TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

JACK, HYDRAULIC, TRIPOD, 25-TON VARIABLE-HEIGHT PART NUMBER 986CS (FSN 1730-540-8419)

Each transmittal of this document outside of the Department of Defense must have approval of the issuing Service.

WARNING PRECAUTIONARY DATA

Personnel performing operations involving instructions, procedures, and practices which are included or implied in this technical manual shall observe the following instructions. Disregard of these warnings and precautionary information can cause serious injury, death, or an aborted mission.

USING TOXIC/FLAMMABLE MATERIALS. Due to the toxicity and flammability of the solvents and solutions used in the cleaning procedures, adequate ventilation must be provided. Avoid prolonged contact with solutions and chemicals. Do not use drycleaning solvent or flammable cleaners near open flame or in areas where high temperatures prevail.

ASSEMBLING JACK. Tighten all attaching hardware when assembling the jack to prevent failure of structural members under load.

HYDRAULIC PRESSURE. Exercise approved shop practices when using high-pressure fluids. Secure all high-pressure connections. Eye protection shall be worn when inspecting components under pressure.

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CHAPTER 1 INTRODUCTION

Section I. GENERAL

1-1. SCOPE.

- a. These instructions are published for the use of operating and maintenance personnel to whom the tripod hydraulic lack is assigned. They contain information on operation, lubrication, preventive maintenance, servicing, and maintenance of the equipment. Uncrating procedures are also provided. No special tools or equipment are required to perform organizational maintenance of this tripod hydraulic jack.
- b. Appendix A provides a standard list of all publications applicable to this manual.
- *c.* Appendix B consists of the Maintenance Allocation Chart.
- d. Appendix C consists of a Repair Parts and Special Tools List.

1-2. REPORTING OF IMPROVEMENTS.

Report of errors, omissions and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded directly to: Commanding General, U. S. Army Aviation Systems Command, ATTN AMSAV-R-M, P. O. Box 209, St. Louis, Missouri 63166.

1-3. EQUIPMENT RECORDS.

The Army equipment record system and procedures established in TM 38-750 apply to this equipment. The applicable forms as required by TM 38-750 shall be used.

Section II. DESCRIPTION AND DATA

1-4. DESCRIPTION.

This manual contains maintenance instructions for the 25-ton variable height tripod jack assembly (figure 1-1) manufactured by Regent Jack Mfg. Co., Downey, California, under part number 986CS.

1-5. IDENTIFICATION.

The jack is an integral unit consisting of extension ram and plungers, reservoir, hand pump, and tripod legs. The extension ram may be further extended by addition of a screw extension. Each leg is equipped with a spring-loaded caster to provide mobility when jack is unloaded. As the load is applied, the casters retract and permit the pads to take up the load. Each leg also has extensions that permit the load to be raised higher.

1-6. DIFFERENCE IN MODELS.

This manual covers only the 25-ton hydraulic tripod lack, P/N 986CS. No known unit differences exist for the model covered by this manual.

1-7. TABULATED DATA.

Vertical Capacity	50,000 Lbs.
Proofloaded	75,000 Lbs.
Horizontal Capacity	7,500 Lbs.
Minimum Height	60 Inches
Minimum Height with 18" Leg Extension	78 Inches
Minimum Height with 36" Leg Extension	96 Inches
Hydraulic Lift	40 1/2 Inches
Screw Extension	16 Inches
Pumps (No. & Type) 1 Speed,	1 Hi-Pressure
Weight, Net	
Weight, Crated	1,220 Lbs.
Cube, Crated	•

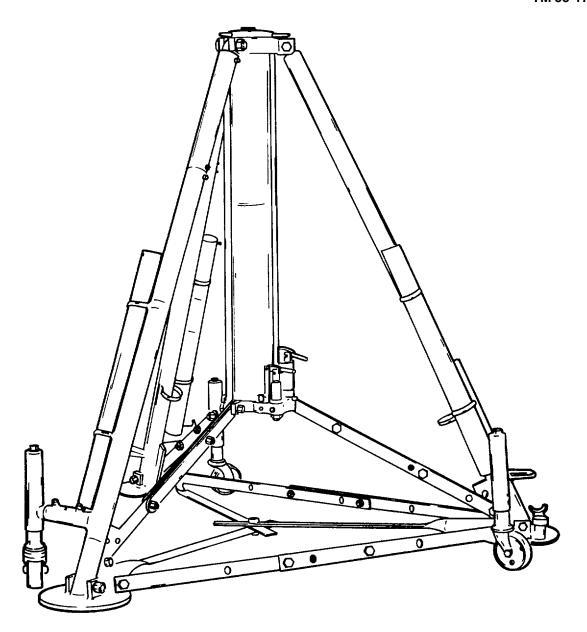


Figure 1-1. Part No. 986CS, 25-Ton Hydraulic Tripod Jack.

CHAPTER 2 ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. INSPECTION OF NEW EQUIPMENT.

- a. Make a thorough visual inspection of the equipment for cracks, breaks, distortion, and loose or missing parts.
- b. Inspect all parts and assemblies for correct and secure mountings.
- c. Correct all deficiencies or report them to the proper authority.

2-2. SERVICING NEW EQUIPMENT

Jacks are shipped full of oil and should not require checking unless the unit has been damaged in transit. Proper oil level for most efficient operation is ½" below the filler hole when the rams are completely collapsed.

2-3. INSPECTION OF USED EQUIPMENT.

- a. Inspect used tripod hydraulic jack, following the instructions in paragraph 2-1.
- b. Correct or report all deficiencies to proper authority.

2-4. SERVICING USED EQUIPMENT.

- a. Service used tripod hydraulic jack in accordance with instructions contained in paragraph 2-2.
- *b.* Pay particular attention to filling the cylinder and ram assembly with fluid.

Section II. SPECIAL TOOLS AND EQUIPMENT

None required.

Section III. LUBRICATION

2-5. GENERAL.

Table 2-1 is a lubrication chart. It is supplemented by the detailed lubrication information in paragraph 2-6.

2-6. DETAILED LUBRICATION INFORMATION.

a. Care o/ Lubricants. Replace covers on lubricant containers after use and store in a clean, dry

place. Keep all containers used for handling oil and fluid clean and ready to use.

b. Cleaning. Clean all lubrication fittings or points of application with a cloth dampened in cleaning solvent (Federal Specification P-D-680) before applying lubricant.

Table 2-1. Lubrication Chart.

LUBRICANTS	EXI	INTERVALS		
,	Above +32°F	+32°F to 20°F	Below Below 20°	
OH-HYDRAULIC FLUID Hydraulic Cylinder and Pump Assembly	MIL-H-5606	MIL-H-5606	60% MIL-H-5606 40% MIL-F-5616	500 hrs
OE-OIL, Engine, MIL-L-2104, Extension screw Caster Wheels Rams		All temperature	S	Monthly Monthly
GREASE MIL-G-10924 Caster leg		All temperature	S	Monthly

- c. Points of Application.
- (1) Clean extension screw (68, figure 2-1, sheet 3) and ram (71) thoroughly and apply lubricating oil as directed in the lubrication chart (table 1).
- (2) Apply grease to caster legs of foot assemblies and oil caster wheels in accordance with lubrication chart (table 1).

(3) Increase the frequency of steps 1 and 2 above when operating under unusual conditions, paying particular attention to thorough cleaning prior to lubrication.

Section IV. TROUBLE SHOOTING

TROUBLE	PROBABLE CAUSE	REMEDY
Rams fail to lift when pump is operated, or jack fails to lift rated load	Incomplete closure of release valve stem assembly.	Tighten securely.
	Obstructed fluid suction passage.	Blow passages clear with compressed air. Reassemble, flush and fill with clean fluid.
	Low fluid level.	Fill with proper fluid (refer to Table of Leading Particulars).
	By-pass valve Improperly adjusted.	Adjust by-pass valve.
	Broken by-pass valve spring.	Replace by-pass spring.
Rams will not fully elevate.	Low fluid level.	Fill with proper fluid (refer to Table of Leading Particulars).
	Leaking discharge valve.	Remove valve assembly and replace ball if necessary.
Rams will not support load.	Oil leaks at rams.	Replace packings and ring.
	Leaking discharge valve.	Remove, inspect, and replace ball if necessary.
	Leaking release valve ball or seat.	Remove, inspect and replace ball if necessary.
Rams raise and fall with each stroke.	Incomplete closure of release valve stem assembly.	Tighten securely.
	Leaking discharge valve.	Remove valve assembly and replace ball if necessary.
	Leaking release valve ball or seat.	Remove, inspect and replace ball If necessary.
Pump inoperative or difficult to operate.	Vacuum created in reservoir due to clogged filler plug.	Remove, and clean.
Pump operates, and fluid pressure fails to by-pass at	By-pass valve improperly adjusted.	Adjust by-pass valve.
maximum ram extension or with overload applied.	Defective by-pass spring.	Replace ball or spring if necessary and adjust by-pass valve.
Rams will not lower.	Worn ram assemblies or piston have jammed.	Relieve load with another jack. Remove, inspect, and replace worn parts if necessary.

Section V. ILLUSTRATED PARTS BREAKDOWN

Figure 2-1 (Sheet 1 of 3), 2-1 (Sheet 2 of 3) and 2-1 (Sheet 3 of 3), and the Parts Breakdown list, cover the parts comprising the hydraulic tripod jack.

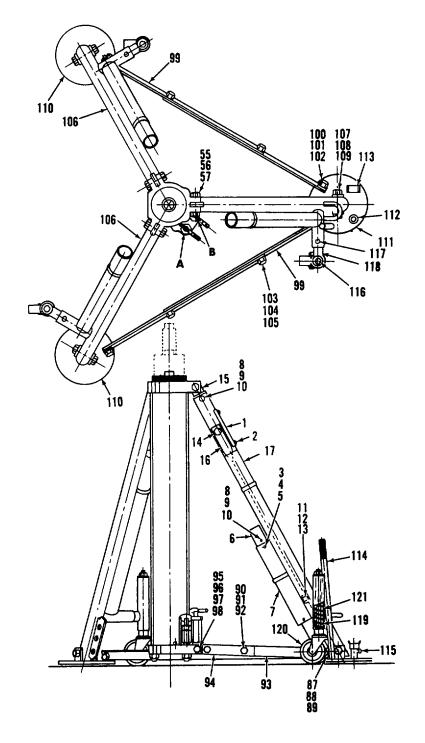


Figure 2-1. Part No. 986CS, 25-Ton Hydraulic Tripod Jack, Exploded View (Sheet 1 of 3).

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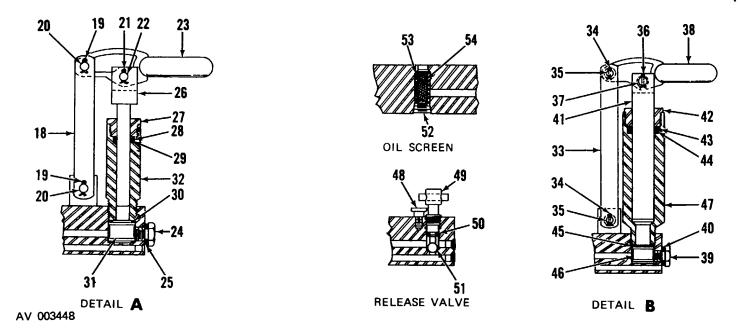


Figure 2-1. Part No. 986CS, 25-Ton Hydraulic Tripod Jack, Exploded View (Sheet 2 of 3).

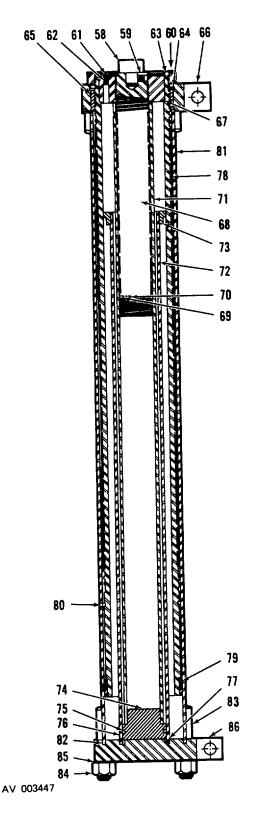


Figure 2-1. Part No. 986CS, 25-Ton Hydraulic Tripod Jack, Exploded View (Sheet 3 of 3).

FIGURE				
AND	PART	DESCRIPTION	QTY	USABLE
INDEX	NO.		PER	ON
NO.		1234567	ASSY	CODE
2-1	986CS	JACK, Tripod hydraulic 25-ton variable height		
-1	986-79	NAMEPLATE	1	
		(ATTACHING PARTS)	•	
2	AN535-0-3	.SCREW	4	
_	7111000 0 0	*	•	
-3	MS35690-622	.NUT, Plain Hex	3	
-4	MS35338-27	.WASHER		
-5	MS35292-72	.BOLT		
-6	986-55	.CONNECTOR, Leg extension		
-7	986-56	.EXTENSION, 18 in. leg		
-8	MS35690-622	.NUT		
-9	MS35338-27	.WASHER	6	
-10	MS35292-72	.BOLT	6	
-11	COML	.NUT, Plain hex, 1-14 NF thd (cad. pl)		
-12	MS35338-34	.WASHER	4	
-13	COML	.BOLT, Machine, hex hd stl, 1-14 NF thd x 2 in. lg		
		(cad. pl)	1	
-14	COML	.BOLT, Machine, hex hd stl, 1-14 NF thd x 2 1/2 in.		
		lg (cad. pl)	1	
-15	986-52	.LEG ASSEMBLY, Hinge	3	
-16	986-61	.BAR, Tripod	3	
-17	986-57	.EXTENSION, 36 in. lg		
	986C	.PUMP ASSEMBLY, Pressure		
-18	915-151-34	LINK, Pump	1	
		(ATTACHING PARTS)		
-19	MS24665-302	PIN, Cotter	2	
-20	915-15-25	PIN, Link	2	
		*		
-21	MS24665-302	PIN, Cotter	1	
-22	915-15-34	PIN, Link		
-23	915-75	ARM, Pump rocker		
-24	916-21	PLUG, Machine thread, adjusting valve screw	1	
-25	916-22	GASKET	1	
-26	915-68P	PISTON, Pump		
-27	915-100	NUT, Packing, pump	1	
-28	915-127-10	PACKING, Preformed, piston	1	
-29	AN6227B10	PACKING, Preformed, piston	1	
-30	915-17	GASKET, Valve	2	
-31	915-16 #6	VALVE ASSEMBLY	1	
-32	915-99	BODY, Pump	1	
20	986D	PUMP ASSEMBLY, High speed	1	
-33	915-151-52	LINK, Pump piston	1	
0.4	M004005 000	(ATTACHING PARTS)		
-34	MS24665-302	PIN, Cotter	2	
-35	915-15-25	PIN, Link	2	
20	MCOACCE COO			
-36	MS24665-302	PIN, Cotter	1	
-37	915-15-34	PIN, Link	1	
-38	915-75	ARM, Pump rocker		
-39	916-21	PLUG, Machine thread, adjusting valve screw		
-40	916-22	GASKET	1	I I

INDEX NO.	PART NO.	DESCRIPTION	QTY	110451 5
INDEX NO.		DESCRIPTION		USABLE
NO.	N()		PER	ON
		1234567	ASSY	CODE
2-1-41	918-85P	PISTON, Pump	1	- JOBE
	915-117	NUT, Packing, pump		
	915-127-19	RETAINER, Preformed, piston		
	MS28775-214	PACKING, Preformed, piston	1	
	915-17	GASKET, Valve	2	
	915-17	VALVE ASSEMBLY	1	
	915-10 #3	BODY, Pump		
	916-35	SCREW, Shoulder, release valve lock		
	916-37			
_	MS28775-011	STEM, Release valve		
		PACKING, Preformed, release valve		
	MS150461	BALL, stl 3-9 dia	1	
	COML	PLUG, Pipe 3-8 skt hd	1	
	916-10	SPRING, Helical, compression, oil	1	
	916-7	SCREEN, Oil filter	1	
	986SB	.CYLINDER ASSEMBLY	1	
		(ATTACHING PARTS)		
	COML	.NUT, Plain hex, stl 1-14 HF thd (cad. pl)	3	
-56	MS35448-34	.WASHER	3	
-57	COML	.BOLT, Machine, hex hd, stl 1-14 NF thd x 4 in.		
		lg (cad. pl)	3	
-58	916-49	ADAPTER, Aircraft jack, 1 in. cup	1	
	MS51027-79			
	986-13	SETSCREW, Adapter retaining		
	916-36	NUT, Plain, Knurled, Safety		
		PLUG, Filler		
	916-11	GASKET, Air vent		
	915-150-16-5-69	RING, Ram snap	1	
	915-150-18-7-25	RING, Bushing, snap	1	
	986-12	BEARING, Sleeve, cylinder head	1	
	986-2	HEAD, Jack cylinder	1	
	AN6230B30	PACKING, Preformed, cylinder head sleeve	1	
	986-7	SCREW, Extension	1	
	915-118	PIN, Straight, headless, extension stop	1	
	915-119	SPRING, Stop pin	1	
	986-6	RAM, Jack, hydraulic	1	
-72	986-5	CYLINDER, Jack, hydraulic	1	
	986-9	RING, Centering, Jack	1	
-74	986-8	PISTON, Jack	1	
-75	AN6246-42	RING, Back-up	1	
-76	AN6227B42	PACKING, Preformed, piston	1	
-77	AN6230B15	PACKING, Preformed, cylinder	1	
-78	986-4	RAM, Jack, hydraulic, outer	1	
-79	AN6227B64	PACKING, Preformed, ram assembly, outer	1	
	915-150-18-6-06	RING, Ram stop	1	
	986-3	SHELL, Outer	1	
	AN6230B37	PACKING, Preformed, outer shell	1	
	986-21	ROD, Jack tie	4	
	COML	NUT, Plain, hex, stl 1-14 NF thd (cad. pl)	4	

FIGURE				
AND	PART	DESCRIPTION	QTY	USABLE
INDEX	NO.	DEGGINI HON	PER	ON
NO.	NO.	1234567	ASSY	CODE
2-1-85	MS35338-34	.WASHER	4	JODE
-86	986C1	BASE ASSEMBLY, Jack	1	
-87	MS51968-8	NUT, Plain, hexagon, leg extension mtg	3	
-88	MS35338-46		3	
-00 -89	MS90726-72	.WASHER, Lock, leg extension mtg	3	
-69 -90		SCREW, Cap, hexagon head, leg extension mtg	6	
	MS51968-8	.NUT, Plain, hexagon, leg extension connector mtg		
-91	MS35338-46	.WASHER, Lock, leg extension mtg	6	
-92	MS90726-72	.SCREW, Cap, hexagon, hd, leg extension		
00	000 50	connector mtg	6	
-93	986-58	.BAR, Base tie	3	
-94	986-59	.BAR, Base tie	3	
-95	COML	.NUT, Plain, hex stl 1-14 NF thd (cad. pl)	3	
-96	MS35338-34	.WASHER, Lock, leg extension connector mtg	4	
-97	COML	.BOLT, Machine, hex hd stl 1-14 NF thd x 3 in.		
		lg (cad. pl)	2	
-98	COML	.SCREW, Machine, hex hd stl 1-14 NF thd x 2 in.		
		lg (cad. pl)	1	
-99	986-60	.BAR, Tripod tie	4	
		(ATTACHING PARTS)		
-100	COML	.NUT, Plain, hex, stl 1-14 NF thd (cad. pl)	4	
-101	MS35338-34	.WASHER, Lock spring	4	
-102	COML	.BOLT, Machine, hex hd stl 1-14 NF thd x 2 in.		
		lg (cad. pl)	4	
-103	COML	.NUT, Plain hex, stl 1-14 NF thd (cad. pl)		
-104	MS35338-34	.WASHER, Lock spring	4	
-105	COML	BOLT, Machine, hex hd stl 1-14 NF thd x 2 in. lg (cad. pl)	4	
100	CONL	*		
-106	986-51	.LEG ASSEMBLY	3	
100	300 31	(ATTACHING PARTS)		
-107	COML	.NUT, Plain hex, stl 1-14 NF thd (cad. pl)	3	
-107	MS35338-34	.WASHER, Lock spring	3	
-108	COML	BOLT, Machine hex hd 1-14 HF thd x 5 in. lg (cad. pl)	3	
-109	COIVIL	*	3	
-110	986-54		2	
		.PAD ASSEMBLY, Training base	4	
-111 -112	986-53	.PAD ASSEMBLY, Leading base		
-112	916-51	ADAPTER, Aircraft, cup	1 1	
-113	916-50	ADAPTER, Bar	1	
-114	915-22K	.HANDLE, Bar	1	
-115	COML	.SCREW, Thumb, 1-4 -20 NF thd x 1/2 in. lg	2	
-116	MS35690-1202	.NUT, Plain hex	3	
-117	COML	.SCREW, Square hd set 1-2-13 NC thd x 1 in. lg (cad. pl)	6	
-118	986AL	.CASTER ASSEMBLY, Swivel	3	
-119	986-64	.SPRING, Helical, compression, caster	3	
-120	986-63	.CASTER, Jack, aircraft, swivel	3	
-121	986-62	.BRACKET ASSEMBLY, Caster	3	

Section VI. STRUCTURAL MEMBERS

2-7. PRESSURE PUMP ASSEMBLY.

- a. Disassembly.
- (1) To service pressure pump piston packing retainer (29, figure 2-1, sheet 2) and piston preformed packing (28), close air vent and turn jack on its side, so that pump is at highest elevation.
 - (2) Remove cotter pin (21) and piston pin
- (3) Pull piston (26) from pump body and remove packing nut (27).
 - b. Inspection and Repair.
 - (1) Replace preformed packing retainer.
- (2) Inspect remainder of assembly for corrosion, deterioration, scratches, nicks or other defects.
 - (3) Replace parts as necessary.
 - c. Assembly.

(22).

- (1) Replace packing nut (27), and piston (26).
- (2) Replace piston pin (22) and cotter pin (21).

2-8. HIGH SPEED PUMP ASSEMBLY.

- a. Disassembly.
- (1) To service hi-speed pump piston packing retainer (44) and piston preformed packing (43), close air vent and lack on its side so that pump is at highest elevation.
- (2) Remove cotter pin (36) and piston pin (37).
- (3) Pull piston (41) from pump body and remove packing nut (42).
 - b. Inspection and Repair.
 - (1) Replace preformed packing retainer.
- (2) Inspect remainder of assembly for corrosion, deterioration, scratches, nicks or other defects.
 - (3) Replace parts as necessary.
 - c. Reassembly.
 - (1) Replace packing nut (42) and piston (41).
 - (2) Replace piston pin (37) and cotter pin

2-9. OIL SCREEN.

(36).

- a. Disassembly.
- (1) To service oil screen (54), close air vent and turn jack on its side so that the plug (52) is at the highest elevation.
- (2) Remove plug (52) spring (53) and screen (54).
 - b. Cleaning.

WARNING

USING TOXIC/FLAMMABLE MATERIALS. Due to the toxicity and flammability of the solvents and solutions used in the cleaning process, adequate ventilation shall be provided. Avoid prolonged contact with solutions and

- chemicals. Do not use drycleaning solvent or flammable cleaners near open flame or in areas where high temperatures prevail.
- (1) Wash all parts in drycleaning solvent, Federal Specification P-D-680, and dry thoroughly.
 - (2) Blow out passages with compressed air.
- c. Inspection and Replacement. Inspect all parts for corrosion, scratches, nicks or other defects.
- d. Reassembly. Reinstall screen (54), spring (53) and plug (52).

2-10. RELEASE VALVE.

- a. Disassembly.
- (1) To replace preformed packing (50) or ball (51) in release valve, close air vent and turn jack on its side so that the release valve is at the highest elevation.
- (2) Unscrew shoulder screw(48)and release valve stem (49).
 - b. Inspection and Repair.
 - (1) Inspect all parts for defects.
- (2) Replace preformed packing (50) and/or ball (51).
- c. Reassembly. Replace release valve stem (49) and shoulder screw (48) together.

2-11. PRESSURE PUMP VALVE ASSEMBLY.

- a. Disassembly.
- (1) To service valve (31) in pressure pump, close air vent to prevent oil loss and unscrew pump body (32) from base.
- (2) Remove top gasket (30) valve (31) and bottom gasket (30).
- b. Cleaning and Replacement. Clean valve and replace gaskets with new ones. Use No. 1 Permatex on valve body threads. Use caution not to deface valves.
 - c. Reassembly. Reassemble in reverse order.

NOTE

All Regent brand safety valves are adjustable, interchangeable factory adjusted and should not require further adjustment. However, if adjustment is desired, lay jack on its side and remove valve adjusting plug (24). Use 1/8 inch Allen wrench and adjust to desired pressure.

CAUTION

All aircraft jacks are designed for certain maximum loads. DO NOT set valve more than 10% above rated capacity.

2-12. HI-SPEED PUMP VALVE ASSEMBLY.

- a. Disassembly.
 - (1) To service valve (46) in high speed pump,

close air vent to prevent oil loss and unscrew pump body (47) from base.

(2) Remove top gasket (45) valve (46) and bottom gasket (45).

- b. Cleaning and Replacement. Clean valve and replace gaskets with new ones. Use No. 1 Permatex on valve body threads. Use caution not to deface valves.
- c. Reassembly. Reassemble in reverse order. (See paragraph 2-11c, Note, for valve adjustment information.)

Section VII. RAM AND RESERVOIR ASSEMBLY

2-13. BACKUP RING, PISTON PREFORMED PACKING AND CYLINDER HEAD SLEEVE PREFORMED PACKING.

- a. Disassembly.
- (1) Remove ram snap ring (63). A hole in the outer ram (78) is provided for ease of this operation.
- (2) Operate the pump while holding the outer ram stationary and carefully remove the ram (71)and piston (74) assembly. Be careful not to damage the honed cylinder surface.
- b. Replacement and Repair. Replace the piston packing (76) backup ring (75) and cylinder head packing (67). Lubricate the backup ring and piston packing prior to installation.
- c. Installation. Install the backup ring with the grain (smooth) side of leather in contact with the packing. The backup ring is installed above the packing as shown in figure 2-1.
- d. Reassembly. Reassemble in reverse order. Take care not to damage the honed cylinder surface.

2-14. OUTER RAM ASSEMBLY PREFORMED PACKING.

- a. Disassembly.
- (1) Remove snap ring (64). A groove in the head (66) is provided for ease of this operation.
- (2) Operate pump until cylinder head sleeve bearing (65) is free.
- (3) Carefully remove outer ram (78) and jack ram (71) as a unit. Be careful not to damage the honed cylinder surface.
- b. Replacement and Repair. Replace preformed packing (79). Lubricate packing prior to installation.
- c. Reassembly. Reassemble in reverse order taking care not to damage ram or packing.

2-15. OUTER SHELL PREFORMED PACKING AND CYLINDER PREFORMED PACKING.

- a. Disassembly.
- (1) To service outer shell (82) and cylinder (77) packing, remove hydraulic unit from tripod and drain oil.
 - (2) Remove tie rod nuts (84).
 - (3) Remove safety nut (60) and head (66).

- (4) Carefully remove outer ram (78) and jack ram (71). Use care not to damage the honed cylinder surface.
 - (5) Remove outer shell (81).
 - (6) Carefully unscrew-cylinder (72) from base

(86).

- b. Replacement and Repair. Replace packing (77, 82). Lubricate prior to installation.
 - c. Reassembly.
- (1) Screw cylinder (72) onto base (86) and replace outer shell (81).
 - (2) Reinstall jack ram (71) and outer ram (78).
- (3) Replace head (66), safety nut (60), tie rod nuts (84).

2-16. AIR VENT FILLER PLUG.

To replace the air vent gasket (62), unscrew the air vent (61) and replace the gasket.

2-17. PREPARATION FOR USE AFTER ASSEMBLY.

- a. To fill the reservoir with hydraulic fluid, see item 1, table 2-1.
- b. Check to ensure that all bolts are properly torqued or tightened.
 - c. Check operation of retractable casters.
- d. Operate jack several times to bleed out trapped air. If air is still present, pump jack to full extension, open valve (49, figure 2-1). Lower jack as rapidly as possible without overflowing the pump. With fluid level at 1/2 inch below the top of filler hole, replace the filler plug.

2.18. FINAL TEST PROCEDURES NOTE

Testing conditions should be those conditions normally encountered during the use of jack by setting the jack up under a 25-ton load.

- a. Operate the pump, fully extending the ram until bump bypass pressure is reached. Hold pressure against load not less than 15 minutes. There should be no apparent setting.
 - b. Check all points for leaks.

APPENDIX A REFERENCES

A-1. DICTIONARIES OF TERMS AND ABBREVIATIONS.

AR 320-50 Authorized Abbreviations and Brevity Codes. AR 320-5 Dictionary of United States Army Terms.

A-2. FIRE PROTECTION.

AR 420-90 Repair and Utilities; Fire Protection Equipment and Appliances; Inspections,

Operations, and Preventive Maintenance.

A-3. PREVENTIVE MAINTENANCE.

AR 750-5 Organization, Policies and Responsibilities for Maintenance Operation.

A-4. PAINTING.

TM 9-213 Painting Instructions for Field Use.

A-5. PUBLICATION INDEXES.

DA Pam 310-4 Index of Technical Manuals, Technical Bulletins, Supply Manuals (Types 4, 6, 7,

8, and 9), Supply Bulletins, Lubrication Orders, and Modification Work Orders.

A-6. TRAINING AIDS.

FM 5-25 Explosives and Demolitions.

A-7. RECORDS AND REPORTS.

TM 38-750 The Army Maintenance Management System

A-1

APPENDIX B MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION.

B-1. GENERAL.

The purpose of the maintenance allocation chart is to provide all activities with maintenance functions to be performed at each level of maintenance.

B-2. MAINTENANCE FUNCTIONS.

- a. Inspect. To determine serviceability of an item by comparing its physical, mechanical and electrical characteristics with established standards.
- b. Test. To verify serviceability and to detect electrical or mechanical failure by use of test equipment.
- c. Service. To clean, to preserve, to charge, and to add fuel, lubricants, cooling agents, and air. If it is desired that elements, such as painting and lubricating, be defined separately, they may be so listed.
- *d.* Adjust. To rectify to the extent necessary to bring into proper operating range.
- e. Align. To adjust specified variable elements of an item to bring to optimum performance.
- *i.* Calibrate. To determine the corrections to be made in the readings of instruments or test equipment used in precise measurement. Consists of the comparison of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared with the certified standard.
- *g. Install.* To set up for use in an operational environment such as an emplacement, site, or vehicle.
- *h.* Replace. To replace unserviceable items with serviceable assemblies, sub-assemblies, or parts.
- i. Repair. Those maintenance operations necessary to restore an item to serviceable condition through correction of material damage or a specific failure. Repair may be accomplished at each category of maintenance.

- *j. Overhaul.* Normally, the highest degree of maintenance performed by the Army in order to minimize time work in process is consistent with quality and economy of operation. It consists of that maintenance necessary to restore an item to completely serviceable condition as prescribed by maintenance standards in technical publications for each item of equipment. Overhaul normally does not return an item to like new, zero mileage, or zero hour condition.
- k. Rebuild. The highest degree of materiel maintenance. It consists of restoring equipment as nearly as possible to new condition in accordance with original manufacturing standards. Rebuild is performed only when required by operational considerations or other paramount factors and then only at the depot maintenance category. Rebuild reduces to zero the hours or miles the equipment, or component thereof, has been in use.
- *I.* Symbols. The uppercase letter placed in the appropriate column indicates the lowest level at which the particular maintenance function is to be performed.

B-3. EXPLANATION OF FORMAT.

- a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.
- b. Column 2, Functional Group. Column 2 lists the noun names of components, assemblies, subassemblies, and modules on which maintenance is authorized.
- c. Column 3, Maintenance Functional. (See MAC Chart.)
- d. Column 4, Tools and Equipment. This column will be used to specify, by code, those tools and test equipment required to perform the designated function.
 - e. Column 5, Remarks. Self-explanatory.

	MAIN			F	OR					· · ·	960	c		
	JACK, HYDRA	JULI	<u>_, 1</u>	(AR	310-3	2) 1	ON,	PAR	1 1/1	0. 9	OUL	<u> </u>		<u> </u>
(1)	(2) (3) MAINTENANCE FUNCTION												(4)	(5)
GROUP NO.	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
01	Jack, Hydraulic, Tripod 25 Ton	0	0	0	0									Clean P-D-680
02	Leg and Caster Assembly Caster Leg Spring	0 0 0 0			0	0		0 0 0 0	0 0 0 0				- N	Grease MIL- G-10924
03	Pump Assembly Plunger Body, Valve Spring Screen	0 0 0 0		0				0 0	0 0 0 0			. * 		
04	Ram and Reservoir (Assy) Plunger Ram Reservoir Assembly Cylinder Assembly	0 0 0 0		0					0 0 0 0					Clean FILL MIL-H- 5606
L	LEGEND: C - Operator/crew O - Organizational maintenance F - Direct support maintenance H - General support													
	maintenance D - Depot maintenance													
									l					-

APPENDIX C REPAIR PARTS AND SPECIAL TOOLS LIST

(Current as of 25 Feb 1970)

Section I. INTRODUCTION

R

C-1. SCOPE.

This appendix lists the repair parts required for the performance of organizational maintenance of the Jack, Hydraulic, Tripod, 25-Ton, Variable Height, FSN 1730-540-8419.

C-2. GENERAL.

This Repair Parts and Special Tools List is divided into the following sections:

- a. Basic Issue Items Section II. (Not applicable)
- b. Maintenance and Operating Supplies Section III. (Not applicable)
- c. Prescribed Load Allowance-(PLA) Section IV. (Not applicable)
- d. Repair Parts Section V. A list of repair parts authorized for the performance of maintenance at the organizational level in alphabetical sequence within each functional group.
- e. Special Tools, Test and Support Equipment ORG)-Section VI. (Not applicable).
- f. Federal Stock Number and Reference Number Index-Section VII. This section is divided into the following parts:
- (1) Federal stock number index-part 1. A list of Federal Stock numbers in ascending numerical sequence appearing in all listings cross-referenced to figure and item number.
- (2) Reference number index-part 2. A list of reference numbers in alpha-numerical sequence appearing in all listings cross-referenced to manufacturer's code, figure and item number.

C-3. EXPLANATION OF COLUMNS.

The following provides an explanation of columns in the tabular lists in Section V.

- a. Source, Maintenance, and Recoverability Codes (SMR).
- (1) Source code. Indicates the selection status for the listed item. The source code used is:

CODE

EXPLANATION to repair parts w

Applies to repair parts which are stocked or supplied from General Services Administration Defense Supply Agency or Army Supply System and authorized for use at indicated maintenance categories.

(2) Maintenance code. Indicates the lowest category of maintenance authorized to install the listed item. The maintenance level code used is:

CODE EXPLANATION
O Organizational Maintenance

(3) Recoverability code. Indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. The recoverability code used is:

CODE EXPLANATION

Applies to repair parts and assemblies which are economically reparable at DS and GS activities and normally are furnished by supply on an exchange basis.

- b. Federal Stock Number. Indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.
- c. Description. Indicates the Federal item name and any additional description of the item required. Items are indented under assemblies and/or subassemblies to clarify parts relationship in an alphabetical sequence. The Reference Number and MFR Code sub-column indicates the part number or other reference number of an item followed by the Federal Supply Code for manufacturers in parentheses.
- d. Unit of Issue (U/I). A two-character alphabetic abbreviation indicating amount or quantity in which the item is issued, e.g. EA, HD, Gr, etc.
- e. Quantity Incorporated in Unit. Indicates the quantity of the item used in each assembly and/or subassembly within the function group.
- f. Fifteen-day Organizational Maintenance Allowances.
- (1) The allowance column is divided into four subcolumns. Indicated in each subcolumn, opposite the first appearance of each item, is the total quantity of items authorized for the number of equipments supported. Subsequent appearances of the same item will have an entry of REF in the allowance column. Items authorized for use as required, but not for initial stockage, are identified with an asterisk (*) in the allowance column.
- (2) The quantitative allowances for organizational level of maintenance represent one initial prescribed load for a 15-day period for the number of equipments supported. Units and organizations authorized additional prescribed loads will multiply the number of prescribed loads authorized by the quantity of repair parts reflected in the appropriate density column to obtain the total quantity of repair parts authorized.
- (3) Organizational units providing maintenance

for more than 100 of these equipments shall determine the total quantity of parts required by converting the equipment quantity to a decimal factor by placing a decimal point before the next-to-last digit of the number to indicate hundredths, and multiplying the decimal factor by the parts quantity authorized in the 51-100 allowance column. Example: authorized allowance for 51-100 equipments is 12, for 140 equipments, multiply 12 by 1.40 or 16.80 rounded off to 17 parts required.

(4) Subsequent changes to allowances will be limited as follows: No change in the range of items is authorized. If additional items are considered necessary, recommendation should be forwarded to U. S. Army Aviation Systems Command for exception or revision to the allowance list. Revisions to the range of items authorized will be made by the U.S. Army Aviation Systems Command based upon engineering experience, demand data or TAMMS information.

g. Illustration.

- (1) Figure number. Indicates the figure number of the illustration in which the item is shown.
- (2) Item number. Indicates the call-out number used to reference the item in the illustration.

C-4. ABBREVIATIONS.

Abbreviation	Explanation
Assy	Assembly (ies)
C/O	consists of
EA	Each
HD	Hundred

mcl include (s) (ed) (sive) (mig)

mtg mounting (s)

C-5. MANUFACT	FEDERAL URERS	SUPPLY	CODE	FOR
Code	h	lanufacturer		
02708	R	egent Jack Mi 11905 Regen Downey, Cali	tview Ave.	
88044	А	eronautical St Dept. of Nav		
96906	M	lilitary Standal by Standardiz Directorate of Services DSA	rds Promulo zation Div. f Logistic	

TM 55-1730-214-20

	(1) (2) (3)		(3)	(4)	(5)			(7)						
(A) SOURCE CODE	(B) MAINT. CODE	(C) REC. CODE	FEDERAL STOCK NUMBER	CK OF IN IBER ISSUE IN	QTY INC IN UNIT		15-E MAI	ILLUS	TRA-TION					
				REFERENCE NUMBER AND MFG CODE		DESCRIPTION			(A) 1-5	(B) 6-20	(C) 21-50	(D) 51-100	(A) FIG. NO.	(B) ITEM NO.
			1730-540-8419	986CS	(02708)	JACK, HYDRAULIC, TRIPD, 25 ton SECTION III REPAIR PARTS GROUP 02 LEG AND CSTER ASSEMBLY	EA						1-1	
D	0		5310-833-0559	MS51968-8	(96906)	NUT, PLAIN, HEXAGON, leg extension mtg	EA	3	*	*	*	*	2-1	87
L' B	0		5310-637-9541	MS35338-46	(96906)	WASHER, LOCK, leg extension mtg	HD	3	*	*	*	*	2-1	88
D D	0		5305-269-2816	MS90726-72	(96906)	SCREW, CAP, HEXAGON HEAD, leg extension mtg	EA	3	*	*	*	*	2-1	89
	0		5310-732-0559	MS51968-8	(96906)	NUT, PLAIN, HEXAGON, leg extension connector mtg	EA	6	*	*	*	*	2-1	90
F	0		5310-732-0539	MDS35338-46	(96906)	WASHER, LOCK, leg extension mtg	HD	6	*	*	*	*	2-1	91
	0		5305-269-2816	MS90726-72		SCREW. CAP. HEXAGON HEAD. leg extension	EA	6	*	*	*	*	2-1	92
P					(96906)	connector mtg							2-1	92
P	0		5310-763-8921	MS51967-23	(96906)	NUT, PLAIN, HEXAGON, caster mtg	EA	3	*	*	*	*		
Р	0		1730-671-1975	986-64	(02708)	SPRING, HELICAL, COMPRESSION, caster	EA	3	*	*	*	*	2-1	119
Р	0		1730-671-1974	986-63	(02708)	CASTER, JACK, AIRCRAFT, swivel	EA	3	*	*	*	*	2-1	120
X1				916-50	(02708)	ADAPTER, BAR		1					2-1	113
X1				916-51	(02708)	ADAPTER, AIRCRAFT, cup GROUP 01 PUMP ASSEMBLY							2-1	112
				986C	(02708)	PUMP ASSEMBLY, pressure		1					2-1	
В	0		5315-234-1864	MS24665-302	(96906)	.PIN, COTTER, rocker arm		3	*	*	*	*	2-1	19
F	0		5315-234-1604	915-15-25	(02708)	.PIN, STRAIGHT, HEADED, rocker arm		2	*	*	*	*	2-1	20
D	0		5120-525-7352	915-151-34	(02708)	LINK, pump piston		1	*	*	*	*	2-1	18
X2	0		5120-525-7352	915-75	(02708)	ARM, PUMP ROCKER							2-1	23
λ2 D	0		4730-215-2736	915-75	(02708)	NUT. PACKING. PUMP						*	2-1	23
	0							1 1				*		
P	_		1730-730-9162	915-68P	(02708)	.PISTON, PUMP							2-1	26
P	0		5330-350-9013	AN6227B10	(88-44)	.PACKING, PREFORMED, piston		1		_			2-1	29
P	0		5330-141-3555	915-127-10	(02708)	.PACKING, PREFORMED, piston		1				*	2-1	28
P	0		4730-727-5244	916-21	(02708)	.PLUG, MACHINE THREAD, adjusting valve screw		1	*	*	*	*	2-1	24
P	0		5330-829-9930	915-17	(02708)	.GASKET, adjusting valve, upper & lower		2	*	*	*	*	2-1	30
X2	0		5120-215-2742	915-99	(20708)	.BODY, PUMP	EA	1					2-1	32
1_				986D	(02708)	PUMP ASSEMBLY, high speed			*	*		*	2-1	
P	0		5315-234-1864	MS24665-301	(96905)	.PIN, COTTER, rocker arm	HD	3	*	*	*	*	2-1	34
P	0		5315-791-9486	915-15-25	(02708)	.PIN, STRAIGHT, HEADED, rocker arm		2	*	*	*	*	2-1	35
P	0		1730-730-9191	915-151-52	(02708)	.LINK, pump piston		1	*	*	*	*	2-1	33
X2	0		5120-329-7053	915-75	(02708)	.ARM, PUMP ROCKER		1					2-1	38
P	0		4730-854-4194	915-117	(02708)	.PACKING NUT, pump	EA	1	*	*	*	*	2-1	42

TM 55-1730-214-20

	(1)			(2)	(3)		(4) UNIT	(5)	(6)					(7)
(A) SOURCE CODE	(B) MAINT. CODE	(C) REC. CODE	FEDERAL STOCK NUMBER					QTY INC IN UNIT			OAY ORG. NT ALW.		ILLUST	TRA-TION
				REFERENCE NUMBER AND MFG CODE		DESCRIPTION			(A) 1-5	(B) 6-20	(C) 21-50	(D) 51-100	(A) FIG. NO.	(B) ITEM NO.
						GROUP 03 CONTINUED								
Р	0		1730-730-9161	915-85P	(02708)	.PISTON, PUMP	EA	1	*	*	*	*	2-1	41
Р	0		5330-579-3163	MS28775-214	(96906)	.PACKING, PREFORMED, piston	EA	1	*	*	*	*	2-1	44
Р	0		1730-866-2718	915-127-19	(02708)	.RETAINER, PACKING, piston		1	*	*	*	*	2-1	43
Р	0		4730-727-5244	916-21	(02708)	.PLUG, MACHINE, THREAD, adjusting valve screw	EA	1	*	*	*	*	2-1	39
Р	0		5330-829-9930	915-17	(02708)	.GASKET, adjusting valve, upper & lower	EA	2	*	*	*	*	2-1	45
Р	0		4730-624-7890	916-7	(02708)	SCREEN, OIL, filter	EA	1	*	*	*	*	2-1	54
Р	0		5120-596-7469	916-10	(02708)	SPRING, HELICAL, COMPRESSION, oil screen		1	*	*	*	*	2-1	53
Р	0		1730-776-6396	916-37	(02708)	STEM, RELEASE VALVE	EA	1	*	*	*	*	2-1	49
Р	0		5330-582-2133	MS28775-011	(96906)	PACKING, PREFORMED, release valve	EA	1	*	*	*	*	2-1	50
Р	0		5305-923-0074	916-35	(02708)	SCREW, SHOULDER, release valve lock	EA	1	*	*	*	*	2-1	48
						GROUP 04								
						RAM AND RESERVOIR ASSEMBLY								
				986S	(02708)	CYLINDER, ASSEMBLY		1					2-1	
Р	0		1730-670-9795	916-49	(02708)	.ADAPTER, AIRCRAFT JACK, 1 in. cup	EA	1	*	*	*	*	2-1	58
Р	0		1730-570-1520	916-36	(02708)	.PLUG, air vent & filter		1	*	*	*	*	2-1	61
Р	0		5330-286-3696	916-11	(02708)	.WASHER, NONMETALLIC, air vent & filter plug	EA	1	*	*	*	*	2-1	62
Р	0		5305-724-5824	MS51965-79	(96906)	.SETSCREW, adapter retaining (RPLS - P/N MS51027-	EA	1	*	*	*	*	2-1	59
						79)								
Р	0		5310-675-6542	986-13	(02708)	.NUT, PLAIN, KNURLED, safety	EA	1	*	*	*	*	2-1	60
Р	0		1730-684-2765	986-12	(02708)	.BEARING, SLEEVE, cylinder head	EA	1	*	*	*	*	2-1	65
Р	0		5330-054-6888	AN6230B30	(88040)	.PACKING, PREFORMED, cylinder head sleeve	EA	1	*	*	*	*	2-1	67
Р	0		1730-670-9813	986-7	(02708)	EXTENSION, SCREW	EA	1	*	*	*	*	2-1	68
Р	0		5315-942-7251	915-118	(02708)	.PIN, STRAIGHT, HEADLESS, extension stop		1	*	*	*	*	2-1	69
Р	0		1730-779-4057	915-119	(02708)	.SPRING, STOP PIN		1	*	*	*	*	2-1	70
Р	0		1730-670-9812	986-6	(02708)	.RAM, JACK, HYDRAULIC	EA	1	*	*	*	*	2-1	71
X2	0		1730-671-1971	986-5	(20708)	.CYLINDER, JACK, HYDRAULIC	EA	1					2-1	72
X2	0		1730-671-1973	986-9	(02708)	.RING, CENTERING, JACK	EA	1					2-1	73
Р	0		1730-671-1972	986-8	(02708)	.PISTON, JACK	EA	1	*	*	*	*	2-1	74
P	0		5330-194-3729	AN6227B42	(88044)	.PACKING, PREFORMED, piston	EA	1	*	*	*	*	2-1	76
Р	0		5330-993-3792	AN6230B15	(88044)	.PACKING, PREFORMED, cylinder	EA	1	*	*	*	*	2-1	77
X2	0		1730-670-9811	986-4	(02708)	.RAM, JACK, HYDRAULIC, outer	EA	1					2-1	78
Р	0		5330-196-5350	AN6227N64	(88044)	.PACKING, PREFORMED, ram assy, outer	EA	1	*	*	*	*	2-1	79
X2	0		1730-671-1970	986-3	(02708)	.CYLINDER, JACK, HYDRAULIC, outer shell	EA	1					2-1	81
Р	0		5330-235-1675	AN6230B37	(88044)	.PACKING, PREFORMED, outer shell	EA	1	*	*	*	*	2-1	82
						SECTION IV (NOT APPLICABLE)								

Section VII-INDEX Part 1 Federal Stock Number Index

FEDERAL STOCK NUMBER	GROUP NUMBER	FEDERAL STOCK NUMBER	GROUP NUMBER
1730-540-8419	01	5120-525-7352	03
1730-570-1520	04	5120-596-7469	03
1730-670-9795	04	5120-629-5637	03
1730-670-9811	04	5305-269-2816	02
1730-670-9812	04	5305-724-5824	04
1730-670-9813	04	5305-921-0074	03
1730-671-1970	04	5310-637-9541	02
1730-671-1971	04	5310-675-6542	04
1730-671-1972	04	5310-732-0559	02
1730-671-1973	04	5310-763-8921	02
1730-671-1974	02	5315-234-1864	03
1730-671-1975	02	5315-791-9486	03
1730-684-2765	04	5315-942-7251	04
1730-730-9161	03	5330-054-6888	04
1730-730-9162	03	5330-141-1555	03
1730-730-9191	03	5330-194-3729	04
1730-776-6396	03	5330-193-5350	04
1730-779-4057	04	5330-235-1675	04
1730-866-2718	03	5330-286-3696	04
4730-215-2736	03	5330-350-9013	03
4730-624-7890	03	5330-579-3163	04
4730-727-5244	03	5330-582-2133	03
4730-854-4194	03	5330-829-9930	03
5120-215-2742	03	5330-993-3792	04

Part 2
Reference Number Index

REFERENCE NUMBER	MFG CODE	GROUP NUMBER	REFERENCE NUMBER	MFG CODE	GROUP NUMBER
AN6227B10	88044	03	915-99	02708	03
AN6227B42	88044	04	916-10	02708	03
AN6227B64	88044	04	916-11	02708	04
AN6230B15	88044	04	916-21	02708	03
AN6230B30	88044	04	916-35	02708	03
AN6230B37	88044	04	916-36	02708	04
MS24665-302	96906	03	916-37	02708	03
MS28775-011	96906	03	916-49	02708	04
MS28775-214	96906	03	916-50	02708	02
MS35338-46	96906	02	916-51	02708	02
MS51965-79	96906	04	916-7	02708	03
MS51967-23	96906	02	986-12	02708	04
MS51968-8	96906	02	987-13	02708	04
MS90726-72	96906	02	986-3	02708	04
915-100	02708	03	986-4	02708	04
915-117	02708	03	986-5	02708	04
915-118	02708	04	986-6	02708	04
915-119	02708	04	986-63	02708	02
915-127-10	02708	03	986-64	02708	02
915-127-19	02708	03	986-7	02708	04
915-15-25	02708	03	986-8	02708	04
915-151-34	-2708	03	986-9	02708	04
915-151-52	02708	03	986C	02708	03
915-17	02708	03	986CS	02708	01
915-68P	02708	03	986D	02708	03
915-75	02708	03	986SB	02708	04
915-85P	02708	03			

By Order of the Secretary of the Army:

W. C. WESTMORELAND
General, United States Army,

Chief of Staff.

Official:

KENNETH G. WICKHAM,

Major General, United States Army, The Adjutant General.

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