCLUDES-ALL MOTIONS NECESSARY TO MOUNT A SHELL TYPE(CENTER SCREW)MILL ENDS-WITH RELEASE OF CUTTER CONDITION-TIME FOR INSTALLATION OF SCREW NOT INCLUDED
NF	605	MAF	1055	MSUMM02	134	MILL(FACE),MOUNT,SPINDLE MOUNT(FOUR SCREWS) STARTS-WITH MOVE MILL TO LOCATION INCLUDES-ALL MOTIONS NECESSARY TO MOUNT A SPINDLE MOUNTED(FOUR SCREWS)FACE MILL ENDS-WITH RELEASE OF MILL CONDITION-TIME FOR INSTALLATION OF SCREWS NOT INCLUDED
NF	605	MAF	1054	MSUMR01	195	MILL,REMOVE,SHELL TYPE MOUNTING(CENTER SCREW) STARTS-WITH REACH TO CUTTER INCLUDES-ALL MOTIONS NECESSARY TO REMOVE A SHELL TYPE(CENTER SCREW)MILL ENDS-WITH DISENGAGED MILL IN HANDS CONDITION-TIME FOR REMOVAL OF SCREW NOT INCLUDED
NF	605	MAF	1056	MSUMR02	102	MILL(FACE),REMOVE,SPINDLE MOUNT(FOUR SCREWS) STARTS-WITH TAP FACE MILL INCLUDES-ALL MOTIONS NECESSARY TO TAP FACE MILL OFF SPINDLE MOUNT ENDS-WITH FINAL TAP CONDITION-TIME FOR REMOVAL OF SCREWS NOT INCLUDED

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	605	MAA	KMMHMM1	MSUMS01	658	MOTOR,START AND STOP START-WITH REACH TO JUNCTION BOX INCLUDES-MOTIONS TO TURN JUNCTION BOX ON/OFF; TURN MOTOR ON/OFF;CHANGE THE FEED AND SPEED ENDS-WITH OPERATOR STANDING IN FRONT OF MACHINE CONDITIONS-APPLICABLE TO MACHINES WITH POWER CONTROLLED FEED AND SPEED DIALS. JUNCTION BOX MOUNTED TO MACHINE. DOES NOT INCLUDE WALKING
NF	605	MAF	1121	MSUNL01	86	NUT(THURSTON CHUCK),LOOSEN OR TIGHTEN WITH MALLET STARTS-WITH POSITION MALLET TO WRENCH INCLUDES-ALL MOTIONS NECESSARY TO POSITION MALLET TO WRENCH AND STRIKE THREE TIMES TO LOOSEN OR TIGHTEN NUT ENDS-WITH MALLET IN HAND
NF	605	MAF	2439	MSUPC01	59	CENTER,PLACE IN DIVIDING HEAD STARTS-WITH MOVE CENTER TO DIVIDING HEAD INCLUDES-ALL MOTIONS NECESSARY TO PLACE CENTER IN DIVIDING HEAD ENDS-WITH RELEASE OF CENTER
NO	605	MAD	LSHA1D5	MSURJ01	145	RAM,JOG TO POSITION,SHAPER STARTS-WITH REACH TO LEVER INCLUDES-ALL MOTIONS NECESSARY TO MOVE LEVER BETWEEN ON AND OFF POSITIONS TO JOG RAM ENDS-WITH RELEASE OF LEVER
NF	605	MAF	3493	MSUSC01	390	SPEED(SPINDLE),CHANGE STARTS-WITH TURN TO WALK TO CONTROL INCLUDES-ALL THE MOTIONS NECESSARY TO REACH TO SPEED LEVER AND BACK GEAR LEVER(SIMO),DISENGAGE PINS,MOVE BACK GEAR LEVER,RELEASE,TURN SPEED TO SET FOR PROPER SPEED,RELEASE LOCK PINS,RELEASE SPEED LEVER PIN,AND WALK TO FRONT OF MACHINE ENDS-WITH OPERATOR AT FRONT OF MACHINE
NF	605	MAF	1084	MSUSD01	127	SUPPORT(ARBOR),DISENGAGE FROM ONE ARM AND TURN TO REST ON ARM TO CLEAR CUTTER STARTS-WITH REACH TO SUPPORT INCLUDES-ALL MOTIONS NECESSARY TO DISENGAGE ARBOR SUPPORT FROM ONE ARM AND TURN TO REST ON ARM TO CLEAR CUTTER ENDS-WITH RELEASE SUPPORT CONDITION-NOT APPLICABLE TO MACHINE WITH SINGLE OVERARM
NF	605	MAF	1081	MSUSP01	98	SPACER(OR SHIM),PLACE ON ARBOR STARTS-WITH REACH TO SPACER INCLUDES-ALL MOTIONS NECESSARY TO PLACE A SPACER OR SHIM ON AN ARBOR ENDS-WITH RELEASE OF SPACER
NF	605	MAF	1123	MSUSR01	67	SPACER(OR SHIM),REMOVE FROM ARBOR STARTS-WITH REACH TO SPACER INCLUDES-ALL MOTIONS NECESSARY TO REACH TO SPACER,MOVE FROM ARBOR AND PLACE ASIDE ENDS-WITH RELEASE OF SPACER
FFE	605	MAA	KMMHMS1	MSUSS01	280	SPINDLE,START AND STOP;ENGAGE AND DISENGAGE FEED STARTS-WITH REACH TO CLUTCH LEVER INCLUDES-MOTIONS TO START AND STOP THE SPINDLE AND TO ENGAGE AND DISENGAGE THE FEED ENDS-WITH RELEASE OF LEVER

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NF	605	MAF	1085	MSUST01	158	SUPPORT(ARBOR),TURN DOWN AND ENGAGE ON SECOND ARM STARTS-WITH REACH TO SUPPORT INCLUDES-ALL MOTIONS NECESSARY TO TURN ARBOR SUPPORT DOWN AND ENGAGE ON SECOND ARM ENDS-WITH RELEASE SUPPORT
NF	605	MAF	3472	MSUTS01	175	TABLE(FEED),SET,MILLING MACHINE STARTS-WITH REACH TO CRANK INCLUDES-ALL THE MOTIONS NECESSARY TO GRASP CRANK AND PULL PIN,CRANK FEED TO PROPER SETTING,REPLACE PIN TO LOCK,RELEASE CRANK ENDS-WITH RELEASE CRANK
FFE	605	MAA	KNMCLT1	SSUTC01	3159	TABLE,CLEAN CHIPS FROM STARTS-WITH GET DUST PAN INCLUDES-MOTIONS REQUIRED TO WIPE CHIPS FROM TABLE WITH SCRAPER,BRUSH AND CLOTH ENDS-WITH TOOLS ASIDE AND OPERATOR STANDING AT MACHINE
NF	605	MAF	2453	BTLBT01	98	BAR(DRAW),TIGHTEN OR LOOSEN STARTS-WITH SHIFT BODY TO GAIN LEVERAGE INCLUDES-MOTIONS NECESSARY TO TIGHTEN OR LOOSEN DRAW BAR WITH WRENCH ENDS-WITH WRENCH HANDLE MOVED,BAR TIGHTENED OR LOOSENED
NO	606	MAO	LD1T2	MCLTC01	6432	TABLE,CLEAN T-SLOTS WITH SCRAPER AND BRUSH, RADIAL DRILL PRESS STARTS-WITH REACH TO SCRAPER INCLUDES-ALL MOTIONS NECESSARY TO CLEAN CHIPS FROM SLOTS WITH SCRAPER,RAKE CHIPS INTO SHOVEL WITH SCRAPER,DUMP CHIPS IN BUCKET,USE BRUSH TO SWEEP REMAINING CHIPS INTO SHOVEL,DUMP CHIPS INTO BUCKET,AND WIPE TABLE CLEAN WITH RAG ENDS-WITH LAY RAG ASIDE
AE	606	MAW	SMDEAXX	MEMCI01	122	CUTTER(BACKFACING),INSTALL ON BAR AND REMOVE FROM BAR,TO 1 7/16 INCH HOLE DIAMETER STARTS-WITH CUTTER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE CUTTER TO BAR,POSITION AND MOVE ONTO BAR, RELEASE CUTTER,REACH TO CUTTER,APPLY PRESSURE, AND DISENGAGE FROM BAR ENDS-WITH CUTTER IN HAND
AE	606	MAW	SMDEAXX	MEMCI02	464	CUTTER(BACKFACING),INSTALL INTO SLOT OF BAR AND REMOVE FROM SLOT,1 7/16 INCH HOLE DIAMETER OR LARGER STARTS-WITH CUTTER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE CUTTER TO SLOT,POSITION AND MOVE INTO SLOT,GET ALLEN WRENCH,TIGHTEN SET SCREW,GET ALLEN WRENCH, LOOSEN SET SCREW,REMOVE CUTTER FROM SLOT,AND ASIDE WRENCH ENDS-WITH CUTTER IN HAND
NO	606	EUO	LD1C	MEMDS01	436	DIAL(GRADUATED DEPTH),SET,RADIAL DRILL PRESS STARTS-WITH TOOL HELD AGAINST STOP WITH QUICK RETURN LEVER INCLUDES-ALL MOTIONS NECESSARY TO REACH TO DIAL,UNLOCK,TURN,CALCULATE DEPTH OF HOLE,AND SET AND LOCK DIAL ENDS-WITH RELEASE OF DIAL AND LEVER
NO	606	MAO	LD1Q	MEMFC01	158	FEED,CHANGE,RADIAL DRILL PRESS STARTS-WITH REACH TO FIRST LEVER INCLUDES-ALL MOTIONS NECESSARY TO CHANGE FEED BY MOVING TWO FEED LEVERS ENDS-WITH RELEASE OF SECOND LEVER

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AE	606	MAH	SMDRA34	MEMFC02	233	FEED,CHANGE,RADIAL DRILL PRESS,THREE LEVERS STARTS-WITH REACH TO FIRST FEED LEVER INCLUDES-ALL MOTIONS NECESSARY TO POSITION THREE FEED LEVERS TO CORRECT SETTING ENDS-WITH RELEASE OF THIRD LEVER
NF	606	MAF	3520	MEMHL01	37	HEAD,LOCK OR UNLOCK ON ARM,RADIAL DRILL PRESS STARTS-WITH REACH TO LOCK LEVER INCLUDES-ALL MOTIONS NECESSARY TO MOVE LEVER TO LOCK OR UNLOCK ENDS-WITH RELEASE OF LEVER
NF	606	MAF	3519	MEMHM01	164	HEAD,MOVE IN OR OUT ON ARM,RADIAL DRILL PRESS STARTS-WITH REACH TO HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN CRANK EIGHT REVOLUTIONS TO MOVE HEAD IN OR OUT ENDS-WITH RELEASE OF HANDWHEEL
NO	606	MAO	LJB1Q6	MEMJC01	63	JIG BORE,CHANGE SPINDLE FEED OR SPEED STARTS-WITH REACH TO LEVER INCLUDES-ALL MOTIONS NECESSARY TO DISENGAGE LEVER AND MOVE TO CHANGE FEED OR SPEED ENDS-WITH RELEASE OF LEVER
NO	606	MAO	LJB1H6	MEMJM01	98	JIG BORE,MOVE TABLE WITH HAND WHEEL STARTS-WITH SIDESTEP TO HAND WHEEL INCLUDES-ALL MOTIONS NECESSARY TO MOVE JIG BORE TABLE BY MOVING HAND WHEEL 3/4 REVOLUTION (1/4 TURN PER MOVE) ENDS-WITH SIDESTEP TO FRONT OF MACHINE
NO	606	MAO	LJB1P1	MEMJM02	120	JIG BORE,MOVE TABLE TO POSITION TO INDICATOR STARTS-WITH HAND ON WHEEL INCLUDES-ALL MOTIONS NECESSARY TO MOVE WHEEL AND POSITION TABLE WHILE OBSERVING INDICATOR, AND TO CHECK TABLE WITH INDICATOR ENDS-WITH TABLE POSITIONED,HAND ON WHEEL
FFE	606	MAA	GTLDDXX	MEMOPXX	VARIABLE	PRESS(DRILL),OPERATE STARTS-WITH REACH TO PART INCLUDES-ALL THE MOTIONS NECESSARY TO PLACE PART ON DRILL TABLE,ALIGN BIT,MARK,TURN DRILL ON/OFF,MOVE PRESS HANDLE ENDS-WITH PLACE PART ASIDE CONDITIONS-PROCESS TIME NOT INCLUDED-ADD TIME APPLICABLE TO THICKNESS AND TYPE OF METAL BEING DRILLED-PART UP TO 20 POUNDS E.N.W. CASE 01 DRILL FIRST HOLE — 329 02 DRILL ADDITIONAL HOLE — 225
AE	606	MAW	SMDPA22	MEMPA01	126	PRESS(DRILL),ADJUST SPEED(LEVER CHANGE), PEDESTAL DRILL PRESS STARTS-WITH STOP MACHINE INCLUDES-ALL MOTIONS NECESSARY TO GET LEVER AND MOVE TO PROPER SPEED SETTING ENDS-WITH START MACHINE
NO	606	MAO	LD1B	MEMPL01	130	PRESS(DRILL),LOWER OR RAISE SPINDLE,RADIAL DRILL PRESS STARTS-WITH REACH TO FEED TRIP LEVER INCLUDES-ALL MOTIONS NECESSARY TO UNLOCK LEVER,LOWER OR RAISE SPINDLE,AND LOCK LEVER ENDS-WITH RELEASE OF FEED TRIP LEVER
AE	606	MAH	SMDEAA5	MEMPS01	171	PRESS(DRILL),SET DEPTH CONTROL ON SPINDLE STARTS-WITH REACH TO LOCK HANDLE INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN LOCK HANDLE,POSITION DEPTH CONTROL,AND TIGHTEN LOCK HANDLE ENDS-WITH RELEASE OF HANDLE

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NF	606	MAF	1035	MEMSA01	391	SPINDLE,ALIGN OVER HOLE,RADIAL DRILL PRESS STARTS-WITH REACH TO TRAVERSE HANDWHEEL INCLUDES-ALL MOTIONS NECESSARY TO CRANK TRAVERSE HANDWHEEL EIGHT REVOLUTIONS,SWING ARM TO POSITION OVER HOLE,AND LOWER SPINDLE TO SURFACE ENDS-WITH SPINDLE POSITIONED FOR DRILLING
NO	606	MAO	LD1P	MEMSC01	202	SPEED,CHANGE ON SPINDLE,RADIAL DRILL PRESS STARTS-WITH REACH TO FIRST BACK GEAR LEVER INCLUDES-ALL MOTIONS NECESSARY TO MOVE LEVER, GET AND MOVE SECOND BACK GEAR LEVER,AND GET AND MOVE SPEED CHANGE LEVER ENDS-WITH RELEASE OF LEVER
NO	606	MAO	LD1E4	MEMSI01	151	SPACER(SUPER),INDEX STARTS-WITH REACH TO LOCK AND INDEX LEVERS INCLUDES-ALL MOTIONS NECESSARY TO UNLOCK BASE, ROTATE TABLE,AND LOCK BASE ENDS-WITH RELEASE OF LOCK LEVER
NO	606	MAO	K46AW6	MEMSR01	141	SPINDLE(DRILL PRESS),RAISE AND LOWER AND ALIGN JIG FOR DRILLING STARTS-WITH REACH TO SPINDLE LEVER INCLUDES-ALL MOTIONS NECESSARY TO LOWER AND RAISE SPINDLE AND ALIGN JIG FOR DRILLING.ALSO INCLUDES TIME TO RAISE SPINDLE AFTER DRILLING IS COMPLETED ENDS-WITH RELEASE OF SPINDLE LEVER
NO	606	MBO	LD1K14	MEMTA01	461	TOOL,ALIGN TO BUSHING OR HOLE,RADIAL DRILL PRESS STARTS-WITH REACH TO COLUMN LOCK INCLUDES-ALL MOTIONS NECESSARY TO UNLOCK COLUMN,UNLOCK HEAD,TURN HEAD WHEEL TO ALIGN TOOL,LOWER TOOL WITH QUICK RETURN TO CHECK TOOL POSITION,ENGAGE RAPID TRAVEL LEVER TO MOVE HEAD LONGITUDINALLY SIX INCHES,AND LOCK HEAD AND COLUMN ENDS-WITH RELEASE OF LOCK
NO	606	MAO	LJB1K25	MEMTC01	826	TOOL,CHANGE IN SPINDLE,JIG BORE STARTS-WITH REACH TO TOOL INCLUDES-ALL MOTIONS NECESSARY TO WIPE TOOL, PLACE IN SPINDLE,HAND TIGHTEN SPINDLE CAP, TIGHTEN CAP WITH WRENCH,RUN SPINDLE DOWN WITH RAPID TRAVERSE,RUN SPINDLE UP WITH RAPID TRAVERSE,LOOSEN SPINDLE CAP WITH WRENCH, REMOVE TOOL,AND LAY ASIDE ENDS-WITH RELEASE OF TOOL CONDITION-PROCESS TIME FOR RAPID TRAVERSE NOT INCLUDED
NO	606	MAO	LJB1K39	MEMTC02	406	TOOL,CHANGE IN SLEEVE,JIG BORE STARTS-WITH REACH TO TOOL INCLUDES-ALL MOTIONS NECESSARY TO WIPE TOOL, PLACE TOOL IN SLEEVE FOR USE,GET HAMMER AND DRIFT,PLACE DRIFT IN SLOT,STRIKE WITH HAMMER TO LOOSEN TOOL,REMOVE TOOL,AND LAY ASIDE HAMMER,DRIFT,AND TOOL ENDS-WITH RELEASE OF TOOL
NO	606	MUO	LJB1K40	MEMTC03	287	TOOL,CHANGE IN QUICK CHANGE CHUCK,JIG BORE STARTS-WITH REACH TO TOOL INCLUDES-ALL MOTIONS NECESSARY TO WIPE TOOL, PLACE TOOL IN CHUCK AND TIGHTEN,OPEN CHUCK, REMOVE TOOL,AND LAY ASIDE ENDS-WITH RELEASE OF TOOL

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NO	606	MUO	LD1H	MEMTPXX	VARIABLE	TOOL,PLACE IN AND REMOVE FROM MAGIC CHUCK STARTS-WITH REACH TO TOOL INCLUDES-ALL MOTIONS NECESSARY TO MOVE TOOL TO CHUCK,PUSH COLLAR UP,INSERT TOOL,PULL COLLAR DOWN,CHECK TOOL SECURITY,REACH TO COLLAR,PUSH UP,REMOVE TOOL,AND LAY TOOL ASIDE ENDS-WITH RELEASE OF TOOL CASE 01 RADIAL DRILL PRESS 02 SENSITIVE DRILL PRESS
					162 88	
NO	606	MAO	LD1A2	MSUAT01	1275	TABLE(UNIVERSAL),ADJUST TO ANGLE,RADIAL DRILL PRESS STARTS-WITH REACH TO WRENCH INCLUDES-ALL MOTIONS NECESSARY TO SIDESTEP TO ADJUSTING WORM,KNEEL,LOOSEN LOCKNUT,TURN WORM WITH WRENCH TO ALIGN TABLE TO ANGLE,TIGHTEN LOCKNUT,RETURN TO FRONT OF MACHINE,AND LAY WRENCH ASIDE ENDS-WITH RELEASE OF WRENCH
NO	606	MAO	LD1G2	MSUCA01	3112	COLLAR(STOP),ASSEMBLE OR DISASSEMBLE USING TWO SPANNER WRENCHES STARTS-WITH REACH TO ONE SPANNER WRENCH INCLUDES-ALL MOTIONS NECESSARY TO GET TWO SPANNER WRENCHES,LOOSEN LOCKNUT,LAY WRENCHES ASIDE,TURN STOP COLLAR DOWN ONE INCH,CHECK WITH SCALE,TURN LOCKNUT DOWN TO COLLAR,GET WRENCHES,TIGHTEN LOCK NUT,LAY WRENCHES ASIDE, MAKE FINAL CHECK WITH SCALE,AND LAY SCALE ASIDE ENDS-WITH RELEASE OF SCALE CONDITION-APPLICABLE TO COLLARS WITH CAPACITY OF GREATER THAN 1/2 INCH
NO	606	MAO	LD2M2	MSUCA02	526	COLLAR(STOP),ASSEMBLE OR DISASSEMBLE BY HAND STARTS-WITH REACH TO COLLET AND TOOL INCLUDES-ALL MOTIONS NECESSARY TO PUT COLLET ON TOOL,TIGHTEN COLLAR BY HAND,CHECK POSITION WITH SCALE,SLIDE COLLAR UP,AND RECHECK WITH SCALE ENDS- WITH RELEASE OF STOP COLLAR CONDITION-APPLICABLE TO COLLARS WITH CAPACITY OF 1/2 INCH OR LESS
NO	606	MAO	LD1U	MSUCL01	287	COLUMN,LOCK OR UNLOCK ON CINCINNATI-BICKFORD RADIAL DRILL PRESS,MANUAL LOCK STARTS-WITH TURN TO WALK TO LOCK LEVER INCLUDES-ALL MOTIONS NECESSARY TO WALK THREE PACES,BEND TO LEVER,MOVE LEVER TO LOCK OR UNLOCK COLUMN,ARISE,TURN,AND RETURN TO WORK POSITION ENDS-WITH OPERATOR AT FRONT OF MACHINE
NF	606	MAF	2441	MSUGP01	132	PARALLEL(FIXED),GET AND PUT ON TABLE STARTS-WITH REACH TO PARALLEL INCLUDES-ALL MOTIONS NECESSARY TO GET PARALLEL,MOVE TO POSITION ON TABLE,AND POSITION T-BOLTS TO SLOTS ENDS-WITH HANDS ON PARALLEL
NO	606	MAO	LD2Q2	MSUHR01	129	HEAD(SPINDLE),RAISE OR LOWER,SENSITIVE DRILL PRESS STARTS-WITH REACH TO LOCK AND SPINDLE INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN CLAMP,RAISE OR LOWER SPINDLE HEAD FOUR INCHES, AND TIGHTEN CLAMP TO LOCK SPINDLE HEAD ENDS-WITH RELEASE OF LOCK AND SPINDLE

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NO	606	MAO	LJB1A5	MSUJI01	307	JIG BORE,INSERT AND REMOVE KEY,TABLE SLOT STARTS-WITH REACH TO KEY INCLUDES-ALL MOTIONS NECESSARY TO POSITION KEY IN SLOT,USE MAUL OR HAMMER TO TAP KEY INTO PLACE,GET PINCH BAR,REMOVE KEY,AND LAY ASIDE BAR AND KEY ENDS-WITH RELEASE OF KEY
NF	606	MAF	2450	MSULP01	321	PARALLEL(FIXED),LOOSEN OR TIGHTEN STARTS-WITH REACH TO ALLEN WRENCH INCLUDES-ALL MOTIONS NECESSARY TO USE ALLEN WRENCH TO LOOSEN SET SCREWS HOLDING FIXED PARALLEL ENDS-WITH RELEASE OF WRENCH
AE	606	MAW	SMDPA23	MSUPA01	562	PRESS(DRILL),ADJUST SPEED(BELT CHANGE) PEDESTAL DRILL PRESS STARTS-WITH STOP MACHINE INCLUDES-ALL MOTIONS NECESSARY TO UNLOCK AND REMOVE COVER,SLACKEN BELT,MOVE TO CORRECT PULLEY,TIGHTEN BELT,AND REPLACE COVER ENDS-WITH START MACHINE
AE	606	MAW	SMDPAXX	MSUPCXX	VARIABLE	PRESS(DRILL),CHANGE DEPTH STOP ON PEDESTAL DRILL PRESS STARTS-WITH LOWER TOOL TO WORKPIECE INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN THUMBSCREW OR NUT,ADJUST DEPTH STOP,TIGHTEN THUMBSCREW OR NUT,AND OBSERVE TO ASSURE CORRECT SETTING ENDS-WITH RAISE TOOL FROM WORKPIECE
					754	CASE 01 SET DEPTH STOP(BELT CHANGE)
					710	02 SET DEPTH STOP(LEVER CHANGE)
NF	606	MAF	2451	MSURP01	145	PARALLEL(FIXED),REMOVE FROM TABLE STARTS-WITH REACH TO PARALLEL INCLUDES-ALL MOTIONS NECESSARY TO REMOVE A FIXED PARALLEL FROM TABLE AND PLACE ASIDE ENDS-WITH RELEASE PARALLEL
AE	606	MAW	SMDPA19	MSUSP01	1740	PRESS(DRILL),SET FEED ON PEDESTAL DRILL PRESS STARTS-WITH REACH TO SCREWDRIVER INCLUDES-ALL MOTIONS NECESSARY TO REMOVE SCREW WITH SCREWDRIVER,TURN ALLEN SCREW TO PROPER SLOT,TURN ALLEN SCREW IN,AND REPLACE SCREW WITH SCREWDRIVER ENDS-WITH LAY SCREWDRIVER ASIDE
NO	606	MAO	LD1Z1	MSUTB01	1094	TABLE(UNIVERSAL),BOLT TO BASE,RADIAL DRILL PRESS STARTS-WITH STOOP TO INSTALL FIRST BOLT INCLUDES-ALL MOTIONS NECESSARY TO GET,INSTALL, AND HAND TIGHTEN FIRST BOLT;ARISE;TURN;WALK THREE PACES,AND STOOP TO SECOND BOLT;GET, INSTALL,AND HAND TIGHTEN SECOND BOLT;ARISE;GET WRENCH;STOOP;TIGHTEN SECOND NUT WITH WRENCH; ARISE;TURN;WALK THREE PACES,AND STOOP TO FIRST NUT;TIGHTEN NUT WITH WRENCH;ARISE;AND LAY WRENCH ASIDE ENDS-WITH RELEASE OF WRENCH
NO	606	MAO	LD1N3	MSUTI01	300	TAP,INSTALL IN INSERT,RADIAL DRILL PRESS STARTS-WITH REACH TO TAP AND INSERT INCLUDES-ALL MOTIONS NECESSARY TO BRING TAP AND INSERT TOGETHER,GET ALLEN WRENCH,TIGHTEN SET SCREW,AND LAY WRENCH AND ASSEMBLY ASIDE ENDS-WITH RELEASE OF WRENCH AND ASSEMBLY

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NO	606	MAO	LD2C1	MSUTI02	560	TAP,INSTALL IN TAPPING ATTACHMENT,SENSITIVE DRILL PRESS STARTS-WITH REACH TO TAP INCLUDES-ALL MOTIONS NECESSARY TO IDENTIFY SIZE OF TAP HEAD,INSERT TAP,TIGHTEN ALLEN SCREW WITH WRENCH,AND TIGHTEN HEAD WITH TWO END WRENCHES ENDS-WITH LAY WRENCHES ASIDE
NO	606	MAO	LD2J	MSUTR01	531	TABLE,RAISE OR LOWER,AVERAGE OF FOUR INCHES, SENSITIVE DRILL PRESS STARTS-WITH STOOP TO CLAMP HOLDING CRANK INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN CLAMP,MOVE CRANK INTO POSITION,TURN CRANK 16 REVOLUTIONS TO RAISE OR LOWER TABLE,FOLD CRANK AWAY,AND SECURE CLAMP ENDS-WITH ARISE FROM STOOP
AE	606	MAW	SMDPA18	MSUTR02	392	TABLE,RAISE OR LOWER SIX INCHES ON PEDESTAL DRILL PRESS STARTS-WITH TURN TO WALK INCLUDES-ALL MOTIONS NECESSARY TO WALK TWO PACES TO REAR OF DRILL PRESS,LOOSEN TABLE CLAMP,CRANK TABLE UP OR DOWN SIX INCHES WITH SEVEN REVOLUTIONS OF CRANK,TIGHTEN CLAMP,AND RETURN TO FRONT OF MACHINE ENDS-WITH OPERATOR IN FRONT OF MACHINE
NO	606	MUO	LJB1K37	SSUJI01	5611	JIG BORE,INDICATE ONE PLANE STARTS-WITH SET INDICATOR IN SPINDLE AND SET TO SURFACE INCLUDES-ALL MOTIONS NECESSARY TO USE RAPID TRAVERSE TO MOVE TABLE,ADJUST TABLE WITH HAND WHEEL,ADJUST INDICATOR,AND MOVE TABLE UP OR DOWN WITH FINE FEED HAND WHEEL ENDS-WITH TABLE POSITIONED CONDITION-NO TIME INCLUDED FOR ADDING SHIMS
NO	606	MUW	LJB1K46	SSUJS01	5151	JIG BORE,SET UP STARTS-WITH MOVE SPINDLE HEAD UP OR DOWN INCLUDES-ALL MOTIONS NECESSARY TO MOVE TABLE WITH RAPID TRAVERSE FOUR TIMES,CHANGE FEED TWICE,CHANGE SPINDLE SPEED TWICE,CLEAN CHIPS FROM TABLE AND DISCARD TO BUCKET,WIPE TABLE TWICE WITH RAG,AND WIPE SPINDLE AND DIALS WITH RAG. ENDS-WITH SETUP COMPLETED
AE	606	MAW	SMDRA13	SSUPGXX	VARIABLE	PLATE(ANGLE),GET,SET UP FOR USE,AND ASIDE STARTS-WITH BEND AND REACH TO ANGLE PLATE INCLUDES-ALL MOTIONS NECESSARY TO GET ANGLE PLATE FROM FLOOR LEVEL,PLACE ON DRILL PRESS TABLE,WIPE PLATE WITH CLOTH,FASTEN PLATE TO TABLE WITH FOUR BOLTS,USE BRUSH TO CLEAR CHIPS FROM PLATE,REMOVE FOUR BOLTS,REMOVE PLATE FROM TABLE,AND PLACE ASIDE TO FLOOR LEVEL ENDS-WITH ARISE FROM BEND CONDITION-SMALL ANGLE PLATE WEIGHS 5-20 POUNDS;LARGE ANGLE PLATE WEIGHS 20-60 POUNDS 8320 CASE 01 SMALL ANGLE PLATE 9614 02 LARGE ANGLE PLATE
AE	606	MAW	SMDRA12	SSUP001	1768	PARALLELS,OBTAIN,SET UP FOR USE,AND ASIDE STARTS-WITH BEND AND REACH TO PARALLELS INCLUDES-ALL MOTIONS NECESSARY TO GET PARALLELS FROM FLOOR LEVEL,PLACE ON DRILL PRESS TABLE,WIPE PARALLELS WITH CLOTH,USE BRUSH TO CLEAR CHIPS FROM TABLE,AND PLACE PARALLELS ASIDE TO FLOOR LEVEL ENDS-WITH ARISE FROM BEND CONDITION-WEIGHT OF PARALLELS-20-60 POUNDS

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AE	606	MAW	SMDPA06	SSUVS01	4570	VISE(SMALL),SET UP FOR USE STARTS-WITH BEND TO VISE ON FLOOR INCLUDES-ALL MOTIONS NECESSARY TO GET VISE WEIGHING 5-20 POUNDS FROM FLOOR LEVEL,PLACE ON TABLE,SECURE WITH TWO BOLTS AND NUTS,ADJUST VISE TO PIECE SIZE,AND CLEAN CHIPS FROM VISE WITH AIR AFTER MACHINING ENDS-WITH VISE SECURED TO TABLE
NF	607	MAF	3522	MEMAR01	81	ATTACHMENT(MITER),REPOSITION,BANDSAW STARTS-WITH REACH TO ATTACHMENT INCLUDES-ALL MOTIONS NECESSARY TO MOVE MITER ATTACHMENT 24 INCHES AND ALIGN TO LOCATION ENDS-WITH RELEASE OF ATTACHMENT CONDITION-ATTACHMENT 20 POUNDS ENW
NO	607	MAO	SAW1X	MEMBC01	148	BLADE(BAND SAW),CUT WITH HAND METAL SHEARS STARTS-WITH REACH TO SHEARS,BLADE IN HAND INCLUDES-ALL MOTIONS NECESSARY TO POSITION SHEARS ON BLADE,USE TWO HANDS ON SHEARS TO CUT BLADE,AND LAY SHEARS ASIDE ENDS-WITH RELEASE OF SHEARS
NO	607	MAO	SAW1U	MEMBI01	375	BAND(SAW),INSTALL ON DRIVE AND IDLER WHEELS,DO-ALL CONTOUR SAW STARTS-WITH WALK TWO PACES TO FRONT OF MACHINE INCLUDES-ALL MOTIONS NECESSARY TO PLACE SAW BAND OVER IDLER AND DRIVE WHEELS ENDS-WITH WALK TWO PACES TO FRONT OF MACHINE CONDITION-DOES NOT INCLUDE TENSION ADJUSTMENT
NO	607	MAO	SAW1V	MEMBR01	240	BLADE,REMOVE,DO-ALL CONTOUR SAW STARTS-WITH WALK TO FRONT OF MACHINE INCLUDES-ALL MOTIONS NECESSARY TO REMOVE BAND SAW BLADE FROM WHEELS,AND REMOVE FROM SLOT ENDS-WITH REMOVED BLADE IN HAND AND WALK BACK TO POSITION
NO	607	MAO	SAW2D	MEMBS01	59	BLADE,SET TO WORK,POWER HACKSAW STARTS-WITH REACH TO FRAME HANDLE INCLUDES-ALL MOTIONS NECESSARY TO LOWER BLADE OF POWER HACKSAW TO WORK ENDS-WITH RELEASE OF HANDLE
NF	607	MAF	1102	MEMCE01	125	CLUTCH,ENGAGE,POWER HACKSAW STARTS-WITH SIDESTEP AND WALK TWO PACES FROM MACHINE TO CLUTCH LEVER INCLUDES-ALL MOTIONS NECESSARY TO WALK TO CLUTCH LEVER,ENGAGE CLUTCH AND WALK BACK TO MACHINE ENDS-WITH SIDESTEP BACK TO MACHINE
NO	607	MAO	SAW1HI	MEMD001	209	DOOR(TOP GUARD),OPEN AND CLOSE,DO-ALL CONTOUR SAW STARTS-WITH SIDESTEP TO DOOR INCLUDES-ALL MOTIONS NECESSARY TO GET DOOR HANDLE,TURN,OPEN DOOR,REACH TO DOOR,PUSH DOOR SHUT,TURN HANDLE TO LATCH DOOR,AND SIDESTEP TO WORK AREA ENDS-WITH OPERATOR AT WORK AREA
NO	607	MAO	SAW1J1	MEMD002	236	DOOR(BOTTOM GUARD),OPEN AND CLOSE,DO-ALL CONTOUR SAW STARTS-WITH BEND TO DOOR INCLUDES-ALL MOTIONS NECESSARY TO GET HANDLE,TURN,OPEN DOOR,ARISE,BEND TO DOOR,PUSH DOOR SHUT;AND TURN HANDLE TO LATCH DOOR ENDS-WITH ARISE FROM BEND

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	607	MAO	SAW1G1	MEMFE01	65	FEED(FOOT PEDAL),ENGAGE OR DISENGAGE,DO=ALL CONTOUR SAW STARTS=WITH MOVE LEG TO PEDAL INCLUDES=ALL MOTIONS NECESSARY TO MOVE PEDAL DOWN AND INTO SLOT ENDS=WITH MOVE FOOT ASIDE
NO	607	MAO	SAW1N1	MEMGA01	140	GUIDE(BLADE),ADJUST HEIGHT,DO=ALL CONTOUR SAW STARTS=WITH REACH TO LOCK INCLUDES=ALL MOTIONS NECESSARY TO LOOSEN LOCK, TURN WHEEL TO ADJUST HEIGHT OF BLADE GUIDE,AND TIGHTEN LOCK ENDS=WITH RELEASE OF LOCK
NO	607	MAO	SAW1P1	MEMHR01	159	HEAD(GUIDE),REMOVE AND REPLACE,DO=ALL CONTOUR SAW STARTS=WITH REACH TO GUIDE HEAD INCLUDES=ALL MOTIONS NECESSARY TO DISENGAGE HEAD,LAY ASIDE ON TABLE,GET ANOTHER HEAD,AND POSITION ON COLUMN ENDS=WITH RELEASE OF GUIDE HEAD
NF	607	MAF	4114	MEMJS01	712	JAW(VISE),SET TO ANGLE,TO 45 DEGREES STARTS=WITH REACH TO WRENCH INCLUDES=ALL MOTIONS NECESSARY TO SIDESTEP, WALK TWO PACES,LOOSEN TWO NUTS WITH WRENCH, POSITION JAW TO DESIRED ANGLE,TIGHTEN TWO NUTS WITH WRENCH,WALK TWO PACES,SIDESTEP TO MACHINE,AND LAY WRENCH ASIDE ENDS=WITH RELEASE OF WRENCH
NF	607	MAF	1128	MEMLR01	38	LEVER(BAND SAW),REPOSITION STARTS=WITH REACH TO LEVER INCLUDES=ALL MOTIONS NECESSARY TO GRASP LEVER, MOVE AND APPLY PRESSURE TO LEVER ENDS=WITH RELEASE OF LEVER
NF	607	MAF	4115	MEMSA01	298	STOCK(IN VISE),ALIGN TO MARK(NO STOP),POWER HACKSAW STARTS=WITH SIDESTEP FROM MACHINE INCLUDES=ALL MOTIONS NECESSARY TO WALK TWO PACES,BEND TO VISE,MOVE STOCK,TURN,LOWER BLADE,ALIGN MARK ON STOCK TO BLADE,RAISE BLADE,SIDESTEP,TURN,AND WALK TWO PACES ENDS=WITH OPERATOR IN FRONT OF MACHINE CONDITION=AVERAGE LENGTH OF STOCK=36 INCHES
NO	607	MAO	SAW1E1	MEMTA01	245	TENSION,ADJUST ON SAW BLADE,DO=ALL CONTOUR SAW STARTS=WITH REACH TO WHEEL INCLUDES=ALL MOTIONS NECESSARY TO TURN WHEEL TO ADJUST BLADE TENSION ENDS=WITH RELEASE OF WHEEL
NO	607	MAO	SAW1F1	MEMTA02	90	TENSION(HAND FEED),ADJUST,DO=ALL CONTOUR SAW STARTS=WITH REACH TO WHEEL INCLUDES=ALL MOTIONS NECESSARY TO TURN HAND FEED KNOB TO ADJUST FEED TENSION ENDS=WITH RELEASE OF KNOB
NF	607	MAF	1101	MEMVT01	241	VISE,TIGHTEN OR LOOSEN ON STOCK,POWER HACKSAW STARTS=WITH REACH TO VISE INCLUDES=ALL MOTIONS NECESSARY TO TIGHTEN OR LOOSEN A VISE ON STOCK ENDS=WITH RELEASE OF VISE HANDLE CONDITION=TURN VISE HANDLE FOUR REVOLUTIONS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	607	MAF	4113	MEMVT02	103	VISE,TIGHTEN OR LOOSEN ON STOCK,POWER HACKSAW STARTS-WITH REACH TO VISE SHAFT INCLUDES-ALL MOTIONS NECESSARY TO MOVE VISE SHAFT UP TO OPEN VISE,MOVE JAWS TO INCREASE OPENING,PUSH JAWS AGAINST STOCK,AND MOVE VISE SHAFT TO SECURE ENDS-WITH RELEASE OF SHAFT CONDITION-APPLICABLE TO QUICK RELEASE TYPE VISE
NO	607	MAW	SAW2U	SEMRB01	1173	BLADE,REMOVE AND REPLACE,POWER HACKSAW STARTS-WITH GET WRENCH INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN THREE BOLTS,LAY WRENCH ASIDE,REMOVE PIN,REMOVE SAW BLADE,LAY BLADE ASIDE,PICK UP NEW BLADE,MOVE BLADE INTO POSITION,INSTALL PIN,GET WRENCH, TIGHTEN THREE BOLTS,AND LAY WRENCH ASIDE ENDS-WITH ARISE FROM BEND
NF	607	MAF	2569	SEMRB02	609	BLADE,REMOVE AND REPLACE,POWER HACKSAW STARTS-WITH BEND AND REACH TO TENSION HANDLE INCLUDES-ALL THE MOTIONS NECESSARY TO TURN TENSION HANDLE TO LOOSEN BLADE,REMOVE BLADE FROM PINS,ASIDE BLADE,ARISE,TURN,WALK THREE PACES TO BLADE STORAGE,GET NEW BLADE,RETURN TO SAW,BEND,PLACE BLADE ON PINS,AND TURN TENSION HANDLE TO TIGHTEN BLADE ENDS-WITH ARISE FROM BEND
NF	607	FAF	2369	MMTMC01	2381	MATERIAL,CUT WITH POWER HACKSAW PER SQUARE INCH OF STAINLESS STEEL OR TOOL STEEL STARTS-WITH FIRST CUTTING ACTION INCLUDES-MACHINE TIME TO CUT ONE SQUARE INCH OF STAINLESS STEEL OR TOOL STEEL WITH A POWER HACKSAW ENDS-WITH ONE SQUARE INCH CUT CONDITIONS- TEETH PER INCH 10 FEED PER TOOTH .001 FEED PER INCH PER STROKE .010 SPEED SFPM 70 LENGTH OF STROKE(INCHES) 6 STROKES PER MINUTE 70 FEED PER INCH PER MINUTE OR SQUARE INCHES PER MINUTE .70 SQUARE INCHES PER HOUR 42
NF	607	FAF	2370	MMTMC02	1667	MATERIAL,CUT WITH POWER HACKSAW PER SQUARE INCH OF MILD STEEL OR CAST IRON STARTS-WITH FIRST CUTTING ACTION INCLUDES-MACHINE TIME TO CUT ONE SQUARE INCH OF MILD STEEL OR CAST IRON WITH A POWER HACKSAW ENDS-WITH ONE SQUARE INCH CUT CONDITIONS- TEETH PER INCH 10 FEED PER TOOTH .001 FEED PER INCH PER STROKE .010 SPEED SFPM 100 LENGTH OF STROKE(INCHES) 6 STROKES PER MINUTE 100 FEED PER INCH PER MINUTE OR SQUARE INCHES PER MINUTE 1.00 SQUARE INCHES PER HOUR 60

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	607	FAF	2371	MMTMC03	801	MATERIAL,CUT WITH POWER HACKSAW PER SQUARE INCH OF NON-FERROUS MATERIAL STARTS-WITH FIRST CUTTING ACTION INCLUDES-MACHINE TIME TO CUT ONE SQUARE INCH OF NON-FERROUS MATERIAL WITH A POWER HACKSAW ENDS-WITH ONE SQUARE INCH CUT CONDITIONS- TEETH PER INCH 4 FEED PER TOOTH .004 FEED PER INCH PER STROKE .016 SPEED SFPM 130 LENGTH OF STROKE(INCHES) 6 STROKES PER MINUTE 130 FEED PER INCH PER MINUTE OR SQUARE INCHES PER MINUTE 2.08 SQUARE INCHES PER HOUR 125
NF	607	MAF	3486	BSUPP01	80	POINTER(DISC CUTTER),POSITION STARTS-WITH REACH TO ARM CLAMP INCLUDES-ALL THE MOTIONS NECESSARY TO MOVE CLAMP ON ARM,REACH TO PIN CLAMP WITH OTHER HAND AND MOVE POINTER ENDS-WITH ONE HAND HOLDING ARM CLAMP,OTHER ON POINTER
NO	607	MAO	SAW1P2	MSUAI01	98	ATTACHMENT(CUT OFF),INSTALL ON GUIDE ROD, DO-ALL CONTOUR SAW STARTS-WITH REACH TO ATTACHMENT AND GUIDE ROD INCLUDES-ALL MOTIONS NECESSARY TO HOLD ATTACHMENT WHILE MOVING ROD THROUGH IT ENDS-WITH RELEASE OF ROD
NO	607	MAO	SAW1R2	MSUAS01	217	ANGLE,SET ON CUT OFF OR MITERING ATTACHMENT, DO-ALL CONTOUR SAW STARTS-WITH REACH TO HEAD OF ATTACHMENT INCLUDES-ALL MOTIONS NECESSARY TO BEND,CHECK ANGLE,ADJUST ATTACHMENT HEAD TO DESIRED SETTING,AND CHECK ANGLE ENDS-WITH ARISE FROM BEND
NF	607	MAF	3466	MSUCA01	160	CONTROL(FEED),ADJUST,POWER HACKSAW STARTS-WITH SIDESTEP TO KNOB INCLUDES-ALL THE MOTIONS NECESSARY TO SIDESTEP AND WALK TO FEED CONTROL KNOB,GRASP KNOB, SELECT PROPER FEED SETTING,RELEASE KNOB AND RETURN TO MACHINE ENDS-WITH RETURN TO MACHINE CONDITIONS-SIDESTEP ONE STEP,WALK TWO PACES TO KNOB AND RETURN
NO	607	MAO	SAW3C	MSULS01	509	LENGTH OF PART,SET ON AUTOMATIC INDEXING SCALE,DO-ALL POWER CUTOFF SAW STARTS-WITH BEND INCLUDES-ALL MOTIONS NECESSARY TO PICK UP WRENCH,LOOSEN LOCKNUT,LAY WRENCH ASIDE,TURN HANDWHEEL TO ADJUST FOR PART LENGTH,GET WRENCH,TIGHTEN LOCKNUT,AND LAY WRENCH ASIDE ENDS-WITH ARISE FROM BEND
NO	607	MAO	SAW1B2	MSUPR01	419	PLATE(CUTTING SLIDE),REMOVE AND REPLACE,DO-ALL CONTOUR SAW STARTS-WITH REACH TO CUTTING SLIDE PLATE INCLUDES-ALL MOTIONS NECESSARY TO REMOVE PLATE FROM MACHINE,SIDESTEP,LAY PLATE ASIDE ON TABLE,GET PLATE,SIDESTEP,AND POSITION PLATE IN GUIDE ON MACHINE ENDS-WITH RELEASE OF PLATE CONDITION-PLATE WEIGHS APPROXIMATELY 30 POUNDS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	607	MAO	SAW2C	MSUPS01	308	PRESSURE(FEED),SET,POWER HACKSAW STARTS-WITH WALK ONE PACE AND BEND TO WHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN WHEEL TO FOUR REVOLUTIONS TO SET FEED PRESSURE ENDS-WITH ARISE FROM BEND AND RETURN TO WORK POSITION
NO	607	MAO	SAW1M1	MSURC01	412	RANGE(SPEED),CHANGE WITH LEVER,DO-ALL CONTOUR SAW STARTS-WITH REACH TO CRANK INCLUDES-ALL MOTIONS NECESSARY TO TURN CRANK 26 REVOLUTIONS(1/2 OF FULL SPEED RANGE),GET SHIFT LEVER,AND REPOSITION LEVER ENDS-WITH RELEASE OF SHIFT LEVER
NO	607	MAO	SAW1L1	MSUSC01	411	SPEED,CHANGE WITH CRANK,DO-ALL CONTOUR SAW STARTS-WITH TURN TO WALK INCLUDES-ALL MOTIONS NECESSARY TO WALK THREE PACES,BEND,GET HANDLE AND CHANGE SPEED BY CRANKING HANDLE 13 REVOLUTIONS(1/4 OF THE FULL SPEED RANGE),ARISE,TURN AND WALK THREE PACES ENDS-WITH OPERATOR AT FRONT OF MACHINE
NO	607	MAO	SAW2B	MSUSC02	458	SPEED,CHANGE,POWER HACKSAW STARTS-WITH KNEEL ON ONE KNEE INCLUDES-ALL MOTIONS NECESSARY TO DISENGAGE LEVER,TURN SHAFT TO DESIRED POSITION,AND ENGAGE LEVER ENDS-WITH ARISE
NO	607	MAO	SAW1K46	MSUSS01	385	STOP(DOWEL PIN),SET UP ON SLIDING PLATE,DO-ALL CONTOUR SAW STARTS-WITH SIDESTEP TO TOP GUARD DOOR INCLUDES-ALL MOTIONS NECESSARY TO OPEN DOOR, REMOVE AND REPLACE DOWEL PIN,AND CLOSE DOOR ENDS-WITH SIDESTEP TO WORK AREA
NO	607	MAO	SAW2E	MSUSS02	287	STOP(LIMIT),SET FOR FRAME RAISE,POWER HACKSAW STARTS-WITH WALK ONE PACE INCLUDES-ALL MOTIONS NECESSARY TO BEND,LOOSEN LIMIT STOP KNOB,MOVE TO DESIRED POSITION,AND TIGHTEN ENDS-WITH ARISE FROM BEND AND RETURN TO FRONT OF MACHINE
NO	607	MAO	SAW2G	MSUSS03	812	STOP(MATERIAL),SET,POWER HACKSAW STARTS-WITH WALK TWO PACES TO STOP INCLUDES-ALL MOTIONS NECESSARY TO BEND,LOOSEN BOLT WITH WRENCH,ADJUST STOP,TIGHTEN BOLT, TURN,LOOSEN SECOND BOLT,MOVE LENGTH BAR TO CORRECT LOCATION,TIGHTEN BOLT,AND ARISE ENDS-WITH RETURN TO WORK POSITION
NO	607	MAO	SAW1A2	MSUTT01	675	TABLE,TILT,DO-ALL CONTOUR SAW STARTS-WITH TURN FROM MACHINE INCLUDES-ALL MOTIONS NECESSARY TO WALK TWO PACES,TURN TO MACHINE,STOOP,UNLOCK FIRST LOCK, SIDESTEP,UNLOCK SECOND LOCK,ARISE,APPLY PRESSURE TO MOVE TABLE,BEND,OBSERVE DIAL, ADJUST TABLE POSITION,FASTEN FIRST LOCK, SIDESTEP,FASTEN SECOND LOCK,ARISE,TURN, AND WALK TWO PACES ENDS-WITH TURN TO FRONT OF MACHINE
NO	607	MAO	SAW1H2	MSUWA01	339	WEIGHT(FEED BALANCE),ADJUST,DO-ALL CONTOUR SAW STARTS-WITH STOOP TO CRANK HANDLE INCLUDES-ALL MOTIONS NECESSARY TO TURN CRANK HANDLE 20 REVOLUTIONS TO ADJUST FEED BALANCE WEIGHT ENDS-WITH ARISE FROM STOOP

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NO	609	MAD	THDGRC1	MEMLMXX	VARIABLE	LEVER,MOVE J&L AUTOMATIC THREAD GRINDER STARTS-WITH REACH TO LEVER INCLUDES-ALL MOTIONS NECESSARY TO DISENGAGE LEVER,MOVE TO NEW POSITION,AND ENGAGE ENDS-WITH RELEASE OF LEVER 52 CASE 01 BACK GEAR LEVER,MOVED 2 INCHES 58 02 RIGHT OR LEFT HAND THREADING OR MULTIPLE LEADS LEVER,MOVED 12 INCHES
NO	609	MAD	THDGRH1	MEMSS01	218	SPEED,SET WITH THREE LEVERS,J&L AUTOMATIC THREAD GRINDERS STARTS-WITH STOOP TO FIRST LEVER INCLUDES-ALL MOTIONS NECESSARY TO DISENGAGE FIRST LEVER,MOVE ONE NOTCH,ENGAGE,GET SECOND LEVER,PULL PIN,MOVE LEVER,INSERT PIN,GET THIRD LEVER,PULL PIN,MOVE LEVER,AND INSERT PIN TO CHANGE RPM ENDS-WITH ARISE FROM STOOP
NO	609	MAD	THDGRR	MSUCR01	1774	COVER(FRONT WHEEL),REMOVE AND REPLACE,J&L AUTOMATIC THREAD GRINDERS STARTS-WITH REACH TO WRENCH INCLUDES-ALL MOTIONS NECESSARY TO REMOVE THREE BOLTS WITH WRENCH,REMOVE COVER,LAY COVER ASIDE,GET COVER,ALIGN COVER,INSTALL THREE BOLTS BY HAND,GET WRENCH,TIGHTEN BOLTS, AND LAY WRENCH ASIDE ENDS-WITH RELEASE OF WRENCH
NO	609	MAD	THDGRV1	MSUDA01	661	DRESSER(DRUM),ATTACH TWO HOLDING SPRINGS,J&L AUTOMATIC THREAD GRINDERS STARTS-WITH REACH TO BOLT INCLUDES-ALL MOTIONS NECESSARY TO MOVE BOLT TO DRESSER,HOLD SPRING,GET NUT AND INSTALL ON BOLT,TURN AND WALK ONE PACE TO OTHER SPRING, GET BOLT,MOVE TO DRESSER,HOLD SPRING,AND INSTALL NUT ENDS-WITH RELEASE OF NUT
NO	609	MAD	THDGRF1	MSUDI01	537	DIAMONDS,INSERT IN AND REMOVE FROM DRUM DRESSER,J&L AUTOMATIC THREAD GRINDER,THREE DIAMONDS STARTS-WITH REACH TO DIAMOND AND HEX WRENCH INCLUDES-ALL MOTIONS NECESSARY TO POSITION DIAMOND,TIGHTEN SET SCREW,LOOSEN SET SCREW,AND REMOVE AND ASIDE DIAMOND.THIS PATTERN IS REPEATED FOR EACH OF THREE DIAMONDS ENDS-WITH LAY WRENCH ASIDE
NO	609	MAD	THDGRW1	MSUDL01	203	DRESSER(DRUM),LOCK OR UNLOCK WITH TRUING DEVICE LOCK,J&L AUTOMATIC THREAD GRINDER STARTS-WITH REACH TO CRANK INCLUDES-ALL MOTIONS NECESSARY TO TURN CRANK TO SECURE FIRST LOCK,REMOVE CRANK,WALK THREE PACES,ENGAGE CRANK ON SECOND LOCK AND TURN TO SECURE,REMOVE CRANK,CARRY TO FIRST LOCK,AND ENGAGE CRANK ON LOCK ENDS-WITH RELEASE OF CRANK
NO	609	MAD	THDGRJ2	MSUSA01	191	SCALE(TRUING FEED),ADJUST,J&L AUTOMATIC THREAD GRINDER STARTS-WITH GET END WRENCH INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN BOLT, MOVE ADJUSTMENT ARM ONE INCH,AND TIGHTEN BOLT ENDS-WITH LAY WRENCHES ASIDE

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NO	609	MAO	THDGRT	MSUSP01	1803	SHAFT,PLACE IN AND REMOVE FROM HUB FOR BALANCING GRINDING WHEEL ASSEMBLY,J&L AUTOMATIC THREAD GRINDERS STARTS-WITH REACH TO SHAFT AND NUT INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN NUT, PLACE SHAFT IN WHEEL,INSTALL NUT TO SHAFT, REMOVE NUT AFTER BALANCING WHEEL ASSEMBLY, REMOVE SHAFT FROM WHEEL ASSEMBLY,LAY WHEEL ASIDE,AND REPLACE NUT ON SHAFT ENDS-WITH LAY SHAFT ASIDE CONDITION-TIME FOR BALANCING WHEEL ASSEMBLY NOT INCLUDED
NO	609	MAO	THDGRS	SSUAR01	1242	ASSEMBLY(GRINDING WHEEL AND FLANGE),REMOVE AND REPLACE ON TAPER SHAFT,J&L AUTOMATIC THREAD GRINDER STARTS-WITH GET WRENCH INCLUDES-ALL MOTIONS NECESSARY TO REMOVE ONE BOLT,REMOVE CAP,GET BOARD,PLACE ON MACHINE,GET WHEEL PULLER AND MOUNT ON WHEEL,GET WRENCH, LOOSEN GRINDING WHEEL BY TURNING PULLER BOLT, LAY WRENCH ASIDE,REMOVE PULLER FROM WHEEL AND LAY ASIDE,REMOVE WHEEL FROM SPINDLE AND LAY ASIDE,GET WHEEL ASSEMBLY,PLACE ASSEMBLY ON BOARD,POSITION WHEEL ASSEMBLY ON SPINDLE, INSTALL BOLT AND CAP,GET WRENCH,AND TIGHTEN BOLT ENDS-WITH LAY WRENCH ASIDE CONDITION-WALKING INCIDENTAL TO REPLACING WHEEL AND FLANGE ASSEMBLY NOT INCLUDED
NO	609	MAO	THDGRF2	SSUAS01	1296	ANGLE(HELIX),SET ONE DEGREE ON GRINDING HEAD, J&L AUTOMATIC THREAD GRINDER STARTS-WITH REACH TO END WRENCH INCLUDES-ALL MOTIONS NECESSARY TO GET WRENCH, WALK EIGHT PACES TO REAR OF MACHINE,LOOSEN FOUR BOLTS,LAY WRENCH ASIDE,TURN,WALK EIGHT PACES TO FRONT OF MACHINE,GET SECOND WRENCH, WALK SIX PACES TO SIDE OF MACHINE,LOOSEN BINDER WITH WRENCH,MOVE WRENCH TO HELIX ANGLE ADJUSTMENT,SET HELIX ANGLE ONE DEGREE,TURN, WALK TWO PACES TO DRUM DRESSER,SET HELIX ANGLE ADJUSTMENT ONE DEGREE,TURN,WALK TO SIDE OF MACHINE,TIGHTEN BINDER,CHECK ANGLE SETTING, TURN,WALK TWO PACES TO REAR OF MACHINE,LAY LARGE WRENCH ASIDE,GET END WRENCH,TIGHTEN FOUR BOLTS,PICK UP OTHER WRENCH,TURN,WALK EIGHT PACES TO FRONT OF MACHINE,AND LAY WRENCHES ASIDE ENDS-WITH RELEASE OF WRENCHES
NO	609	MAO	THDGRQ	SSUWR01	3805	WHEEL(GRINDING),REMOVE AND REPLACE ON FLANGE STARTS-WITH REACH TO WRENCH INCLUDES-ALL MOTIONS NECESSARY TO REMOVE SIX BOLTS WITH WRENCH,LAY WRENCH AND BOLTS ASIDE, REMOVE FLANGE AND LAY ASIDE,REMOVE GRINDING WHEEL AND LAY ASIDE,GET ANOTHER WHEEL,MOVE WHEEL TO FLANGE AND ALIGN,INSTALL SIX BOLTS BY HAND,GET WRENCH,TIGHTEN BOLTS,AND LAY WRENCH ASIDE ENDS-WITH RELEASE OF WRENCH CONDITION-APPLICABLE TO J&L AUTOMATIC THREAD GRINDERS
NF	615	MAF	3334	MEMPE01	59	PUNCH,ENGAGE TO MATERIAL STARTS-WITH REACH TO HANDLE INCLUDES-ALL THE MOTIONS NECESSARY TO GRASP HANDLE AND MOVE TO ENGAGE PUNCH TO MATERIAL ENDS-WITH RELEASE HANDLE

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NF	615	MAF	2837	MOHPMXX	VARIABLE	PART,MOVE ADJACENT SIDE TO PUNCH STARTS-WITH HAND ON PART ON MACHINE INCLUDES-ALL THE MOTIONS NECESSARY TO MOVE THE ADJACENT SIDE OF PART TO A PUNCH ENDS-WITH PART MOVED,TURNED AND READY TO PUNCH CONDITION-BODY MOTIONS NECESSARY FOR MOVING PART INCLUDED
					72	CASE 01 SMALL PART-ENW 2 1/2 POUNDS OR LESS
					141	02 MEDIUM PART-ENW 20 POUNDS
					216	03 LARGE PART-ENW 30 POUNDS
NF	615	MAF	2840	MOHPPXX	VARIABLE	PART,POSITION FOR NEXT PUNCH STARTS-WITH MOVE PART INCLUDES-ALL THE MOTIONS NECESSARY TO MOVE AND POSITION A PART TO MAKE NEXT PUNCH ENDS-WITH PART IN POSITION READY TO PUNCH CONDITIONS-MOVE PART AVERAGE OF FOUR INCHES
					28	CASE 01 SMALL PART,ENW 2 1/2 POUNDS OR LESS
					37	02 MEDIUM PART,ENW 20 POUNDS
					31	03 LARGE PART,ENW 30 POUNDS,PER OPERATOR
NF	615	MAF	1632	MSUDI01	106	DIE,INSTALL STARTS-WITH REACH TO DIE INCLUDES-ALL THE MOTIONS NECESSARY TO INSTALL A DIE IN A POWER PUNCH ENDS-WITH RELEASE OF DIE
NF	615	MAF	1520	MSUPI01	94	PUNCH,INSTALL STARTS-WITH REACH TO PUNCH INCLUDES-ALL MOTIONS NECESSARY TO INSTALL A PUNCH IN A POWER OPERATED PUNCH ENDS-WITH RELEASE OF NUT
NF	615	MAF	1247	BTLHPXX	VARIABLE	HOLE,PUNCH WITH HAND PUNCH STARTS-WITH APPLY PRESSURE TO PUNCH HANDLE INCLUDES-ALL MOTIONS NECESSARY TO MOVE PUNCH HANDLE TO MOVE THE PUNCH THRU METAL AND OPEN PUNCH ENDS-WITH RELEASE PUNCH HANDLE
					39	CASE 01 PUNCH HOLE WITH STATIONARY HAND PUNCH, SMALL PART
					32	02 PUNCH HOLE WITH HAND PUNCH,APPROXIMATELY TWO POUNDS
					42	03 PUNCH HOLE WITH HAND PUNCH,APPROXIMATELY 15 POUNDS
NF	615	MAF	3335	MTLPPXX	VARIABLE	PUNCH(HAND),POSITION STARTS-WITH REACH TO SHEET METAL,PUNCH IN OTHER HAND INCLUDES-ALL THE MOTIONS NECESSARY TO GRASP AND HOLD METAL SHEET WITH HAND,MOVE PUNCH TO EDGE OF SHEET WITH OTHER HAND,MOVE PUNCH AND POSITION TO PUNCH HOLE AND MOVE AGAINST METAL, RELEASE SHEET ENDS-WITH PUNCH IN HAND
					46	CASE 01 PUNCH WEIGHS APPROXIMATELY TWO POUNDS
					94	02 PUNCH WEIGHS APPROXIMATELY 15 POUNDS-BEND TO SEE SPOT AND ARISE REQUIRED
FFH	615	MAA	MTLHP01	MTLPS01	1966	PUNCH,CHASSIS,SET-UP,PUNCH ONE HOLE AND ASIDE PUNCH STARTS-WITH REACH TO PUNCH ASSEMBLY INCLUDES-ALL MOTIONS NECESSARY TO GET PUNCH, PUNCH ONE HOLE,AND ASIDE PUNCH ENDS-WITH RELEASE OF PUNCH CONDITION-TOOL-RATCHET WRENCH

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FFE	616	MAA	IAEPT01	MJPAI01	426	ADAPTER(PUNCH),INSTALL AND REMOVE,ARBOR PRESS STARTS-WITH REACH TO PUNCH ADAPTER INCLUDES-ALL MOTIONS NECESSARY TO PLACE ADAPTER ON PRESS ARM,INSTALL AND TIGHTEN TWO SET SCREWS HAND TIGHT,LOOSEN TWO SET SCREWS, AND REMOVE AND ASIDE ADAPTER ENDS-WITH RELEASE OF ADAPTER
FFE	616	MAA	GTLDRA3	MJPFP01	136	FIXTURE,PLACE ON AND REMOVE FROM ARBOR PRESS STARTS-WITH REACH TO FIXTURE INCLUDES-ALL THE MOTIONS NECESSARY TO PLACE FIXTURE FOR USE AND RETURN FIXTURE TO STORAGE SHELF ENDS-WITH FIXTURE ON SHELF CONDITIONS-FIXTURE TO 10 POUNDS ENW
FFE	616	MAA	IAEPT04	MJPPC01	186	PLATES(ADAPTER),CHANGE ON ARBOR PRESS BASE STARTS-WITH REACH TO ADAPTER PLATES INCLUDES-ALL MOTIONS NECESSARY TO GET TWO PLATES,MOVE TO PRESS,REMOVE PLATES FROM PRESS, AND PLACE ASIDE ENDS-WITH RELEASE OF PLATES
FFE	616	MAA	IAEPT03	MJPPI01	180	PUNCH,INSTALL AND REMOVE,ADAPTER ON ARBOR PRESS STARTS-WITH REACH TO PUNCH INCLUDES-ALL MOTIONS NECESSARY TO PLACE PUNCH TO ADAPTER,SCREW IN HAND TIGHT,SCREW PUNCH FROM ADAPTER,AND LAY ASIDE ENDS-WITH RELEASE OF PUNCH
AE	616	MAW	SMAHXXX	MJPPSXX	VARIABLE	PRESS(HYDRAULIC ARBOR),SET UP FOR USE STARTS-WITH REMOVAL OF PINS INCLUDES-ALL MOTIONS NECESSARY TO ADJUST TABLE HEIGHT BY CRANKING UP OR DOWN TO FIVE INCHES, REPLACE PINS,PLACE PARALLEL BARS ON TABLE,AND CLEAN TABLE WITH BRUSH ENDS-WITH PRESS READY FOR USE CASE 01 SET UP SMALL HYDRAULIC PRESS 3222 02 SET UP LARGE HYDRAULIC PRESS 4056
AE	616	MAW	SMALA01	MJPSP01	1120	PRESS,SET UP LARGE MECHANICAL ARBOR PRESS FOR USE STARTS-WITH GET PARALLEL BARS INCLUDES-ALL MOTIONS NECESSARY TO PLACE PARALLEL BARS AND TO CLEAN TABLE WITH BRUSH ENDS-WITH PLACE CLEANING BRUSH ASIDE CONDITION-BARS STORED AT FLOOR LEVEL
AE	616	MAW	SMASA01	MJPSP02	910	PRESS,SET UP SMALL MECHANICAL ARBOR PRESS FOR USE STARTS-WITH GET PART TO BE PRESSED INCLUDES-ALL MOTIONS NECESSARY TO CLEAN TABLE WITH RAG,POSITION TABLE,PLACE PART ON TABLE, LOWER ARBOR TO READY POSITION,AND SLIDE LEVER THROUGH SHAFT ENDS-WITH RELEASE OF LEVER
NO	616	MAO	LEL1G3	MNFPA01	1401	PART,ATTACH TO AND REMOVE FROM MANDREL BY PRESSING ON ARBOR PRESS STARTS-WITH REACH TO PART AND MANDREL INCLUDES-ALL MOTIONS NECESSARY TO LIFT MANDREL,PLACE PART OVER END OF MANDREL,TAP MANDREL ON TABLE TO SEAT PART,PLACE PART AND MANDREL ON ARBOR PRESS,PRESS PART ON MANDREL, LAY PART AND MANDREL ASIDE,PLACE PART AND MANDREL ON PRESS,OPERATE PRESS TO REMOVE PART, TAP END OF MANDREL TO BREAK CONTACT WITH PART, REMOVE PART,AND LAY PART AND MANDREL ASIDE ENDS-WITH RELEASE OF PART AND MANDREL CONDITION-WALKING TO AND FROM PRESS NOT INCLUDED

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FFE	616	MAA	IAEAM05	MNFPI01	784	PART,INSTALL WITH ARBOR PRESS STARTS-WITH GET PARTS INCLUDES-ALL MOTIONS NECESSARY TO MOVE PART TO PLATE,POSITION PLATE AND PART UNDER RAM,GET TOOL,PLACE TO PART,PRESS PARTS TOGETHER,AND ASIDE TOOL AND ASSEMBLY ENDS-WITH RELEASE OF ASSEMBLY CONDITION-DEPTH OF PRESS=.25 TO 1.25 INCHES. INITIAL ASSEMBLY OF PARTS NOT INCLUDED.
AE	616	MAW	SMAXXXX	MNFPPXX	VARIABLE	PARTS,PRESS ON HYDRAULIC OR MECHANICAL ARBOR PRESS STARTS-WITH GET PART TO BE PRESSED INCLUDES-ALL MOTIONS NECESSARY TO PLACE PART ON TABLE OR PARALLEL BARS,BRUSH TO REMOVE DUST OR DIRT,CLOSE AND OPEN VALVE(HYDRAULIC ONLY), RAISE AND LOWER LEVER TO PRESS PART THREE INCHES,AND ASIDE PART ENDS-WITH RELEASE OF PART
					2608	CASE 01 PRESS SMALL PART(TO 5 POUNDS)ON SMALL HYDRAULIC PRESS
					3070	02 PRESS LARGE PART(5-60 POUNDS)ON SMALL HYDRAULIC PRESS
					1896	03 PRESS EACH ADDITIONAL THREE INCHES ON SMALL HYDRAULIC PRESS
					6456	04 PRESS LARGE PART(5-60 POUNDS)ON LARGE HYDRAULIC PRESS
					4368	05 PRESS EACH ADDITIONAL THREE INCHES ON LARGE HYDRAULIC PRESS
					1409	06 PRESS SMALL PART(TO 5 POUNDS)ON LARGE MECHANICAL PRESS
					1871	07 PRESS LARGE PART(5-60 POUNDS)ON LARGE MECHANICAL PRESS
					728	08 PRESS EACH ADDITIONAL THREE INCHES ON LARGE MECHANICAL PRESS
FFE	616	MAA	IAEDM02	MNFPR01	649	PART,REMOVE FROM MATING PART WITH ARBOR PRESS STARTS-WITH GET ASSEMBLY INCLUDES-ALL MOTIONS NECESSARY TO MOVE ASSEMBLY TO PLATES,ALIGN PLATES AND ASSEMBLY UNDER RAM,PLACE TOOL TO ASSEMBLY,PRESS TO SEPARATE PARTS,AND ASIDE TOOL AND PARTS ENDS-WITH RELEASE OF PARTS
FFE	616	MAA	ILMAARA	MTLBRXX	VARIABLE	BEARING(ANNULAR),REPLACE ON SHAFT STARTS-WITH REACH TO BEARING PULLER INCLUDES-ALL THE MOTIONS NECESSARY TO GET, POSITION PULLER,REMOVE BEARING,UNPACK NEW BEARING,INSTALL ON SHAFT WITH ARBOR PRESS ENDS-WITH ASIDE END ITEM OR SUB-ASSEMBLY
					2697	CASE 01 ANNULAR BEARING-UP TO 1/4 INCH INSIDE DIAMETER-SEATED TO 3/4 INCH ON SHAFT
					3207	02 ANNULAR BEARING-UP TO 1/4 INCH INSIDE DIAMETER-SEATED FROM 3/4 INCH TO 1-1/4 INCHES ON SHAFT OR SEAT
FFE	616	MAA	GMPBAA1	MTLPI01	482	PART,INSTALL,SINGLE ALIGN,PRESS FIT PART STARTS-WITH GET PART INCLUDES-MOTIONS NECESSARY TO GET,PLACE AND INSTALL PART WITH ARBOR PRESS ON STUD OR INTO HOLE ENDS-WITH PART INSTALLED CONDITIONS-SINGLE ALIGN,PART PRESSED ON STUD OR INTO HOLE UP TO 1.25 INCHES

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	62X	MAA	GITMCB4	MITSC01	168	SPRING(COIL),CHECK AND GAUGE TENSION WITH A COMPRESSION GAUGE STARTS-WITH REACH TO GET SPRING INCLUDES-ALL THE MOTIONS NECESSARY TO GET AND MOVE SPRING TO GAUGE,COMPRESS SPRING,READ GAUGE AND ASIDE SPRING ENDS-WITH SPRING ASIDE CONDITIONS-TO 10 POUNDS TENSION ON SPRING
FFE	62X	MAA	GNFPAXX	MNFPIXX	VARIABLE	PIN,INSTALL OR REMOVE STARTS-WITH REACH TO GET PART INCLUDES-ALL MOTIONS TO ALIGN HOLES,OBTAIN, PLACE PIN AND SEAT WITH A HAMMER AND PUNCH ENDS-WITH TOOLS ASIDE
					372	CASE 01 INSTALL PIN TO ONE INCH DIAMETER AND SEATED TO FOUR INCHES WITH HAMMER AND PUNCH
					815	02 INSTALL TAPER PIN IN SHAFT AND GEAR/COUPLER WITH HAMMER AND PUNCH UP TO 1/8 INCH DIAMETER,RESTRICTED ACCESS
					329	03 REMOVE PIN TO ONE INCH DIAMETER AND SEATED TO FOUR INCHES WITH HAMMER AND PUNCH
					1609	04 REMOVE TAPER PIN UP TO 1/8 INCH DIAMETER WITH HAMMER AND PUNCH, RESTRICTED ACCESS
FFE	62X	MAA	GPLPA01	MNFPPXX	VARIABLE	PLUG(N)N-THREADED),INSTALL AND REMOVE STARTS-WITH REACH TO PLUG INCLUDES-ALL THE MOTIONS NECESSARY TO OBTAIN, PLACE AND INSERT PLUG INTO OPENING,REMOVE PLUG ENDS-WITH PLUG SEATED OR PLUG AND TOOL ASIDE CONDITIONS-NON-THREADED PLASTIC PLUG ONLY
					93	CASE 01 INSTALL
					339	02 REMOVE-REQUIRES SCREWDRIVER
					306	03 REMOVE EACH ADDITIONAL PLUG WITH A SCREWDRIVER
FFE	62X	MAA	OIGDLXX	MNFWRXX	VARIABLE	WASHER(LOCK TAB),BEND TABS WITH SCREWDRIVER STARTS-WITH REACH TO SCREWDRIVER INCLUDES-ALL MOTIONS NECESSARY TO USE SCREWDRIVER TO BEND LOCK WASHER TABS DOWN,AND PLACE SCREWDRIVER ASIDE ENDS-WITH RELEASE OF SCREWDRIVER
					197	CASE 01 LOCK WASHER WITH TWO TABS
					343	02 LOCK WASHER WITH FOUR TABS
NAA	62X	MAA	OTFCFXX	MTFCIXX	VARIABLE	CAP OR PLUG(THREADED),INSTALL OR REMOVE STARTS-WITH REACH TO CAP OR PLUG INCLUDES-ALL THE MOTIONS NECESSARY TO SELECT HOSE,TUBE OR PART,INSTALL CAP OR PLUG AND RUN DOWN BY HAND AND TO GET CAP OR PLUG AND PART, LOOSEN AND RUN OFF BY HAND ENDS-WITH ASIDE OR TIGHTEN CAP OR PLUG CONDITIONS-RUN ON OR OFF FIVE TURNS-FINGER TIGHT-TO 2-1/2 INCH DIAMETER-APPLIES TO ALUMINUM OR PLASTIC CAPS AND PLUGS CONFORMING TO SPECIFICATIONS MIL-C-55018,TYPE I,II AND III
					146	CASE 01 INSTALL
					107	02 REMOVE
FFE	62X	MAA	GTFND01	MTFLR01	1660	LINE(TUBE),REMOVE FROM FITTING,SECURED WITH B-NUT FITTING STARTS-WITH GET TOOL INCLUDES-ALL THE MOTIONS NECESSARY TO REMOVE LINE FROM FITTING SECURED WITH A B-NUT FITTING ENDS-WITH TUBING ASIDE CONDITIONS-APPLICABLE TO RIGID OR SEMIRIGID LINES UP TO 1/2 INCH DIAMETER IN RESTRICTED LOCATION WHERE WRENCH TURN IS LIMITED TO 30 DEGREES

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	62X	MAA	GTFNA01	MTFLS01	1735	LINE(TUBE),SECURE TO FITTING WITH B-NUT FITTING STARTS-WITH PLACE TUBE TO END OF FITTING INCLUDES-ALL THE MOTIONS NECESSARY TO INSTALL LINE TO FITTING SECURED WITH A B-NUT FITTING ENDS-WITH TOOL ASIDE CONDITIONS-APPLICABLE TO RIGID OR SEMIRIGID LINES UP TO 1/2 INCH DIAMETER IN RESTRICTED LOCATION WHERE WRENCH TURN IS LIMITED TO 30 DEGREES
FFE	62X	MAA	GTL8CA1	MTL8C01	250	BOLT,CUT WITH BOLT CUTTER STARTS-WITH REACH TO CUTTER INCLUDES-ALL THE MOTIONS NECESSARY TO CUT A BOLT WITH BOLT CUTTER ENDS-WITH CUTTER ASIDE CONDITIONS-30 INCH BOLT CUTTER-BOLTS 1/4 TO 1/2 INCH DIAMETER,ALUMINUM TO MEDIUM STEEL
FFE	62X	MAA	IOTASA9	MTLSI01	332	SPRING(HELICAL),INSTALL WITH PLIERS STARTS-WITH REACH TO SPRING INCLUDES-ALL MOTIONS NECESSARY TO PLACE SPRING IN RETAINER BY HAND,GET PLIERS,PLACE SPRING IN RETAINER,AND SEAT ENDS-WITH LAY ASIDE PLIERS CONDITIONS-SPRING HAS END BENT INTO HOOK
FFE	62X	MAA	ILMASDA	MTLSR01	237	SPRING(HELICAL-COMPRESSION OR EXTENSION); REMOVE BY HAND AND PLIERS STARTS-WITH REACH TO OBTAIN PLIERS INCLUDES-ALL MOTIONS NECESSARY TO RELIEVE SPRING TENSION WITH PLIERS,REMOVE SPRING BY HAND,AND ASIDE SPRING ENDS-WITH PLIERS ASIDE CONDITIONS-SPRING ENDS BENT INTO HOOKS
FFE	62X	MAA	GTLTCA3	MTLTC01	1285	TUBING,CUT WITH TUBING CUTTER STARTS-WITH REACH TO CUTTER INCLUDES-ALL THE MOTIONS NECESSARY TO OBTAIN AND ASIDE CUTTER,SET ADJUSTMENTS,PLACE CUTTER ON TUBE AND TURN TO CUT ENDS-WITH CUTTER ASIDE CONDITIONS-TUBING HELD IN HAND,CUT END DROPS TO WORK BENCH,NO TIME INCLUDED FOR DISPOSAL OF CUTOFF END OR BALANCE OF TUBING.TUBING IS .125-1.0 INCH IN DIAMETER
AE	620	FUA	STAEAA1	BITBT01	449	BATTERY(STORAGE),TEST CELL STARTS-WITH TESTER IN HAND INCLUDES-ALL MOTIONS NECESSARY TO CONNECT A TESTER LEAD TO EACH BATTERY POST AND HOLD FOR 15 SECONDS TO OBTAIN READING ENDS-WITH TESTER PRONGS IN CONTACT WITH BATTERY POSTS
AE	620	FUA	STAEAB1	BITPT01	223	PLUG(SPARK),TEST UNDER PRESSURE STARTS-WITH SPARK PLUG ATTACHED TO TEST MACHINE AND REACH TO AIR REGULATOR VALVE INCLUDES-ALL MOTIONS NECESSARY TO OPEN VALVE, ADJUST PRESSURE,TURN ELECTRICAL SWITCH ON, OBSERVE PLUG FIRING FOR FIVE SECONDS,TURN SWITCH OFF,AND CLOSE REGULATOR VALVE ENDS-WITH RELEASE OF VALVE
AE	620	MAA	STAEAD1	BITTT01	91	TENSION(SPRING),TEST STARTS-WITH SPRING IN HAND INCLUDES-ALL MOTIONS NECESSARY TO HOOK TESTER TO SPRING,LOOK AT DWELL METER,PULL GAUGE TO ALIGN MARK,OBSERVE SPRING,RELIEVE TENSION,AND REMOVE SPRING FROM TESTER ENDS-WITH SPRING IN HAND

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	620	FUW	STACN01	MITCT01	1793	CONDENSER(DISTRIBUTOR),TEST ON BENCH STARTS-WITH REACH TO TEST LEADS INCLUDES-ALL MOTIONS NECESSARY TO CALIBRATE TEST METER(WAIT 30 SECONDS FOR WARM-UP), CONNECT LEADS TO CONDENSER,TEST,DISCONNECT LEADS,AND SWITCH TESTER OFF ENDS-WITH RELEASE OF TESTER LEADS CONDITION-APPLICABLE TO TESTS PERFORMED ON SUN UNIVERSAL DIAGNOSIS TESTER
AE	620	MAW	STAEAC1	MITPG01	247	PLUG(SPARK),GAP AND CHECK STARTS-WITH REACH TO SPARK PLUG AND GAP GAUGE INCLUDES-ALL MOTIONS NECESSARY TO GET PLUG AND GAUGE,CHECK GAP,BEND ELECTRODE TO SET GAP,AND PLACE PLUG AND GAUGE ASIDE ENDS-WITH RELEASE OF PLUG AND GAUGE CONDITION-TIME INCLUDED TO CHECK GAP THREE TIMES,AND SET GAP TWO TIMES
AE	620	MAW	STASTXX	MITTCXX	VARIABLE	TENSION(SPRING),CHECK STARTS-WITH LOOK TO SPECIFICATIONS CHART INCLUDES-ALL MOTIONS NECESSARY TO DETERMINE LENGTH OF "LOADED SPRING" FROM CHART LOCATED NEAR TESTER,ADJUST TESTER,PLACE SPRING IN TESTER,TEST,AND REMOVE SPRING ENDS-WITH LAY SPRING ASIDE
					700	CASE 01 TEST SINGLE OR FIRST SPRING
					190	02 TEST EACH ADDITIONAL SPRING WITH SAME SPECIFICATIONS
AE	620	MAW	STAVAXX	SITAUXX	VARIABLE	AMMETER/VOLTMETER,USE(COMBINATION AMMETER AND VOLTMETER) STARTS-WITH GET METER TO ENGINE COMPARTMENT INCLUDES-ALL MOTIONS NECESSARY TO CONNECT TEST CLIPS,CONDUCT CIRCUIT TEST(S),REMOVE TEST CLIPS,AND PUT AWAY METER ENDS-WITH PLACE METER ASIDE CONDITIONS-APPLICABLE TO TESTING ELECTRICAL CIRCUITS AND EQUIPMENT ON AUTOMOTIVE ENGINES WITH THE SUN CO. MODEL CB-2 TESTER.
					1729	CASE 01 VOLTMETER TEST ONLY
					450	02 EACH ADDITIONAL VOLTMETER TEST ON SAME ENGINE
					2689	03 AMMETER TEST ONLY
					1410	04 EACH ADDITIONAL AMMETER TEST ON SAME ENGINE
					2984	05 COMBINED AMMETER/VOLTMETER TEST
					1650	06 EACH ADDITIONAL COMBINED AMMETER/VOLTMETER TEST,SAME ENGINE
					290	07 CHANGE RANGE ON AMMETER(MOVE LEAD FROM ONE TERMINAL TO ANOTHER)
AE	620	FUW	STACTXX	SITCCXX	VARIABLE	COIL(IGNITION),CHECK ON VEHICLE(MILITARY) STARTS-WITH TURN AND WALK TWO PACES FROM TEST BENCH TO VEHICLE INCLUDES-ALL MOTIONS NECESSARY TO GET AND INSTALL ADAPTER,HEAT COIL SIX MINUTES,CONDUCT CAPACITY TEST,CONDUCT SECONDARY RESISTANCE AND GROUND CHECKS,REMOVE AND ASIDE ADAPTER,AND RETURN TO TEST BENCH ENDS-WITH OPERATOR AT TEST BENCH CONDITIONS-APPLICABLE TO TESTING IGNITION COILS WITH RANGE OF 6-24 VOLTS USING SUN UNIVERSAL DIAGNOSIS TESTER.COIL IS ENCLOSED IN A HOUSING WITH THE DISTRIBUTOR
					16617	CASE 01 CHECK COIL WITH COVER ON
					14479	02 CHECK COIL WITH COVER OFF(NO TIME ALLOWED FOR REMOVAL OF COVER)
					4444	03 REMOVE AND REPLACE COVER(8 SCREWS)

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	620	FUW	STACT02	SITCC04	13758	COIL(IGNITION),CHECK ON VEHICLE(COMMERCIAL) STARTS-WITH TURN AND WALK TWO PACES FROM TEST BENCH TO VEHICLE INCLUDES-ALL MOTIONS NECESSARY TO REMOVE LEADS FROM COIL,ATTACH TEST LEADS,HEAT COIL SIX MINUTES,TURN IGNITION SWITCH ON,CONDUCT CAPACITY TEST,CALIBRATE METER,CONDUCT SECONDARY RESISTANCE AND GROUND TEST,AND RETURN TO BENCH ENDS-WITH OPERATOR AT TEST BENCH CONDITIONS-APPLICABLE TO TESTING IGNITION COILS WITH RANGE OF 6-24 VOLTS USING SUN UNIVERSAL DIAGNOSIS TESTER.COIL MOUNTED IN LOCATION WHICH PERMITS CHECKING WITHOUT REMOVAL OF COVER OR USE OF ADAPTERS.
AE	620	FUW	STACT01	SITCC05	11740	COIL(IGNITION),CHECK ON TEST BENCH STARTS-WITH REACH TO COIL INCLUDES-ALL MOTIONS NECESSARY TO PLACE COIL ON TEST BENCH,CONNECT SECONDARY JUMPER AND GROUND LEAD,HEAT COIL FOR SIX MINUTES,REMOVE SECONDARY JUMPER,CONNECT PRIMARY LEADS,CONDUCT CAPACITY TEST,REMOVE PRIMARY LEADS,CALIBRATE METER,CONDUCT SECONDARY RESISTANCE AND GROUND TESTS,AND REMOVE COIL FROM TEST BENCH ENDS-WITH RELEASE OF COIL CONDITIONS-APPLICABLE TO TESTING IGNITION COILS WITH RANGE OF 6-24 VOLTS USING SUN UNIVERSAL DIAGNOSIS TESTER
AE	620	FUW	STAFJXX	SITCDXX	VARIABLE	DELIVERY(FUEL),CHECK AND ADJUST,AMERICAN BOSCH PSB-12BT FUEL INJECTION PUMP STARTS-WITH TURN ON AUXILIARY MOTOR INCLUDES-ALL MOTIONS NECESSARY TO TURN ON LUBE OIL AND FUEL HEATERS,REGULATE OIL AND FUEL PRESSURES,MOVE DUMPING LEVER TO CLOSED POSITION,SET COUNT SELECTOR TO 1000,SET REVERSING SWITCH TO FORWARD,SHIFT TO HIGH RANGE,PUSH BUTTON TO ATTAIN 600 RPM,ALLOW FIVE MINUTES FOR WARM-UP,SET SPEED TO 2400 RPM,TIME FOR TEST STAND TO COUNT,READ OIL LEVEL IN BURETTES,COMPUTE AVERAGE OF READINGS,AND DUMP FUEL FROM BURETTES ENDS-WITH MOVE DUMPING LEVER TO CLOSE CASE 01 FIRST HYDRAULIC HEAD 16560 02 BALANCE FUEL DELIVERY TO SECOND HEAD (OBSERVE AND COMPUTE AVERAGE READINGS) 7270
AE	620	MUW	STAFJ19	SITCD03	27130	DELIVERY(FUEL),CHECK AND ADJUST,AMERICAN BOSCH,PSB-6A FUEL INJECTION PUMP STARTS-WITH INSTALL SIX TEST NOZZLES AND HOLDERS INCLUDES-ALL MOTIONS NECESSARY TO INSTALL SIX HIGH PRESSURE LINES,TURN ON AUXILIARY MOTOR, TURN ON LUBE HEATER,REGULATE PRESSURE,TURN ON FUEL HEATER,REGULATE FUEL PRESSURE,SET COUNT SELECTOR SWITCH TO 1000,SET REVERSING SWITCH ON REVERSE,SHIFT TO HIGH RANGE,PUSH BUTTON TO ATTAIN 600 RPM,ALLOW FIVE MINUTES WARM-UP TIME,REMOVE GOVERNOR COVER,ADJUST DROOP SCREW, CHECK CLEARANCE,INCREASE RPM TO 1750,CHECK CLEARANCE,ADJUST DROOP SCREW,AND RECORD DELIVERY TIME ENDS-WITH TEST COMPLETED

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	620	MAW	STACNXX	SITCRXX	VARIABLE	CONDENSER(IGNITER),REMOVE FROM MILITARY VEHICLE,TEST,AND REPLACE ON VEHICLE STARTS-WITH TURN FROM WORKBENCH AND WALK TWO PACES TO VEHICLE INCLUDES-ALL MOTIONS NECESSARY TO REMOVE IGNITER COVER,DISCONNECT PRIMARY LEADS,REMOVE CONDENSER,CARRY TO WORKBENCH,SET UP TESTER, TEST CONDENSER,RETURN TO VEHICLE,REPLACE CONDENSER AND PRIMARY LEAD,REPLACE COVER,AND RETURN TO WORKBENCH ENDS-WITH OPERATOR AT WORKBENCH CONDITION-APPLICABLE TO TESTS PERFORMED ON SUN UNIVERSAL DIAGNOSIS TESTER
					10557	CASE 01 CONDENSER FROM AUTO-LITE IGNITER
					8930	02 CONDENSER FROM DELCO-REMY IGNITER
					1040	03 ADDITIONAL TIME FOR REMOVING,TESTING AND REPLACING BYPASS AND FILTER CONDENSERS ON DELCO-REMY IGNITERS
AE	620	MAW	STACN02	SITCR04	3193	CONDENSER(DISTRIBUTOR),REMOVE FROM VEHICLE, TEST,AND REPLACE ON COMMERCIAL VEHICLE STARTS-WITH TURN AND WALK TWO PACES TO VEHICLE FROM WORKBENCH INCLUDES-ALL MOTIONS NECESSARY TO OPEN DISTRIBUTOR CAP,LOOSEN RETAINING NUT,REMOVE PRIMARY LEAD,TURN AND WALK TWO PACES TO WORKBENCH,SET UP TEST METER,TEST CONDENSER, RETURN TO VEHICLE,REPLACE PRIMARY LEAD,TIGHTEN RETAINING NUT,REPLACE DISTRIBUTOR COVER,AND RETURN TO WORKBENCH ENDS-WITH OPERATOR AT WORKBENCH CONDITION-APPLICABLE TO TESTS PERFORMED ON SUN UNIVERSAL DIAGNOSIS TESTER
AE	620	MAW	STAFJXX	SITDCXX	VARIABLE	DELIVERY(FUEL),CHECK AND ADJUST,SIMMONDS FUEL INJECTION PUMP STARTS-WITH REACH TO SHIFTING CRANK INCLUDES-ALL MOTIONS NECESSARY TO SHIFT TO HIGH RANGE,CHECK PRESSURES AND TEMPERATURES, ACTUATE MAIN SWITCH,SET COUNT SELECTOR SWITCH, FILL LINES,MOVE DUMPING LEVER TO DRAIN POSITION,SET SPEED AT 1800 RPM,SET MANIFOLD CAPSULE PRESSURE VALVE TO MANIFOLD PRESSURE POSITION,SET VACUUM/PRESSURE SELECTOR TO VACUUM POSITION,MEASURE FUEL FLOW,SET VACUUM/ PRESSURE VALVE TO PRESSURE/VALVE POSITION,AND COMPUTE FUEL DELIVERY ENDS-WITH FUEL DELIVERY TEST COMPLETED
					25950	CASE 01 SIMMONDS PUMP FOR 6-CYLINDER ENGINE
					26860	02 SIMMONDS PUMP FOR 12-CYLINDER ENGINE

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	620	MAW	STADTXX	SITDTXX	VARIABLE	DISTRIBUTOR(IGNITION),TEST ON SUN UNIVERSAL DIAGNOSIS TESTER STARTS-WITH REACH TO DISTRIBUTOR INCLUDES-ALL MOTIONS NECESSARY TO MOUNT DISTRIBUTOR ON TEST BENCH;CONDUCT ELECTRICAL TESTS-RESISTANCE,CONTACT SPRING TENSION,CAM LOBE ACCURACY;CONDUCT MECHANICAL ADVANCE TESTS WITH DEGREE RING AND TACHOMETER;CONDUCT VACUUM ADVANCE TEST;CONDUCT LOADOMATIC ADVANCE TESTS (FORD MOTOR COMPANY COMPONENTS ONLY);HOOK UP AND USE SPARK GAP ATTACHMENT;AND REMOVE DISTRIBUTOR FROM TEST BENCH ENDS-WITH LAY ASIDE DISTRIBUTOR CONDITION-APPLICABLE TO TESTING AUTOMOTIVE IGNITION DISTRIBUTOR WITH RANGE OF 6-24 VOLTS
					1168	CASE 01 MOUNT AND REMOVE DISTRIBUTOR ON/FROM TEST BENCH
					1981	02 CONDUCT ELECTRICAL TESTS
					640	03 CONDUCT MECHANICAL ADVANCE TEST
					1820	04 CONDUCT VACUUM ADVANCE TEST
					2790	05 CONDUCT LOADOMATIC ADVANCE TEST(FORD MOTOR COMPANY PRODUCTS ONLY)
					1310	06 HOOK UP AND USE SPARK GAP ATTACHMENT, FOUR CYLINDER
					1590	07 HOOK UP AND USE SPARK GAP ATTACHMENT, SIX CYLINDER
					1790	08 HOOK UP AND USE SPARK GAP ATTACHMENT, EIGHT CYLINDER
AE	620	MAW	STAVGXX	SITGUXX	VARIABLE	GAUGE(VACUUM),USE STARTS-WITH WALK TWO PACES TO ENGINE INCLUDES-ALL MOTIONS NECESSARY TO CONNECT GAUGE,START ENGINE,READ GAUGE,STOP ENGINE,AND DISCONNECT GAUGE ENDS-WITH WALK TWO PACES TO BENCH CONDITIONS-APPLICABLE TO USE OF SUN CO. UNIVERSAL DIAGNOSIS TESTER.ALL TESTS MADE ON VEHICLE.
					1770	CASE 01 TEST MANIFOLD VACUUM WITH SLIP-ON CONNECTION
					7174	02 TEST MANIFOLD VACUUM WITH PLUG OR FITTING
					360	03 ADDITIONAL TIME TO TEST EXHAUST LINE RESTRICTION AFTER TESTING MANIFOLD VACUUM
					7214	04 TEST FUEL PUMP PRESSURE
					9516	05 TEST FUEL PUMP VACUUM
					4612	06 TEST BOOSTER PUMP VACUUM
AE	620	FUW	STAFJ30	SITHA01	18880	HIGH SPEED AND FUEL SHUTOFF,ADJUST,AMERICAN BOSCH PS8-128T FUEL INJECTION PUMP STARTS-WITH REMOVE TWO DUST COVERS INCLUDES-ALL MOTIONS NECESSARY TO REMOVE GOVERNOR COVER,ADJUST HIGH SPEED SCREW,CHECK POSITION OF SMOKE LIMIT CAM,CHECK FUEL SHUTOFF OPERATION,SET CRANK TO LOW RANGE,SET SPEED AT 150 RPM,TIME FOR STAND TO COUNT,READ OIL LEVEL IN BURETTES,AND DUMP BURETTES ENDS-WITH DUMPING LEVER IN UP POSITION

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AE	620	MAW	STATLXX	SITLUXX	VARIABLE	LIGHT(TIMING),USE STARTS=WITH GET TIMING LIGHT TO ENGINE COMPARTMENT INCLUDES=ALL MOTIONS NECESSARY TO OPEN BOX (CASE 01),UNWIND CABLES,CONNECT LEADS,AIM LIGHT,CHECK TIMING,DISCONNECT AND WIND LEADS, AND CLOSE BOX(CASE 01) ENDS=WITH PLACE TIMING LIGHT ASIDE CONDITIONS=NO TIME INCLUDED FOR STARTING OR ADJUSTING ENGINES.
					1687	CASE 01 BOX TYPE TIMING LIGHT WITH SWITCH FOR ADJUSTING TO BATTERY VOLTAGE
					1389	02 TIMING LIGHT WITH NO ADJUSTMENT SWITCH
					130	03 EACH ADDITIONAL TEST MADE WITHOUT DISCONNECTING LEADS
					2700	04 ADDITIONAL TIME FOR CHECKING TIMING ON WATERPROOFED ENGINE(INSTALL AND REMOVE ADAPTER)
AE	620	MAW	STAFJ10	SITNT01	4721	NOZZLE,TEST,SIMMONDS FUEL INJECTION PUMP,PER NOZZLE STARTS=WITH GET NOZZLE INCLUDES=ALL MOTIONS NECESSARY TO MOUNT NOZZLE ON TESTER,FILL CONTAINER WITH FUEL,PUMP TO EVACUATE AIR FROM SYSTEM,DEPRESS PUMP HANDLE AND NOTE OPENING PRESSURE,OPERATE TESTER AT 15 STROKES/MINUTE FOR ONE MINUTE TO CHECK SPRAY PATTERN,AND REMOVE NOZZLE FROM TESTER ENDS=WITH ASIDE NOZZLE CONDITION=WALKING TO AND FROM TESTER NOT INCLUDED
AE	620	MAW	STAFJ25	SITPA01	15135	PUMP(AND HOSES),ASSEMBLE,AMERICAN BOSCH PSB=12BT FUEL INJECTION PUMP STARTS=WITH REPLACE FOUR HOUSING STEMS INCLUDES=ALL MOTIONS NECESSARY TO INSTALL FUEL HOUSING ON HEAD WITH CAP NUTS,MOUNT 12 NOZZLES IN ACCUMULATORS,CONNECT ONE END OF HOSE,MOVE LEVER,AND PLACE SPRING INTO POSITION ENDS=WITH RELEASE OF SPRINGS
AE	620	MAW	STAFJXX	SITPMXX	VARIABLE	PUMP(FUEL INJECTION),MOUNT ON TEST STAND, SIMMONDS STARTS=WITH ACTUATE TEST STAND SWITCH TO CHECK DIRECTION OF ROTATION INCLUDES=ALL MOTIONS NECESSARY TO WALK TWO PACES TO STORAGE RACK,GET ADAPTER AND MOUNTING BRACKET,RETURN TO MACHINE,MOUNT FITTING IN ADAPTER,ASSEMBLE ADAPTER TO BRACKET, PLACE ASSEMBLY ON RAILS AND SECURE WITH HAND KNOB, INSTALL GASKET ON ADAPTER,INSTALL AND SECURE PUMP,CONNECT OIL LINES AND FUEL HOSES, INSTALL NOZZLE ADAPTERS AND NOZZLES,INSTALL SENSING BULB,AND INSTALL MANIFOLD LINES ENDS=WITH PUMP MOUNTED ON TEST STAND
					24120	CASE 01 SIMMONDS PUMP,6=CYLINDER ENGINE
					33640	02 SIMMONDS PUMP,12=CYLINDER ENGINE
AE	620	MAW	STAFJ14	SITPM03	4190	PUMP(FUEL INJECTION),MOUNT ON TEST STAND, AMERICAN BOSCH,PSB=6A STARTS=WITH WALK TWO PACES TO STORAGE RACK INCLUDES=ALL MOTIONS NECESSARY TO GET ADAPTER RING AND BRACKET,RETURN TO TEST STAND,ASSEMBLE ADAPTER RING,BRACKET AND PUMP, MOUNT PUMP,COUPLING HUB,PLACE PUMP ON RAILS, AND SECURE WITH CLAMP BARS AND HAND KNOBS ENDS=WITH PUMP MOUNTED ON TEST STAND

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	620	MUW	STAFJ15	SITPT01	9220	PUMP(FUEL INJECTION),TEST FOR FUEL LEAKAGE, AMERICAN BOSCH,PSB=6A STARTS=WITH GET WRENCH INCLUDES=ALL MOTIONS NECESSARY TO REMOVE VALVE AND SUPPLY PUMP,INSTALL FUEL OUTLET FROM HYDRAULIC HEAD,INSTALL ADAPTER IN FUEL SUPPLY, CONNECT PUMP AND NOZZLE TESTER,TURN CAM SHAFT TO EXACT POSITION,EVACUATE AIR FROM SYSTEM, OPEN PRESSURE GAUGE VALVE,INCREASE PRESSURE, CLOSE VALVE,AND CHECK TIME FOR PRESSURE TO DROP FROM 350 TO 250 PSI ENDS=WITH TEST COMPLETE
AE	620	MUW	STAFJ23	SITPT02	43824	PUMP(FUEL INJECTION),TEST FOR FUEL LEAKAGE,TWO HYDRAULIC HEADS,AMERICAN BOSCH,PSB=12BT STARTS=WITH REMOVE SAFETY WIRE FROM CAP NUTS INCLUDES=ALL MOTIONS NECESSARY TO REMOVE CAP NUTS AND HOUSINGS,REMOVE HOUSING STEMS, REMOVE HOUSING COVERS,INSTALL PLUG AND ADAPTER,CONNECT HOSE,USE WRENCH TO TURN CAM SHAFT TO EXACT POSITION,EVACUATE AIR FROM SYSTEM, OPEN PRESSURE GAUGE VALVE,INCREASE PRESSURE, CLOSE VALVE,AND CHECK TIME FOR PRESSURE TO DROP FROM 350 TO 250 PSI ENDS=WITH TEST COMPLETE
AE	620	MAW	STAAG01	SITRT01	1358	ROTOR,TEST IN GROWLER STARTS=WITH REACH TO ROTOR INCLUDES=ALL MOTIONS NECESSARY TO GET ROTOR AND PLACE IN GROWLER,ROTATE AND TEST ROTOR BY HAND WITH CURRENT ON,SWITCH CURRENT OFF,ROTATE AND TEST ROTOR WITH TEST LIGHT,ROTATE AND TEST ROTOR WITH TEST FORK,REMOVE ROTOR FROM GROWLER,AND PLACE ASIDE ENDS=WITH RELEASE OF ROTOR
AE	620	FUW	STAFJ06	SITSH01	8880	STAND,HEAT,FUEL INJECTION PUMP TEST STAND STARTS=WITH ACTUATE AUXILIARY SWITCH INCLUDES=ALL MOTIONS NECESSARY TO ADJUST OIL PRESSURE REGULATOR,TURN ON OIL HEATER SWITCH, ALLOW OIL TO HEAT FIVE MINUTES,READJUST OIL PRESSURE REGULATOR,AND ADJUST FUEL PRESSURE REGULATOR ENDS=WITH OIL HEATED
AE	620	MAW	STAFJXX	SITSSXX	VARIABLE	STAND,SHUT DOWN AND REMOVE PUMP,FUEL INJECTION PUMP TEST STAND STARTS=WITH TURN OFF ALL SWITCHES INCLUDES=ALL MOTIONS NECESSARY TO DISCONNECT LINES AND HOSES,PLUG ALL OPENINGS,REMOVE ADAPTER AND BRACKET,AND RETURN ADAPTER AND BRACKET TO RACK TWO PACES AWAY ENDS=WITH ASIDE PUMP
					21352	CASE 01 SIMMONDS PUMP FOR 6=CYLINDER ENGINE
					30904	02 SIMMONDS PUMP FOR 12=CYLINDER ENGINE
					45592	03 AMERICAN BOSCH PUMP,PSB=12BT
AE	620	MAW	STAFJ18	SITTP01	11822	PUMP,TIME,AMERICAN BOSCH,PSB=6A FUEL INJECTION PUMP STARTS=WITH REMOVE ADAPTER FROM FUEL SUPPLY INCLUDES=ALL MOTIONS NECESSARY TO DISCONNECT PUMP AND TESTER,SET FUEL AND OIL PRESSURES TO LOWEST SETTING,CONNECT FUEL INLET HOSE,CONNECT TWO LUBE OIL HOSES,TURN ON AUXILIARY MOTOR, REGULATE FUEL AND OIL PRESSURES,TURN CAMSHAFT TO BLEED PUMP,TURN OFF AUXILIARY MOTOR,REMOVE DELIVERY VALVE SCREW,REMOVE VALVE SPRING AND VALVE,REPLACE DELIVERY VALVE SCREW,REMOVE COVER,MOVE LEVER TO FULL SPEED,TURN ON AUXILIARY MOTOR,TURN CAMSHAFT TO START AND STOP FUEL FLOW,AND CHECK MARK ALIGNMENT ENDS=WITH REPLACE COVER

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	620	MAW	STAFJ27	SITTP02	17852	PUMP,TIME,AMERICAN BOSCH PSB-128T,FUEL INJECTION PUMP STARTS-WITH CONNECT 12 HIGH PRESSURE LINES INCLUDES-ALL MOTIONS NECESSARY TO TURN OUT DELIVERY VALVE SPRING SEATS,TURN ON AUXILIARY MOTOR,ADJUST REGULATOR,TURN CAMSHAFT TO SLOTTED TOOTH,SET REGULATOR TO MINIMUM PRESSURE,DISCONNECT ONE END OF HIGH PRESSURE LINE,PLACE CONTAINER UNDER OPENING,TURN CAMSHAFT UNTIL FUEL FLOWS AND TURN UNTIL FUEL FLOW STOPS,TURN PRESSURE MOTOR SWITCH,CONNECT FIRST HIGH PRESSURE LINE,DISCONNECT SECOND HIGH PRESSURE LINE,TURN CAMSHAFT TO START AND STOP FUEL FLOW,TURN OFF MOTOR SWITCH,AND CONNECT SECOND HIGH PRESSURE LINE ENDS-WITH TIGHTEN DELIVERY VALVE SPRING SEATS
AE	620	MAW	STATAXX	SITTUXX	VARIABLE	TACHOMETER(DIRECT READING),USE STARTS-WITH GET TACHOMETER INCLUDES-ALL MOTIONS NECESSARY TO GET METER AND GENERATOR FROM BOX AND CONNECT,PLACE ADAPTER ON GENERATOR,PRESS GENERATOR AGAINST SHAFT END,READ METER,DISENGAGE FROM SHAFT END, REMOVE ADAPTER,DISCONNECT METER AND GENERATOR, AND PLACE COMPONENTS IN BOX ENDS-WITH PLACE BOX ASIDE CONDITIONS-APPLICABLE TO CHECKING SHAFT AND BELT SPEEDS ON PASSENGER CAR AND TRUCK ENGINES.
					778	CASE 01 SINGLE CHECK OF SHAFT RPM WITHOUT CABLE
					301	02 EACH ADDITIONAL TEST ON SAME ENGINE
					225	03 ADDITIONAL TIME FOR USE OF CABLE (UNWIND,CONNECT,DISCONNECT,AND WIND CABLE)
AE	620	TUW	STATA03	SITTU04	830	TACHOMETER(DIRECT READING),USE,CONVERT METER READING TO BELT SPEED STARTS-WITH WRITING INSTRUMENT IN HAND INCLUDES-ALL TIME NECESSARY TO CONVERT METER READING TO BELT SPEED WITH MANUAL COMPUTATIONS ENDS-WITH COMPUTATION COMPLETED
AE	620	MAW	STATAXX	SITUTXX	VARIABLE	TACHOMETER(INDIRECT READING),USE STARTS-WITH GET TACHOMETER INCLUDES-ALL MOTIONS NECESSARY TO OPEN BOX, CHECK AND ZERO ADJUST METER,GET INTO VEHICLE, START ENGINE,DISMOUNT VEHICLE,CONNECT TEST LEADS,ADJUST METER,CHECK ENGINE RPM,DISCONNECT METER,AND PUT WIRES INTO BOX ENDS-WITH PLACE TACHOMETER ASIDE CONDITIONS-APPLICABLE TO CHECKING ENGINE RPM ON PASSENGER CAR AND TRUCK ENGINES.
					2915	CASE 01 SINGLE OR FIRST CHECK,FIRST ENGINE
					2705	02 SINGLE OR FIRST CHECK,ADDITIONAL ENGINE
					60	03 EACH ADDITIONAL CHECK ON SAME ENGINE
					2700	04 ADDITIONAL TIME FOR CHECK OF WATERPROOF ENGINE(INSTALL AND REMOVE ADAPTER)
AE	620	MAW	STAFJ07	SITVC01	11990	VALVE(METERING),CALIBRATE,SIMMONDS FUEL INJECTION PUMP STARTS-WITH REACH TO VACUUM PRESSURE SELECTOR INCLUDES-ALL MOTIONS NECESSARY TO ADJUST VACUUM AND MANIFOLD PRESSURE ON MACHINE,REMOVE SAFETY WIRE,REMOVE COVER,LOOSEN LOCKNUT,ADJUST METERING VALVE,TIGHTEN LOCKNUT,AND REPLACE COVER AND SAFETY WIRE ENDS-WITH METERING VALVE CALIBRATED CONDITION-TIME FOR INSTALLATION AND REMOVAL OF PUMP NOT INCLUDED

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	620	MAW	STAFJ16	SITVT01	6483	VALVE(DELIVERY),TEST,AMERICAN BOSCH PSB-6A FUEL INJECTION PUMP STARTS-WITH ACTUATE AUXILIARY MOTOR SWITCH INCLUDES-ALL MOTIONS NECESSARY TO TURN CAMSHAFT TO START FUEL FLOW,INSTALL CAMSHAFT HOLDING FIXTURE,TURN OFF AUXILIARY MOTOR, REMOVE DELIVERY VALVE SCREW,INSTALL DELIVERY VALVE,SPRING,AND SCREW,INSTALL DELIVERY VALVE TEST ADAPTER,DISCONNECT FUEL INLET HOSE, INSTALL PLUG IN INLET PORT,CONNECT NOZZLE TESTER,EVACUATE AIR FROM SYSTEM,OPEN PRESSURE GAUGE VALVE,DEPRESS PUMP HANDLE AND OBSERVE DELIVERY VALVE OPENING,DISCONNECT NOZZLE TESTER,REMOVE INLET PLUG AND TEST ADAPTER,AND REPLACE PLUNGER BORE SCREW ENDS-WITH TEST COMPLETED
AE	620	MAW	STAFJ24	SITVT02	9134	VALVE(DELIVERY),TEST,AMERICAN BOSCH PSB-12BT, FUEL INJECTION PUMP(TWO HEADS) STARTS-WITH TURN CAMSHAFT WITH WRENCH INCLUDES-ALL MOTIONS NECESSARY TO SECURE CAMSHAFT WRENCH,REMOVE PLUNGER BORE SCREW, INSTALL DELIVERY VALVE TEST ADAPTER,CONNECT NOZZLE TESTER,EVACUATE AIR FROM SYSTEM,OPEN PRESSURE GAUGE VALVE,DEPRESS PUMP HANDLE AND CHECK FOR DELIVERY VALVE OPENING,DISCONNECT NOZZLE TESTER,AND REMOVE ADAPTERS AND INLET PLUGS ENDS-WITH TEST COMPLETED
AE	620	MAW	STAFJ03	SITVT03	4765	VALVE(BLEEDER),TEST,AMERICAN BOSCH,PSB-6A FUEL INJECTION PUMP STARTS-WITH MOUNT VALVE TO HYDRAULIC HEAD INCLUDES-ALL MOTIONS NECESSARY TO INSTALL PLUG IN LEAK-OFF OPENING,CONNECT FUEL OUTLET HOSE TO VALVE,GET CONTAINER FOR FUEL,PLACE OUTLET HOSE INTO CONTAINER,CONNECT FUEL INLET HOSE, TURN ON AUXILIARY MOTOR SWITCH,REGULATE PRESSURE,CHECK OIL FLOW,TURN OFF AUXILIARY MOTOR SWITCH,AND CONNECT OUTLET HOSE TO STAND ENDS-WITH TEST COMPLETED
AE	620	MAW	STAFJ26	SITVT04	725	VALVE(BLEEDER),TEST,AMERICAN BOSCH,PSB-12BT FUEL INJECTION PUMP STARTS-WITH ACTUATE AUXILIARY MOTOR SWITCH INCLUDES-ALL MOTIONS NECESSARY TO ADJUST REGULATOR,READ PRESSURE GAUGE,TURN OFF AUXILIARY MOTOR SWITCH,AND FUEL OUTLET HOSE TO STAND ENDS-WITH TEST COMPLETED CONDITION-TIME TO MOUNT VALVE NOT INCLUDED
AE	620	MAW	STAGVXX	KITATXX	VARIABLE	ALTERNATOR,TEST WITH REGULATOR STARTS-WITH MOUNT ALTERNATOR ON TEST STAND INCLUDES-ALL MOTIONS NECESSARY TO INSTALL TEST LEADS AT ALTERNATOR,INSTALL VOLTAGE REGULATOR, INSTALL TEST LEADS AT VOLTAGE REGULATOR AND TEST STAND,PERFORM ALTERNATOR TESTS,DISCONNECT TEST LEADS,REMOVE VOLTAGE REGULATOR,REMOVE ALTERNATOR ENDS-WITH LAY ASIDE ALTERNATOR CONDITIONS-NO TIME INCLUDED FOR MAJOR ADJUSTMENTS,REPAIRS,OR RETESTS.APPLICABLE TO D.C. ALTERNATORS IN THE 6-28 VOLTAGE RANGE. CASE 01 SET UP AND TEST FIRST ALTERNATOR, MILITARY TYPE — 5480 02 SET UP AND TEST EACH ADDITIONAL ALTERNATOR,MILITARY TYPE(DOES NOT INCLUDE CONNECT AND DISCONNECT TEST LEADS AT MACHINE) — 4600

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	620	MAW	STALVXX	KITGCXX	VARIABLE	GENERATOR(AND/OR VOLTAGE REGULATOR),CHECK WITH LOW VOLTAGE CIRCUIT TESTER
						STARTS-WITH SET UP CIRCUIT TESTER
						INCLUDES-ALL MOTIONS NECESSARY TO INSTALL ELECTRICAL ADAPTERS(WATERPROOF UNITS ONLY), CONNECT TESTER,CLIMB INTO CAB OF VEHICLE,START ENGINE,LET ENGINE RUN ONE MINUTE AND OBSERVE GAUGES,TURN IGNITION SWITCH OFF,DISMOUNT FROM CAB,DISCONNECT TESTER,AND REMOVE ELECTRICAL ADAPTER
						ENDS-WITH PUT AWAY CIRCUIT TESTER
						CONDITIONS-APPLICABLE TO USE OF WEIDENHOFF MODEL 1120 TO TEST ANY GENERATOR OR VOLTAGE REGULATOR TO 100 VOLTS D.C. AND 1000 AMPERES. INCLUDES NO TIME FOR MAKING VOLTAGE ADJUSTMENTS.APPLICABLE TO TESTING GENERATOR VOLTAGE REGULATOR MOUNTED ON PARENT EQUIPMENT
					10745	CASE 01 CHECK WATERPROOF GENERATOR AND VOLTAGE REGULATOR
					6933	02 CHECK CONVENTIONAL GENERATOR AND VOLTAGE REGULATOR
					5942	03 CHECK WATERPROOF GENERATOR OR VOLTAGE REGULATOR
					4442	04 CHECK CONVENTIONAL GENERATOR OR VOLTAGE REGULATOR
AE	620	MAW	STAGVOX	KITGTXX	VARIABLE	GENERATOR,TEST
						STARTS-WITH MOUNT GENERATOR ON TEST STAND
						INCLUDES-ALL MOTIONS NECESSARY TO INSTALL TEST LEADS TO GENERATOR AND STAND,TEST GENERATOR UNDER LOAD CONDITIONS,DISCONNECT LEADS FROM GENERATOR AND STAND,AND REMOVE GENERATOR FROM STAND
						ENDS-WITH TEST COMPLETE AND GENERATOR REMOVED
						CONDITIONS-CASES 02 AND 04 DO NOT INCLUDE TIME FOR INSTALLING AND REMOVING LEADS AT MACHINE. THIS ELEMENT APPLICABLE TO TESTING D.C. GENERATORS WITH RANGES OF 6-28 VOLTS AND 25-100 AMPERES
					3810	CASE 01 FIRST PULLEY DRIVE GENERATOR,MILITARY TYPE
					2930	02 EACH ADDITIONAL PULLEY DRIVE GENERATOR,MILITARY TYPE
					4050	03 FIRST PULLEY DRIVE GENERATOR, CONVENTIONAL TYPE
					3160	04 EACH ADDITIONAL PULLEY DRIVE GENERATOR,CONVENTIONAL TYPE
					6850	05 FIRST DIRECT DRIVE GENERATOR,MILITARY TYPE(INCLUDES GET AND ASIDE SPLINE AND COUPLING)
					5700	06 EACH ADDITIONAL DIRECT DRIVE GENERATOR,MILITARY TYPE
					7090	07 FIRST DIRECT DRIVE GENERATOR, CONVENTIONAL TYPE(INCLUDES GET AND ASIDE SPLINE AND COUPLING)
					5930	08 EACH ADDITIONAL DIRECT DRIVE GENERATOR,CONVENTIONAL TYPE
AE	620	MAW	STAHVXX	KITHTXX	VARIABLE	HARNESS(IGNITION),TEST WITH HIGH VOLTAGE TEST SET
						STARTS-WITH GET TEST SET
						INCLUDES-ALL MOTIONS NECESSARY TO CONNECT TEST SET TO HARNESS,PERFORM TEST OF HARNESS,AND DISCONNECT HARNESS
						ENDS-WITH SET TEST SET ASIDE
						CONDITION-NO TIME INCLUDED FOR OPERATION OF TESTED ENGINE
					1719	CASE 01 FIRST TEST,FIRST ENGINE
					461	02 FIRST TEST,EACH ADDITIONAL ENGINE(DOES NOT INCLUDE GET AND PUT AWAY TEST SET OR CONNECT TEST SET TO POWER SOURCE)
					200	03 EACH ADDITIONAL TEST,SAME ENGINE (INCLUDES TEST TIME ONLY)

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	620	MAW	STASPXX	KITPCXX	VARIABLE	PLUG(SPARK),CLEAN,TEST,AND GAP STARTS-WITH SET UP PLUG CLEANER AND TESTER INCLUDES-ALL MOTIONS NECESSARY TO HOOK UP AIR HOSE AND ELECTRICAL CORD,CLEAN PLUG IN BLAST CHAMBER,TEST PLUG ELECTRICALLY,CHECK AND SET GAP,LAY PLUG ASIDE,AND DISCONNECT ELECTRIC AND AIR SUPPLY FROM CLEANER AND TESTER.ALSO INCLUDES INSTALL AND REMOVE SPARK ADAPTER FOR SHIELDED PLUGS. ENDS-WITH LAY ASIDE AIR HOSE CONDITIONS-APPLICABLE TO SPARK PLUGS USED IN INTERNAL COMBUSTION GASOLINE ENGINES.CASES 02 AND 04 DO NOT INCLUDE SETUP AND DISASSEMBLY TIME.
					1971	CASE 01 FIRST PLUG,SHIELDED
					1601	02 EACH ADDITIONAL PLUG,SHIELDED
					1901	03 FIRST PLUG,CONVENTIONAL
					1531	04 EACH ADDITIONAL PLUG,CONVENTIONAL
					830	05 CHANGE CLEANER ADAPTER AND STEEL TEST ADAPTER(ADDITIVE)
AE	620	MAW	STAFJOX	KITPTXX	VARIABLE	PUMP(FUEL INJECTION),TEST,SIMMONDS,6 OR 12 CYLINDER STARTS-WITH MOUNT PUMP ON TEST STAND INCLUDES-ALL MOTIONS NECESSARY TO WARM UP TEST STAND FIVE MINUTES,CALIBRATE METERING VALVE, TEST AND ADJUST FUEL DELIVERY,REMOVE PUMP FROM TEST STAND,AND TEST ONE NOZZLE ENDS-WITH TEST COMPLETE CONDITIONS-NO TIME ALLOWED FOR MAJOR ADJUSTMENTS,REPAIRS,OR RETESTS.NO TIME ALLOWED FOR SETUP OF NOZZLE TEST PUMP.
					120618	CASE 01 SIMMONDS FUEL INJECTION PUMP FOR 6-CYLINDER ENGINE
					168626	02 SIMMONDS FUEL INJECTION PUMP FOR 12-CYLINDER ENGINE
AE	620	EUW	STAFJ03	KITPT03	150332	PUMP(FUEL INJECTION),TEST,AMERICAN BOSCH MODEL PSB-6A STARTS-WITH MOUNT PUMP ON TEST STAND INCLUDES-ALL MOTIONS NECESSARY TO TEST FOR FUEL LEAKAGE,TEST DELIVERY VALVE,TEST BLEEDER OR OVERFLOW VALVE,SET PUMP TIMING,TEST AND ADJUST FUEL DELIVERY,ADJUST HIGH SPEED AND FUEL SHUTOFF,AND REMOVE PUMP FROM TEST STAND ENDS-WITH TEST COMPLETED CONDITIONS-NO TIME ALLOWED FOR MAJOR ADJUSTMENTS,REPAIRS OR RETESTS
AE	620	MUW	STAFJ04	KITPT04	180522	PUMP(FUEL INJECTION),TEST,AMERICAN BOSCH MODEL PSB-12BT STARTS-WITH MOUNT PUMP ON TEST STAND INCLUDES-ALL MOTIONS NECESSARY TO TEST FOR FUEL LEAKAGE,TEST DELIVERY VALVE,TEST BLEEDER OR OVERFLOW VALVE,SET PUMP TIMING,TEST AND ADJUST FUEL DELIVERY,BALANCE FUEL DELIVERY FOR NO.2 HEAD,ADJUST HIGH SPEED AND FUEL SHUTOFF, AND REMOVE PUMP FROM TEST STAND ENDS-WITH TEST COMPLETE CONDITIONS-NO TIME ALLOWED FOR MAJOR ADJUSTMENTS,REPAIRS AND RETESTS

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
AE	620	MAW	STAGVXX	KITRSXX	VARIABLE	REGULATOR(VOLTAGE),SET UP AND TEST STARTS-WITH MOUNT GENERATOR OR VOLTAGE REGULATOR ON TEST STAND INCLUDES-ALL MOTIONS NECESSARY TO INSTALL TEST LEAD AT GENERATOR,INSTALL TEST LEAD TO VOLTAGE REGULATOR,INSTALL TEST LEAD FROM VOLTAGE REGULATOR TO TEST STAND,"LOAD"GENERATOR, PERFORM VOLTAGE AND AMPERAGE TESTS ON VOLTAGE REGULATOR,CHECK RELAY OPERATION,REMOVE TEST LEADS,REMOVE VOLTAGE REGULATOR FROM STAND, REMOVE GENERATOR FROM STAND.NOTE-CASES 02 AND 04 INCLUDE ONLY MOUNT AND REMOVE VOLTAGE REGULATOR,INSTALL AND REMOVE TEST LEADS AT VOLTAGE REGULATOR,"LOAD"GENERATOR,AND TEST VOLTAGE REGULATOR ONLY. ENDS-WITH LAY ASIDE GENERATOR OR VOLTAGE REGULATOR CONDITIONS-APPLICABLE TO TESTING D.C. VOLTAGE REGULATORS IN THE 6-28 VOLT RANGE,NO TIME INCLUDED FOR REMOVAL OR REPLACEMENT OF COVER, WARM-UP,OR ADJUSTMENT OF THE REGULATOR
					5410	CASE 01 FIRST VOLTAGE REGULATOR,MILITARY TYPE
					2680	02 EACH ADDITIONAL VOLTAGE REGULATOR, MILITARY TYPE
					5700	03 FIRST VOLTAGE REGULATOR,CONVENTIONAL TYPE
					3040	04 EACH ADDITIONAL VOLTAGE REGULATOR, CONVENTIONAL TYPE
AE	620	MAW	STASMXX	KITSCXX	VARIABLE	SPEEDOMETER,CHECK ON SPEEDOMETER TEST MACHINE STARTS-WITH OPEN CABINET DRAWER INCLUDES-ALL MOTIONS NECESSARY TO GET DRIVE CABLE;ATTACH TO TEST MACHINE DRIVE ADAPTER AND TO SPEEDOMETER HEAD;CHECK SPEEDOMETER ACCURACY AT THREE POINTS-20,40,AND 60 MPH;REMOVE DRIVE CABLE,LAY ASIDE SPEEDOMETER HEAD,AND RETURN DRIVE CABLE TO DRAWER ENDS-WITH CLOSE CABINET DRAWER CONDITIONS-NO TIME INCLUDED FOR MAKING ADJUSTMENTS.CASE 02 INCLUDES ATTACH DRIVE CABLE TO HEAD AND TEST ONLY.
					1580	CASE 01 FIRST SPEEDOMETER HEAD OF A SERIES
					1380	02 EACH ADDITIONAL SPEEDOMETER HEAD OF A SERIES
AE	620	MAW	STAGV1X	KITSTXX	VARIABLE	STARTER(AUTOMOTIVE),TEST STARTS-WITH MOUNT STARTER ON TEST STAND INCLUDES-ALL MOTIONS NECESSARY TO ATTACH TEST LEADS AT STARTER AND STAND,ADJUST VOLTAGE AND CHECK CURRENT READING,REMOVE TEST LEADS,REMOVE STARTER FROM TEST STAND ENDS-WITH LAY ASIDE STARTER CONDITIONS-DOES NOT INCLUDE TIME FOR MAJOR ADJUSTMENTS,REPAIRS, OR RETESTS
					1420	CASE 01 SET UP AND TEST FIRST STARTER
					1140	02 SET UP AND TEST EACH ADDITIONAL STARTER
FFE	621	MAA	GCPMA01	MCPCI01	1551	CLAMP(MARMAN),INSTALL STARTS-WITH REACH TO GET SEAL INCLUDES-ALL THE MOTIONS NECESSARY TO OBTAIN AND POSITION SEAL,GET CLAMP,SET AND PLACE OVER TUBING,COMPRESS CLAMP TO SEAT FASTENING,GET WRENCH AND RUN DOWN AND TIGHTEN NUT ENDS-WITH PLACE TOOLS ASIDE CONDITIONS-APPLICABLE TO MARMAN TYPE CLAMPS WITH OTHER TRADE NAMES-CLAMP IS TWO TO SIX INCH DIAMETER

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
FFE	621	MAA	GCPWA01	MCPCI02	2606	CLAMP(WIGGINS TYPE-TWO TO SIX INCH DIAMETER), INSTALL STARTS-WITH REACH TO GET SEAL INCLUDES-ALL THE MOTIONS NECESSARY TO GET AND INSTALL SEAL,ASSEMBLE CLAMP,SEAT CLAMP,START RUN DOWN THREADS BY HAND,FINISH RUN DOWN AND TIGHTEN WITH WRENCH,BACK UP WITH SECOND TOOL ENDS-WITH TOOL PLACED ASIDE CONDITIONS-APPLICABLE TO WIGGINS TYPE AND OTHER CLAMPS ASSEMBLED IN A LIKE MANNER
FFE	621	MAA	GCPMD01	MCPCR01	1499	CLAMP(MARMAN-TWO TO SIX INCH DIAMETER),REMOVE STARTS-WITH REACH TO OBTAIN RATCHET WRENCH INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN NUT WITH A RATCHET WRENCH AND REMOVE A MARMAN TYPE CLAMP ROM TUBE END ENDS-WITH PLACE SEAL ASIDE CONDITIONS-APPLICABLE TO MARMAN TYPE CLAMPS WITH OTHER TRADE NAMES
FFE	621	MAA	GCPWD01	MCPCR02	2090	CLAMP(WIGGINS TYPE-TWO TO SIX INCH DIAMETER), REMOVE STARTS-WITH REACH TO WRENCHES INCLUDES-ALL THE MOTIONS NECESSARY TO GET WRENCH,LOOSEN NUT AND RUN OUT COUPLING USING BACK UP TOOL,REMOVE CLAMP HALVES,REMOVE SEAL AND O RING W/TOOL,PLACE TOOLS ASIDE ENDS-WITH TOOLS ASIDE CONDITIONS-APPLICABLE TO WIGGINS TYPE AND OTHER CLAMPS ASSEMBLED IN A LIKE MANNER
FFE	621	MAA	GMCDRXX	MOHDOXX	VARIABLE	DOOR(4X6 FOOT OVEN),OPEN AND/OR CLOSE STARTS-WITH REACH TO OVEN DOOR INCLUDES-MOTIONS NECESSARY TO UNLATCH AND OPEN AND/OR CLOSE OVEN DOOR ENDS-WITH OVEN DOOR OPEN(CASE 01)OR CLOSED (CASES 02 AND 03) CONDITIONS-FOR DOORS WITH SPRING TYPE LATCH
					69	CASE 01 OPEN 4X6 FOOT OVEN DOOR
					65	02 CLOSE 4X6 FOOT OVEN DOOR
					134	03 OPEN AND CLOSE 4X6 FOOT OVEN DOOR
FFE	621	MAA	GMCDRXX	MOHOPO1	394	OBJECT,PLACE IN AND REMOVE FROM OVEN,FIRST OBJECT STARTS-WITH REACH TO OVEN DOOR HANDLE INCLUDES-MOTIONS NECESSARY TO OPEN DOOR,PLACE OBJECT IN OVEN,CLOSE DOOR;OPEN DOOR,GET OBJECT OUT,AND PLACE ASIDE,CLOSE DOOR ENDS-WITH OVEN DOOR CLOSED CONDITIONS-OBJECTS NOT TO EXCEED 30 POUNDS ENW
FFE	621	MAA	GMCDR02	MOHOP02	126	OBJECT,PLACE IN AND REMOVE FROM OVEN,ADDI-TIONAL OBJECT STARTS-WITH REACH TO OBJECT INCLUDES-MOTIONS NECESSARY TO PLACE AN ADDITIONAL OBJECT IN AN OVEN AND REMOVE OBJECT FROM OVEN ENDS-WITH PLACE OBJECT ON CART CONDITIONS-NO TIME ALLOWED FOR OPENING AND CLOSING OVEN DOOR;OBJECTS NOT TO EXCEED 30 POUNDS ENW
NF	639	MAF	3515	MEMBA01	162	BLADE(BED KNIFE),ALIGN TO LAWNMOWER STARTS-WITH REACH TO BED KNIFE BLADE INCLUDES-ALL MOTIONS NECESSARY TO POSITION BLADE FOR INSTALLATION ENDS-WITH RELEASE OF BLADE CONDITION-TIME INCLUDED FOR POSITIONING EACH END OF BED KNIFE BLADE

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	639	MAF	4060	MEMBI01	776	BLADE(BED KNIFE),INSTALL ON OR REMOVE FROM GRINDER STARTS=WITH BED KNIFE BLADE IN HAND INCLUDES=ALL MOTIONS NECESSARY TO BEND, POSITION ONE END OF BLADE TO HOLDER,SECURE WITH BOLT,TIGHTEN BOLT WITH WRENCH,POSITION OTHER END OF BLADE TO HOLDER,SECURE WITH BOLT, AND TIGHTEN BOLT WITH WRENCH ENDS=WITH ARISE FROM BEND
NF	639	MAF	1005	MEMBR01	142	BLADE(BED KNIFE),REMOVE OR REPLACE UNDER LAWNMOWER BODY STARTS=WITH REACH TO ROLLER INCLUDES=ALL MOTIONS NECESSARY TO REMOVE OR PLACE BED KNIFE BLADE UNDER LAWNMOWER BODY ENDS=WITH RELEASE OF BASE
NF	639	MAF	2434	MEMBS01	143	BELT,SLIP ON OR OFF PULLEY,LAWNMOWER GRINDER STARTS=WITH REACH TO BELT INCLUDES=ALL MOTIONS NECESSARY TO SLIP BELT ON OR OFF LAWNMOWER PULLEY ENDS=WITH RELEASE PULLEY AND BELT CONDITION=DOES NOT INCLUDE LOOSEN OR TIGHTEN TENSION ADJUSTMENT
NF	639	MAF	3282	MEMCM01	81	CUTTER,MOVE AND POSITION TO BLADES STARTS=WITH REACH TO GET CUTTER INCLUDES=ALL THE MOTIONS NECESSARY TO MOVE CUTTER TO BLADE AND BED KNIFE BLADE,POSITION CUTTER TO BED KNIFE,MOVE CUTTER TO REEL AND ALIGN,RELEASE REEL AND CUTTER ENDS=WITH RELEASE REEL AND CUTTER
NF	639	MAF	2442	MEMDP01	136	DEVICE(HOLDING),POSITION ON GRINDER,PER DEVICE STARTS=WITH BEND AND REACH TO HOLDING DEVICE INCLUDES=ALL MOTIONS NECESSARY TO GET HOLDING DEVICE,MOVE AND POSITION IN NEW PLACE ENDS=WITH ARISE FROM BEND
NF	639	MAF	4058	MEMRA01	210	ROD(CUTTING ARM),ADJUST ON LAWNMOWER SHARPENER STARTS=WITH BEND TO ADJUSTING WING NUT INCLUDES=ALL MOTIONS NECESSARY TO TIGHTEN OR LOOSEN FIRST WING NUT TO PROVIDE PROPER ADJUSTMENT,SPIN SECOND WING NUT TO BRING TO FIRST WING NUT,SECURE SECOND WING NUT ENDS=WITH ARISE FROM BEND
NF	639	MAF	1067	MEMRD01	475	ROD,OBTAIN AND ASSEMBLE TO CUTTING ARM OR DISASSEMBLE AND PLACE ASIDE STARTS=WITH REACH TO ROD INCLUDES=ALL MOTIONS NECESSARY TO OBTAIN AND ASSEMBLE ROD TO CUTTING ARM,USING WING NUTS,OR TO DISASSEMBLE AND PLACE ROD ASIDE ENDS=WITH RELEASE ROD
NF	639	MAF	3498	MEMSS01	175	STOP,SET,LAWNMOWER GRINDER STARTS=WITH A BEND AND REACH TO STOP WING NUT INCLUDES=ALL THE MOTIONS NECESSARY TO LOOSEN WING NUT,REACH TO STOP,MOVE STOP TO APPROXIMATE LOCATION,MOVE CUTTER TO STOP,MOVE STOP TO CUTTER,FINAL POSITION STOP TO CUTTER, RELEASE STOP,TIGHTEN AND SECURE WING NUT, RELEASE AND ARISE FROM BEND ENDS=WITH ARISE FROM BEND

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	639	MAF	3512	MEMTAXX	VARIABLE	TABLE(GRINDER),ADJUST HORIZONTALLY OR VERTICALLY STARTS-WITH BEND TO RIGHT HAND CRANK INCLUDES-ALL MOTIONS NECESSARY TO GET RIGHT HAND CRANK,TURN CRANK,ARISE,BEND TO LEFT HAND CRANK,AND TURN CRANK ENDS-WITH ARISE FROM BEND
					440	CASE 01 INITIAL TABLE ADJUSTMENT FOR LAWNMOWER TO 22 INCHES,TURN EACH CRANK 10 REVOLUTIONS
					1640	02 INITIAL TABLE ADJUSTMENT FOR LAWNMOWER OVER 23 INCHES,TURN EACH CRANK 50 REVOLUTIONS
					194	03 FINAL TABLE ADJUSTMENT,MOVE CRANK TO ALIGN TABLE
NF	639	MAF	3475	MEMWAXX	VARIABLE	WHEEL(GRINDING),ADJUST FEED FOR LAWNMOWER STARTS-WITH SIMO REACH TO FEED CONTROL SCREW AND WING NUT INCLUDES-ALL THE MOTIONS NECESSARY TO LOOSEN WING NUT,CHANGE GRINDING WHEEL FEED BY TURNING FEED CONTROL SCREW,TIGHTEN WING NUT, RELEASE FEED CONTROL SCREW AND WING NUT ENDS-WITH RELEASE FEED CONTROL SCREW AND WING NUT
					114	CASE 01 FOR LAWNMOWERS UP TO 22 INCHES
					406	02 FOR LAWNMOWERS 22 INCHES AND LARGER-INCLUDES BEND AND ARISE-LOOSEN AND TIGHTEN A WING NUT TO CONTROL FEED
NF	639	MAF	1047	MJPHR01	605	HANDLE(LAWNMOWER),REMOVE STARTS-WITH REACH TO PLIERS INCLUDES-ALL MOTIONS NECESSARY TO REMOVE TWO COTTER PINS HOLDING HANDLE,THEN REMOVE AND ASIDE HANDLE ENDS-WITH TURN BACK TO WORK BENCH
NF	639	MAF	2781	MOHC001	86	CUTTER,OBTAIN AND MOVE STARTS-WITH BEND TO CUTTER INCLUDES-ALL THE MOTIONS NECESSARY TO BEND, GET AND MOVE CUTTER TO WORK,RELEASE CUTTER AND STAND ENDS-WITH ARISE FROM BEND
NF	639	MAF	2782	MOHLL01	165	LAWNMOWER,LIFT TO BENCH STARTS-WITH STOOP TO MOWER ON FLOOR INCLUDES-ALL THE TIME TO PICK UP LAWNMOWER ON FLOOR,ARISE,PLACE MOWER ON BENCH,RELEASE ENDS-WITH ARISE AFTER RELEASE ON BENCH
NF	639	MAF	1130	MOHWA01	104	WEIGHT(SPEED),ATTACH OR DETACH TO/FROM LAWNMOWER STARTS-WITH BEND AND REACH TO WEIGHT CHAIN INCLUDES-ALL MOTIONS NECESSARY TO ATTACH OR DETACH THE SPEED WEIGHT ON A LAWNMOWER ENDS-WITH ARISE FROM BEND
NF	639	MAF	2668	BTLBD01	174	BLADE,DEBURR,UP TO 22 INCH LAWNMOWER STARTS-WITH MOVE FILE TO BLADE INCLUDES-ALL MOTIONS NECESSARY TO DEBURR A LAWNMOWER BLADE UP TO 22 INCHES LONG WITH A FILE ENDS-WITH FINAL STROKE OF FILE
NF	639	MAF	2681	BTLSL01	86	SCREW(ADJUSTING)(RUSTY),LOOSEN OR TIGHTEN WITH A SCREWDRIVER STARTS-WITH APPLY PRESSURE TO TURN SCREW INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN OR TIGHTEN A RUSTY ADJUSTING SCREW ON A LAWNMOWER,WITH A SCREWDRIVER ENDS-WITH SCREW LOOSE,SCREWDRIVER STILL IN SCREW SLOT

DATA SOURCE	OCCUPATION	QUALITY	SOURCE CODE	DWMSTOP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	66X	MAF	3144	MCPCP01	127	CLAMP(WOOD),POSITION AND TIGHTEN STARTS-WITH REACH TO CLAMP ON TABLE INCLUDES-ALL THE MOTIONS NECESSARY TO ALIGN CLAMP ON FENCE GUIDE,TIGHTEN CLAMP(RUN IN FOUR MOVES-FINAL TIGHTEN) ENDS-WITH FINAL TIGHTEN
NF	66X	MAF	3141	MCPCT01	93	CLAMP(CAM ACTION),TIGHTEN AND LOOSEN STARTS-WITH REACH FOR LOCKING HANDLE INCLUDES-ALL THE MOTIONS NECESSARY TO GRASP AND MOVE HANDLE UP TO APPLY PRESSURE TO TIGHTEN,REACH TO,GRASP AND MOVE HANDLE DOWN TO LOOSEN,RELEASE HANDLE ENDS-WITH RELEASE HANDLE
NF	66X	MAF	3143	MCPCT02	160	CLAMP,TIGHTEN AND LOOSEN TO HOLD BOARD STARTS-WITH GRASP LUMBER PIECE INCLUDES-ALL THE MOTIONS NECESSARY TO REACH TO WHEEL,TURN WHEEL ONE TURN TO LOOSEN OR TIGHTEN,RELEASE LUMBER AND WHEEL ENDS-WITH RELEASE LUMBER AND WHEEL
NF	66X	MAF	4079	MGMMM01	584	MATERIAL,MEASURE AND MARK FOR CUTTING STARTS-WITH REACH TO RULE IN POCKET INCLUDES-ALL MOTIONS NECESSARY TO GET SIX-FOOT FOLDING RULE FROM POCKET,UNFOLD FULL LENGTH OF RULE,ALIGN RULE TO END OF MATERIAL,GET PENCIL FROM POCKET,MARK MEASUREMENT,RETURN PENCIL TO POCKET,FOLD RULE,AND RETURN TO POCKET ENDS-WITH RELEASE OF RULE
AE	66X	MAW	FVSEAXX	BOHMPXX	VARIABLE	MATERIAL,PLACE IN WOOD VISE STARTS-WITH MATERIAL IN HAND INCLUDES-ALL MOTIONS NECESSARY TO ALIGN MATERIAL IN VISE AND HOLD FOR CLOSING ENDS-WITH HAND ON MATERIAL PREPARTORY TO CLOSING VISE CONDITIONS-DOES NOT INCLUDE CLOSING VISE 20 CASE 01 LENGTH OF WOOD-SIX FEET OR LESS 30 02 LENGTH OF WOOD-GREATER THAN SIX FEET
AE	66X	MAW	FVSEAXX	BOHMRXX	VARIABLE	MATERIAL,REMOVE FROM WOOD VISE STARTS-WITH REACH TO MATERIAL IN VISE INCLUDES-ALL MOTIONS NECESSARY TO GRASP MATERIAL AND LIFT FROM VISE ENDS-WITH MATERIAL IN HAND CONDITION-DOES NOT INCLUDE OPENING VISE 25 CASE 01 LENGTH OF WOOD-SIX FEET OR LESS 37 02 LENGTH OF WOOD-GREATER THAN SIX FEET
AE	66X	MAW	FVSWVXX	MVSWLXX	VARIABLE	WOOD,LOAD IN AND UNLOAD FROM VISE STARTS-WITH WOOD IN HAND INCLUDES-ALL MOTIONS NECESSARY TO PLACE WOOD IN VISE,CLOSE AND TIGHTEN VISE,LOOSEN AND OPEN VISE,AND REMOVE WOOD FROM VISE ENDS-WITH WOOD IN HAND 317 CASE 01 LENGTH OF WOOD-SIX FEET OR LESS 479 02 LENGTH OF WOOD-GREATER THAN SIX FEET
NF	660	MAF	134	MNFGA01	198	GLUE,APPLY,WITH BRUSH STARTS-WITH REACH TO BRUSH INCLUDES-ALL THE MOTIONS NECESSARY TO GET THE GLUE BRUSH,DIP BRUSH IN GLUE POT AND APPLY TO SURFACE ENDS-WITH BRUSH RETURNED TO POT AND HAND MOVED AWAY CONDITIONS-DIP BRUSH TWO TIMES IN GLUE-APPLY GLUE WITH 10 STROKES

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DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	660	MAF	312	MNFNP01	135	NAIL,PRE-NAIL PRIOR TO ASSEMBLY STARTS-WITH POSITION NAIL,HAMMER IN HAND INCLUDES-MOTIONS NECESSARY TO PRE-NAIL FINISH NAILS PRIOR TO ASSEMBLY-PER NAIL ENDS-WITH NAIL INSTALLED,HAMMER IN HAND
NF	660	MAF	314	MNFNS01	67	NAIL,SET WITH NAIL PUNCH STARTS-WITH MOVE PUNCH TO NAIL INCLUDES-MOTIONS TO POSITION PUNCH TO NAIL AND STRIKE ONCE WITH HAMMER ENDS-WITH PUNCH AND HAMMER IN HANDS,MOVED FROM NAIL
NF	660	MAF	313	MOHPP01	278	PIECES,POSITION TWO FOR FASTENING STARTS-WITH REACH TO PIECE INCLUDES-MOTIONS NECESSARY TO POSITION TWO PIECES FOR FASTENING ENDS-WITH EYE FOCUS TO CHECK ALIGNMENT
NF	664	MAF	3142	MCPCA01	794	CLAMP(HOLD DOWN),ADJUST,TENON MACHINE STARTS-WITH SIMO REACH TO BACK ARM AND BACK SCREW HANDLE INCLUDES-ALL THE MOTIONS NECESSARY TO REACH AND GRASP ARM AND HANDLE,HOLD ARM,LOOSEN SCREW,TURN HANDLE DOWN,MOVE ARM UP,TIGHTEN HANDLE,REACH TO FRONT SCREW HANDLE,TURN TO LOOSEN,REACH TO PIECE OF LUMBER,APPLY PRESSURE IF TIGHT,RELEASE LUMBER,LOOSEN LOCKING HANDLE, RELEASE LOCKING HANDLE ENDS-WITH RELEASE HANDLE
NF	665	MAF	3501	MEWCA01	233	CUT DEPTH,ADJUST STARTS-WITH SIDESTEP TO GET IN POSITION INCLUDES-ALL THE MOTIONS NECESSARY TO GET TO POSITION,KNEEL,REACH FOR CRANK,TURN CRANK FOUR TIMES,RELEASE CRANK,ARISE AND RETURN TO CENTER OF MACHINE ENDS-WITH RETURN TO CENTER OF MACHINE CONDITIONS-SET FOR AVERAGE DEPTH OF CUT-2-1/2 INCHES
NF	665	MAF	2428	MEWFP01	403	FENCE(GUIDE),POSITION ON SPINDLE OF SHAPER STARTS-WITH WALK TO GET WOOD FENCE GUIDE INCLUDES-ALL MOTIONS NECESSARY TO GET WOOD FENCE GUIDE AND POSITION IT ON THE SHAPER TABLE ENDS-WITH RELEASE FENCE
NF	665	MAF	4077	MEWPS01	218	PLANER(WOOD),START AND STOP STARTS-WITH WALK TWO PACES TO SWITCHES INCLUDES-ALL MOTIONS NECESSARY TO DEPRESS CUTTING HEAD SWITCH AND FEED SWITCH TO START MACHINE,WALK TWO PACES TO FRONT OF MACHINE, WALK TWO PACES TO SWITCHES,STOP MACHINE,AND RETURN TO FRONT OF MACHINE ENDS-WITH OPERATOR AT FRONT OF MACHINE
NF	665	MAF	3510	MEWTA01	210	TABLE(WOOD PLANER),ADJUST HEIGHT STARTS-WITH BEND TO CRANK HANDLE INCLUDES-ALL MOTIONS NECESSARY TO TURN CRANK SIX REVOLUTIONS WHILE OBSERVING SCALE ENDS-WITH ARISE FROM BEND
NF	665	MAF	3508	MEWTM01	81	TABLE,MOVE HORIZONTALLY 2 1/2 INCHES AND RETURN,MORTISE MACHINE STARTS-WITH REACH TO WHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN WHEEL TO MOVE TABLE 2 1/2 INCHES,POSITION FOR EACH END OF MORTISE,AND RETURN TABLE ENDS-WITH RELEASE OF WHEEL

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NF	665	MAF	276	MEWTT01	249	TEMPLATE,TACK ON TOP OF STOCK FOR SHAPER STARTS-WITH REACH FOR TEMPLATE INCLUDES-MOTIONS REQUIRED TO GET WOOD TEMPLATE, POSITION ON STOCK, GET HAMMER AND TACK TEMPLATE TO STOCK AND ASIDE HAMMER TO HAMMER STRAP ENDS-WITH RELEASE OF HAMMER IN STRAP
NF	666	MAF	2418	MEWHD01	97	HOLE,DRILL OR COUNTERSINK WITH DRILL PRESS STARTS-WITH ALIGN BOARD WITH DRILL INCLUDES-ALL MOTIONS NECESSARY TO MOVE LEVER DOWN TO DRILL,MOVE LEVER UP AT END OF DRILL TIME ENDS-WITH REACH TO BOARD CONDITIONS-MACHINE PROCESS TIME NOT INCLUDED
NF	667	MAF	3499	MEWBR01	653	BLADE,RAISE OR LOWER FOR CUTTING ON TABLE SAW STARTS-WITH REACH TO RULE INCLUDES-ALL THE MOTIONS NECESSARY TO UNFOLD RULE,RAISE BLADE GUARD,POSITION TO BLADE,TURN HAND WHEEL TO RAISE OR LOWER BLADE,ALIGN RULE AND BLADE FOR DEPTH,ASIDE RULE TO POCKET ENDS-WITH RULE IN POCKET
NF	667	MAF	3506	MEWCA01	213	CARRIAGE(AUTOMATIC RIP SAW),ADJUST HEIGHT STARTS-WITH EYE CHECK HEIGHT INCLUDES-ALL MOTIONS NECESSARY TO TURN CRANK 12 TIMES TO ADJUST HEIGHT(AVERAGE),CHECK VISUALLY,RELEASE CRANK ENDS-WITH RELEASE CRANK
NF	667	MAF	3503	MEWFA01	134	FENCE GAUGE(AUTOMATIC RIP SAW),ADJUST STARTS-WITH REACH FOR HANDLE ON FENCE GAUGE INCLUDES-ALL THE MOTIONS NECESSARY TO UNLOCK HANDLE,MOVE UP,MOVE FENCE TO DESIRED WIDTH, POSITION,LOCK FENCE ENDS-WITH RELEASE LOCK HANDLE
NF	667	MAF	3502	MEWFS01	279	FENCE(TABLE SAW-WOOD),SET FOR WIDE CUT STARTS-WITH SIDESTEP TO CLAMP INCLUDES-ALL THE MOTIONS NECESSARY TO UNLOCK C-CLAMP,LOOSEN CLAMP AND ALIGN FENCE,TWO MEN ALIGN TO LINE,TIGHTEN CLAMP,SIDESTEP TO BOARD ENDS-WITH SIDESTEP TO BOARD
NF	667	MAF	3504	MEWGS01	124	GAUGE(WIDTH-TABLE SAW),SET STARTS-WITH REACH FOR FENCE HANDLE INCLUDES-ALL THE MOTIONS NECESSARY TO LOOSEN HANDLE,TURN FENCE KNOB TO ADJUST,TIGHTEN HANDLE,REACH TO BUTTON SWITCH ENDS-WITH REACH TO SWITCH
NF	667	MAF	2563	MSUCR01	115	COLLAR AND DADO BLADES,REMOVE,RADIAL CIRCULAR SAW STARTS-WITH REACH TO THUMB SCREW INCLUDES-ALL MOTIONS NECESSARY TO REMOVE THUMB SCREW,REMOVE COLLAR,AND REMOVE DADO BLADES ENDS-WITH ASIDE BLADES CONDITION-TIME TO REMOVE NUT FROM SHAFT NOT INCLUDED
NF	667	MAF	2430	MSUDP01	47	DADO(OR NUT),PLACE ON SAW SHAFT STARTS-WITH REACH TO BLADE INCLUDES-ALL MOTIONS NECESSARY TO PLACE A DADO OR NUT ON A SAW SHAFT ENDS-WITH RELEASE DADO OR NUT
NF	667	MAF	369	MSUFI01	306	FENCE,INSTALL ON TABLE SAW STARTS-WITH TURN TO WALK TO OTHER SIDE OF SAW INCLUDES-ALL MOTIONS NECESSARY TO WALK THREE PACES TO FENCE,KNEEL,PICK UP FENCE,ARISE RETURN TO SAW,AND INSTALL FENCE ENDS-WITH RELEASE FENCE

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NF	667	MAF	2561	MSUFR01	376	FENCE,REMOVE FROM TABLE SAW STARTS-WITH WALK THREE PACES TO FENCE INCLUDES-ALL MOTIONS NECESSARY TO REMOVE DOWEL PIN,GAIN CONTROL OF FENCE,REMOVE FROM TABLE, KNEEL ON BOTH KNEES,AND PLACE FENCE ON FLOOR ENDS-WITH ARISE FROM PLACING FENCE ON FLOOR
NF	667	MAF	2429	MSUGI01	331	GUARD(SAFETY),INSTALL ON TABLE SAW STARTS-WITH WALK THREE PACES TO GUARD INCLUDES-ALL THE MOTIONS NECESSARY TO KNEEL, GET GUARD ASSEMBLY,ARISE,MOVE TO TABLE SAW AND POSITION GUARD IN HOLDER ENDS-WITH RELEASE OF GUARD
NF	667	MAF	2562	MSUGR01	498	GUARD(SAFETY),REMOVE FROM TABLE SAW STARTS-WITH WALK THREE PACES TO SAFETY GUARD INCLUDES-ALL MOTIONS NECESSARY TO REMOVE A METAL SAFETY GUARD FROM A TABLE SAW, CARRY FOUR PACES,KNEEL,AND PLACE GUARD ON FLOOR ENDS-WITH ARISE
NF	667	MAF	2431	MSUSC01	378	STOP,CLAMP ON RADIAL CIRCULAR SAW BED OR TABLE STARTS-WITH SIDESTEP TO REACH FOR BLOCK INCLUDES-ALL MOTIONS NECESSARY TO GET STOP, ALIGN AND FASTEN IN PLACE WITH A C-CLAMP ENDS-WITH SIDESTEP BACK TO WORK POSITION
NF	667	MAF	2565	MSUSR01	220	STOP,REMOVE FROM CUTOFF SAW BED STARTS-WITH SIDESTEP TO C-CLAMP INCLUDES-ALL MOTIONS NECESSARY TO LOOSEN C-CLAMP,GRASP,MOVE AND RELEASE STOP ENDS-WITH SIDESTEP BACK TO FRONT OF SAW
NF	667	MAF	190	MTLSS01	563	SURFACE,SMOOTH,REMOVE BURRS AND SPLINTERS STARTS-WITH SIDESTEP TO REACH RASP INCLUDES-MOTIONS NECESSARY TO GET RASP,REMOVE BURRS AND SPLINTERS,AND SMOOTH SURFACE PARTS TO BE JOINED AND ASIDE RASP ENDS-WITH SIDESTEP BACK TO WORK AFTER RELEASE OF RASP CONDITIONS-18 INCHES OF SURFACE SMOOTHED
NF	669	MAF	299	MEWBC01	79	BEADING,CUT ONE PIECE ON BEADING CUTTER STARTS-WITH REACH TO LEVER INCLUDES-ALL MOTIONS NECESSARY TO CUT ONE PIECE OF BEADING ON BEADING CUTTER ENDS-WITH HAND TO TABLE AFTER RELEASE OF LEVER CONDITIONS-CUTTER SIZE TO 1/2X1 INCH
NF	669	MAF	2384	MEWJT01	47	JOINTER,TURN ON AND OFF STARTS-WITH REACH TO SWITCH INCLUDES-ALL MOTIONS NECESSARY TO ACTUATE SWITCH TO TURN MACHINE ON AND OFF ENDS-WITH RELEASE OF SWITCH CONDITION-WALKING TO AND FROM SWITCH NOT INCLUDED
NF	669	MAF	302	MEWMC01	195	MOULDING,CUT ON MOULDING CUTTER STARTS-WITH REACH TO LEVER INCLUDES-THE MOTIONS NECESSARY TO CUT MOULDING ON MOULDING CUTTER ENDS-WITH HAND TO TABLE AFTER RELEASE OF LEVER CONDITIONS-CUTTER 1X1 INCH TO 2X4 INCHES, 2 PASSES REQUIRED PER CUT

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NF	669	MAF	2715	MEWNU01	340	NUT(LOCK),UNFASTEN AND FASTEN FROM SIDE OF TOP AND BOTTOM CUTTER HEADS OF MOULDER STARTS-WITH REACH TO WRENCH ON WORK BENCH INCLUDES-ALL THE MOTIONS NECESSARY TO UNFASTEN AND FASTEN LOCK NUT FROM SIDE OF TOP AND BOTTOM OF CUTTER HEADS ON MOULDER ENDS-WITH RELEASE OF WRENCH ON WORK BENCH
NF	669	MAF	2567	MEWPR01	291	PIPE(SAW DUST COLLECTOR DUCT),REMOVE AND INSTALL ON MOULDER STARTS-WITH STEP UP ON STOOL INCLUDES-ALL MOTIONS NECESSARY TO STEP ON STOOL,LOOSEN DUCT AND STEP DOWN,TURN AND PLACE DUCT ON FLOOR;GET DUCT FROM FLOOR,POSITION AND PUSH ONTO SLEEVE AND LOWER DUCT ON HOOD ENDS-WITH RELEASE DUCT CONDITIONS-DOES NOT INCLUDE WALK TO AND FROM DUCT
NF	669	MAF	3505	MEWTL01	368	TAILGATE(MOULDER),LOWER AND RAISE STARTS-WITH REACH TO KNOB LOCK NUT INCLUDES-ALL THE MOTIONS NECESSARY TO LOOSEN NUT BY HAND,MOVE KNOB ASIDE,LOWER TAILGATE, RAISE TAILGATE,TIGHTEN LOCK NUT AND RELEASE ENDS-WITH RELEASE NUT
NF	669	MAF	155	MEWWP01	67	WORK,PREPARE TO RUN ON JOINTER STARTS-WITH REACH TO BOARD INCLUDES-ALL MOTIONS NECESSARY TO TAKE ONE STEP,MOVE BOARD TO BLADE,AND APPLY PRESSURE TO PUSH BOARD ON CUTTER ENDS-WITH BOARD READY TO CUT
NF	669	MAF	2982	MLOTR01	198	TEMPLATE(WOOD),REMOVE FROM TOP OF STOCK STARTS-WITH A SIMO REACH TO TEMPLATE AND HAMMER INCLUDES-ALL THE MOTIONS NECESSARY TO GET HAMMER,HOLD TEMPLATE,PULL TACKS(2),ASIDE HAMMER AND HANG ON STRAP,MOVE TEMPLATE ASIDE ENDS-WITH TEMPLATE ASIDE
NF	669	MAF	120/121	MOHHRXX	VARIABLE	HEADS(CUTTER),REMOVE AND INSTALL,SIDE OR TOP AND BOTTOM CUTTER HEADS ON MOULDER STARTS-WITH REACH TO CUTTER HEAD OR WRENCH INCLUDES-MOTIONS TO REMOVE AND INSTALL SIDE,OR TOP AND BOTTOM CUTTER HEADS ON MOULDER ENDS-WITH RELEASE OF CUTTER HEAD OR WRENCH 572 CASE 01 REMOVE AND INSTALL SIDE CUTTER HEADS 411 02 REMOVE AND INSTALL TOP AND BOTTOM CUTTER HEADS
NF	669	MAF	2566	MSUBR01	411	BREAKER(CHIP),REMOVE AND SET ON TOP HEAD CUTTER OF MOULDER STARTS-WITH REACH FOR LOCK HANDLE INCLUDES-ALL MOTIONS NECESSARY TO REMOVE,AND SET CHIP BREAKER ON TOP HEAD CUTTER ENDS-WITH RELEASE LOCK HANDLE CONDITIONS-WALKING TO AND FROM CHIP BREAKER IS NOT INCLUDED
NF	669	MAF	10	MSUBU01	523	BEARINGS(OUTBOARD),UNFASTEN AND SET ON BOTTOM AND TOP CUTTER HEADS ON MOULDER STARTS-WITH REACH TO HAMMER INCLUDES-MOTIONS NECESSARY TO UNFASTEN AND SET OUTBOARD BEARINGS ON BOTTOM AND TOP CUTTER HEADS ON MOULDER ENDS-WITH RELEASE HAMMER ON BENCH

DEFENSE WORK MEASUREMENT STANDARD TIME DATA ELEMENTS

DATA SOURCE	OCCUP-ATION	QUALITY	SOURCE CODE	DWMSTDP ELEMENT	TMU VALUE	OPERATION/ELEMENT DESCRIPTION
NF	669	MAF	2568	MSUHR01	319	HOOD(BLOWER),REMOVE AND INSTALL ON MOULDER, PER HOOD STARTS-WITH REACH TO BLOWER HOOD INCLUDES-ALL MOTIONS NECESSARY TO REMOVE AND ASIDE TO FLOOR;AND TO GET FROM FLOOR AND INSTALL BLOWER HOOD ON MOULDER ENDS-WITH RELEASE HOOD CONDITIONS-DOES NOT INCLUDE WALKING TO AND FROM BLOWER HOOD
NF	669	MAF	3507	MSUJAXX	VARIABLE	JOINTER,ADJUST TO REQUIRED TABLE HEIGHT STARTS-WITH REACH TO ADJUSTING WHEEL INCLUDES-ALL MOTIONS NECESSARY TO TURN ADJUSTING WHEEL TO DESIRED HEIGHT OF CUT,GET BOARD,MAKE TRIAL CUT APPROXIMATELY ONE INCH, GET RULE,UNFOLD ONE FOLD,CHECK HEIGHT OF CUT, FOLD RULE,AND PLACE IN POCKET ENDS-WITH RELEASE OF RULE
					312	CASE 01 FIRST OR SINGLE ADJUSTMENT OF JOINTER
					83	02 EACH ADDITIONAL ADJUSTMENT OF JOINTER
FFE	699	MAA	GSCLAA8	MDPOD01	199	OBJECT,DIP WITH HOOK STARTS-WITH REACH TO OBJECT AND HOOK INCLUDES-ALL THE MOTIONS NECESSARY GET OBJECT AND HOOK,PLACE OBJECT ON HOOK,DIP OBJECT INTO COMPOUND,REMOVE OBJECT,HANG TO DRIP,REMOVE OBJECT FROM HOOK AND PLACE ASIDE ENDS-WITH PLACE OBJECT AND HOOK ASIDE CONDITIONS-WEIGHT FACTOR 2.5 TO 10 POUNDS ENW
NF	699	MAF	3149	BLULA01	105	LUBRICANT,APPLY GREASE WITH A PADDLE STARTS-WITH MOVE PADDLE TO WORK INCLUDES-ALL THE MOTIONS NECESSARY TO SPREAD GREASE WITH CARE ON AN OBJECT WITH A PADDLE ENDS-WHEN GREASE IS APPLIED CONDITIONS-TIME IS PER SQUARE FOOT
FFE	699	MAA	OIGSLM1	MLUAG01	377	GREASE,APPLY TO MATING SURFACES STARTS-WITH REACH TO GET PART INCLUDES-ALL THE MOTIONS NECESSARY TO GET PART AND GREASE,REMOVE LID FROM GREASE JAR, OBTAIN AND DIP BRUSH IN GREASE,LUBRICATE SURFACES,ASIDE BRUSH AND GREASE,INSPECT PART AND ASIDE ENDS-WITH ASIDE PART CONDITIONS-APPLY TO ONE SQUARE INCH WITH 1/2 INCH BRUSH-ENW OF PART 2.5 TO 10 POUNDS-TWO BRUSH STROKES TO EACH SURFACE
AE	699	MAW	FLUEAN2	MLUA001	47	OIL,APPLY WITH APPLICATOR SUCH AS TOOTHPICK, NEEDLE,OR WIRE STARTS-WITH APPLICATOR IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE APPLICATOR TO SURFACE OF OIL,IMMERSE THE END OF THE APPLICATOR,MOVE TO LUBRICATION POINT, AND DEPOSIT OIL ENDS-WITH APPLICATOR IN HANDS AT LUBRICATION POINT CONDITION-THIS TYPE OF APPLICATOR IS USED WHEN IT IS NECESSARY TO PICK UP AND TRANSFER A QUANTITY OF OIL OR OTHER LIGHT VISCOSITY LUBRICANT LESS THAN THAT WHICH CAN BE PROPERLY CONTROLLED BY THE PUMP MECHANISM OF AN OIL CAN
NF	699	MAF	3152	MLUBL01	236	BEARING(MOTOR),LUBRICATE STARTS-WITH STOOP TO GET OIL CAN INCLUDES-ALL THE MOTIONS NECESSARY TO STOOP, GRASP OIL CAN,LIFT OIL CAP,SQUIRT OIL IN BEARING FITTING,REACH TO OTHER FITTING,LIFT CAP;MOVE AND POSITION CAN IN FITTING,SQUIRT OIL,RELEASE CAP,ARISE ENDS-ARISE FROM BEND,OIL CAN IN HANDS

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NF	699	MAF	3153	MLUCS01	154	CUP(GREASE),SCREW DOWN STARTS-WITH STOOP TO CUP INCLUDES-ALL THE TIME NECESSARY TO STOOP,GRASP CUP,TURN ONE REVOLUTION,RELEASE CUP,STAND UP ENDS-WITH ARISE FROM STOOP
AE	699	MUW	FLUEAZ1	MLUFG01	71	FITTING,GREASE WITH AIR-OPERATED GREASE GUN STARTS-WITH GREASE GUN IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE GUN TO FITTING,ATTACH TO FITTING,DEPRESS TRIGGER, ALLOW GREASE TO FLOW INTO FITTING,RELEASE TRIGGER,REMOVE GUN FROM FITTING,AND MOVE GUN ASIDE ENDS-WITH GUN IN HAND
AE	699	MAW	FLUEAB2	MLUGA01	99	GREASE,APPLY TO SMALL BEARING OR PART BY HAND STARTS-WITH BEARING OR PART IN ONE HAND AND GREASE IN OTHER HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE PART OR BEARING TO GREASE,APPLY GREASE TO ONE SIDE WITH FOUR STROKES,TURN PART OVER,AND APPLY GREASE TO OTHER SIDE ENDS-WITH PART OR BEARING IN HAND
AE	699	MAW	FLUEAA2	MLUGO01	49	GREASE,OBTAIN FROM CONTAINER WITH STICK OR FINGER STARTS-WITH REACH TO OPEN CONTAINER INCLUDES-ALL MOTIONS NECESSARY TO DIP FINGER OR STICK AND SCOOP GREASE FROM CONTAINER ENDS-WITH LOADED FINGER OR STICK REMOVED FROM CONTAINER
AE	699	MAW	FLUEAH2	MLUGT01	55	GUN(SPRAY),TURN ON AND OFF STARTS-WITH GUN IN HAND INCLUDES-ALL MOTIONS NECESSARY TO MOVE GUN TO AIM,DEPRESS TRIGGER,RELEASE TRIGGER,AND MOVE GUN ASIDE ENDS-WITH GUN IN HAND
AE	699	MAW	FLUEAW1	MLUGW01	49	GUN(GREASE),WIPE EXCESS GREASE FROM BARREL WITH FINGERS STARTS-WITH GUN IN HAND INCLUDES-ALL MOTIONS NECESSARY TO REACH TO BARREL,WIPE EXCESS GREASE,REACH TO GREASE CONTAINER,AND SCRAPE GREASE FROM FINGERS ON SIDE OF CONTAINER ENDS-WITH GREASE SCRAPED FROM FINGERS
FFE	699	MAA	GSCLAB2	MLULA01	416	LUBRICANT/SEALANT,APPLY WITH TUBE AND SPREADER STARTS-WITH REACH TO GET TUBE AND SPREADER INCLUDES-ALL THE MOTIONS NECESSARY TO GET AND ASIDE TUBE,REMOVE CAP AND APPLY WITH A SPREADER TO COVER ONE LINEAR FOOT ENDS-WITH ASIDE TUBE AND SPREADER CONDITIONS-APPLICABLE TO ANY TYPE PAINT,DOPE, SEALANT OR LUBRICANT
FFE	699	MAA	GSCLAA2	MLULA02	80	LUBRICANT,APPLY WITH BRUSH TO SPOT STARTS-WITH REACH TO BRUSH INCLUDES-ALL THE MOTIONS NECESSARY TO GET A BRUSH,GET LUBRICANT ON BRUSH,APPLY LUBRICANT TO SPOT AND RETURN BRUSH TO CONTAINER ENDS-WITH BRUSH IN CONTAINER CONDITIONS-APPLICATION OF LUBRICANT,SEALANT OR OTHER SIMILAR COMPOUNDS

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FFE	699	MAA	GSCLAA5	MLULA03	228	LUBRICANT,APPLY WITH BRUSH/LINEAR FOOT STARTS=WITH REACH TO BRUSH INCLUDES=ALL THE MOTIONS NECESSARY TO GET BRUSH,GET LUBRICANT ON BRUSH,APPLY TO ONE LINEAR FOOT,WIPE OFF EXCESS LUBRICANT AND RETURN BRUSH TO CONTAINER ENDS=WITH BRUSH IN CONTAINER CONDITIONS=APPLIES TO APPLICATION OF LUBRICANT,SEALANT OR OTHER SIMILAR COMPOUNDS
FFE	699	MAA	GSCLAB1	MLULP01	113	LUBRICANT/SEALANT,PLACE WITH OIL CAN STARTS=WITH REACH TO GET OIL CAN INCLUDES=ALL THE MOTIONS NECESSARY TO GET OIL CAN AND APPLY LUBRICANT OR SEALANT ENDS=WITH CAN ASIDE
AE	699	MAW	FLUEAG2	MLUNC01	239	NOZZLE,CHANGE ON AIR-OPERATED SPRAY GUN STARTS=WITH GUN IN HAND INCLUDES=ALL MOTIONS NECESSARY TO RELEASE COLLAR,REMOVE NOZZLE AND PLACE ASIDE,GET SECOND NOZZLE,INSTALL ON GUN,PLACE SIPHON HOSE IN OIL SUPPLY,AND GET GUN IN POSITION FOR SPRAYING ENDS=WITH GUN IN HAND
AE	699	MAW	FLUEAP1	MLUOAXX	VARIABLE	OIL,APPLY TO HOLE OR SPOT WITH TRIGGER TYPE OIL CAN STARTS=WITH OIL CAN IN HAND INCLUDES=ALL MOTIONS NECESSARY TO MOVE OIL CAN SPOUT TO HOLE OR SPOT,MOVE TRIGGER IN AND OUT TWICE,AND MOVE CAN AWAY FROM LUBRICATION POINT ENDS=WITH OIL CAN IN HAND
					84	CASE 01 APPLY OIL TO OPEN HOLE OR SPOT
					100	02 APPLY OIL TO CAPPED HOLE(INCLUDES TIME TO RAISE COVER)
AE	699	TUW	FLUEAV1	MLUOR01	248	OIL,REMOVE AND DISPOSE OF,WITH HAND OPERATED SUCTION GUN STARTS=WITH GUN IN HAND INCLUDES=ALL MOTIONS NECESSARY TO MOVE GUN SPOUT TO HOLE OR CAVITY,INSERT SPOUT,PULL HANDLE ONCE TO FILL GUN,REMOVE SPOUT,TURN TO DISPOSAL CONTAINER,PUSH HANDLE TO EMPTY GUN, AND MOVE GUN AWAY FROM CONTAINER ENDS=WITH GUN IN HAND
AE	699	MAW	FLUEAF1	MLUSO01	38	SPIGOT,OPEN AND CLOSE,LEVER TYPE STARTS=WITH REACH TO SPIGOT INCLUDES=ALL MOTIONS NECESSARY TO APPLY PRESSURE,COMPRESS LEVER TO OPEN VALVE,AND RAISE LEVER TO CLOSE VALVE ENDS=WITH RELEASE OF LEVER CONDITION=APPLICABLE TO SPIGOTS SIMILAR TO THOSE ON OIL DRUMS,ETC.
NF	699	MAF	2775	MOHBP01	399	BUCKET,POSITION AND REMOVE FROM 55 GALLON DRUM STARTS=WITH TURN TO DRUM INCLUDES=ALL THE MOTIONS NECESSARY TO WALK TO DRUM,STOOP,POSITION BUCKET UNDER SPIGOT,TURN SPIGOT ON;TURN SPIGOT OFF,GET BUCKET FROM UNDER SPIGOT AND CARRY BUCKET BACK TO WORK PLACE,SET BUCKET ON FLOOR ENDS=WITH ARISE FROM STOOP CONDITION=DRUM LOCATED THREE PACES FROM WORK AREA
NF	699	MAF	2777	MOHBP02	282	BUCKET,POSITION TO POUR FROM STARTS=WITH SIDESTEP AND STOOP TO BUCKET INCLUDES=ALL MOTIONS NECESSARY TO GET BUCKET, LIFT TO POSITION TO POUR FROM BUCKET INTO FUNNEL AND ASIDE BUCKET TO FLOOR ENDS=WITH SIDESTEP FROM BUCKET