

CHANGE }  
NO. 7 }

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, DC, 29 August 1986

**Aviation Unit and Intermediate  
General Support Maintenance Manual**

**SLIDE VALVE ASSEMBLY  
PART NO. HP796100**

TM 55-1650-261-40, 3 January 1968, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

Remove pages

1 and 2

Insert pages

1 and 2

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

Official

R. L. DILWORTH  
Brigadier General, United States Army  
The Adjutant General

JOHN A. WICKHAM, JR.  
General, United States Army  
Chief of Staff

**DISTRIBUTION:**

To be distributed in accordance with DA Form 12-31, AVUM and AVIM requirements for OV-1B Airplane, Observation.

CHANGE }  
No. 6 }

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, DC, 13 February 1973

GS Maintenance Manual  
SLIDE VALVE ASSEMBLY  
PART NO. HP796100

TM 55-1650-261-40, 3 January 1968, is changed as follows:

Page 8. Paragraph 16 is superseded as follows:

16. Testing

Apply 18 to 30 VDC to solenoid assembly to determine if solenoid assembly is in a serviceable condition. Plunger (28) and spring (26) must be installed to facilitate testing.

Page 9. Add the following CAUTION between paragraphs 20c and 20d:

**CAUTION**

Release test hydraulic pressure before removing plug from return port.

Page 9. Add the following CAUTION after paragraph 20e:

**CAUTION**

Release hydraulic pressure prior to removing lines or plugs.

By Order of the Secretary of the Army:

Official:

VERNE L. BOWERS  
Major General, United States Army  
The Adjutant General

CREIGHTON W. ABRAMS  
General, United States Army  
Chief of Staff

**DISTRIBUTION:**

To be distributed in accordance with DA Form 12-31 (qty rqr blocks no.217 and 224, cumulative for all blocks) Direct And General Support Maintenance Requirements for OV-1A, B, and C, and OV-1D Aircraft.

CHANGE }  
No. 5, }

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D. C., 13 May 1969

GS Maintenance Manual

SLIDE VALVE ASSEMBLY

PART NO. IIP796100

TM 55-1650-261-40, 3 January 1968, is changed as follows:

Page 1. Add "Appendix B, Repair Parts and Special Tools List, Page 10" to Table of Contents.

Page 4, table 2. (As changed by C3, 27 August 68.) Under "Part, Model or Mil Des" column, delete "HA5-1-2-3-5-6-7;" add "I{ASDVRM1F3-4-7-8-9." In line 2, add "FMC 26337" to "Nomenclature" column.

Page 6.(As changed by C4, 20 Jan 69.) So much of Figure 3, Index No. 20 as reads "Part No. HIP796401" is changed to read "Part No. [IP796501."

Page 9, paragraph 19. (As changed by C3, 27 Aug 68.) In line 2, delete "Part No. IIA5-1-2-3-5-6-7:" add "Part No. HA5DVRM1F3-4-7-8-9."

Page 10. Appendix B is added as follows:

APPENDIX B

REPAIR PARTS AND SPECIAL TOOLS LIST

SECTION I. INTRODUCTION

**1. Scope**

This appendix lists repair parts, special tools, special purpose test equipment and maintenance supplies required for the performance of general support maintenance of the valve, directional flow.

**2. General**

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

a. Repair Parts - Section II. A list of repair parts and maintenance supplies (MSUP) authorized for the performance of maintenance at the general

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\*These changes supersede Change 4, 20 January 1969.

support level. This section is arranged in figure and item number sequence. Items appearing more than once in an assembly will be repeated to show relationship to the illustration. The illustrations appear in the narrative portion of this manual.

b. Special Tools and Test Equipment - Section III. Not applicable.

c. Federal Stock Number and Reference Number Indexes - Section IV.

This section is divided as follows:

(1) A list of Federal stock numbers in ascending numerical sequence, cross-referenced to illustration figure number and item number.

(2) A list of reference numbers in ascending alpha-numerical sequence, cross-referenced to illustration figure number, item number and Federal supply code for manufacturer.

### 3. Explanation of Columns

The following provides an explanation of columns in the tabular lists in Sections II and III.

a. Source, Maintenance and Recoverability Codes (SMR) - Column 1. (Common hardware type items are not assigned SMR codes.)

(1) Source code indicates the selection status and source for the listed item.

CODE	EXPLANATION
P	Applies to repair parts which are stocked in or supplied from the GSA/DSA, or Army support system and authorized for use at indicated maintenance categories.
X1	Applies to repair parts which are not procured or stocked, the requirement for which will be supplied by use of next higher assembly or component.
X2	Applies to repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain through cannibalization; if not obtainable through cannibalization, such repair parts will be requisitioned with accompanying justification through normal supply channels.

(2) Maintenance code indicates the lowest category of maintenance authorized to install the listed item. Capabilities of higher maintenance categories are considered equal or better.

CODE EXPLANATION

H General Support Maintenance Category

(3) Recoverability code indicates whether unserviceable items should be returned for recovery or salvage. Repair parts and assemblies not assigned a recoverability code shall be considered expendable; however, repair may be accomplished on such items to the extent that maintenance instructions and parts are available to the maintenance category authorized to remove, repair and replace the item.

CODE EXPLANATION

R Applies to repair parts and assemblies which are economically repairable at DSU and GSU activities and normally are furnished by supply on an exchange basis.

- b. Federal Stock Number - Column 2. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes. An item in one of the following categories will not be published with a Federal stock number.

Items source coded A, M or X1

c. Description - Column 3. This column indicates the Federal item name and any additional description of the item required. There are two sub columns for column 3, which reflect the reference number and models usable on data.

(1) The part number or other reference number followed by the applicable five-digit Federal supply code for manufacturer in parentheses will appear in the subcolumn located to the extreme left of the description column.

(2) The models usable on data applicable to the equipment will appear in the subcolumn located to the extreme right of the description column. Not applicable.

d. Unit of Issue (U/I) - Column 4. This column lists the standard or minimum basic quantity in which the item is issued; e.g.: each, pound, set, etc,

e. Quantity Incorporated in Unit - Column 5. This column indicates quantities required for one assembly only, including instances when similar assemblies are broken down together. When attaching parts are shown as attaching two or more items, the quantities of the attaching parts are those necessary to attach only one of the items. The alphabetic symbol "AR" in this column indicates AS REQUIRED quantities.

*f. 30-Day GS Maintenance Allowances - Column 6.*

(1) The allowance column is divided into three sub columns. 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 the letters "REF" in the applicable allowance columns. 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 GS level of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

(3) Determination of the total quantity of parts required for maintenance of more than 100 of these equipments can be accomplished 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 40; for 150 equipments multiply 40 by 1.50 or 60 parts required.

*g. 1-Year Allowances per 100 Equipment/Contingency Planning Purpose Column 7.* This column indicates opposite the first appearance of each item, the total quantity required for distribution and contingency planning purpose. to provide for adequate support of 100 equipments for one year.

*h. Depot Maintenance Allowance per 100 Equipments - Column 8. Not applicable.*

*i. Illustration - Column 9. This column is divided as follows:*

(1) *Figure number - sub column 9a.* This column indicates the figure number of the illustration in which the item is shown. The alpha designator "MSUP" in this column indicates maintenance supplies which are located in Section II.

(2) *Item number - subcolumn 9b.* This column indicates the callout number used to reference the item in the illustration.

#### 4. How to Locate Repair Parts

a. When Federal stock number or reference number is unknown.

(1) *First.* Find the illustration covering the assembly group to which the repair part belongs.

(2) *Second.* Identify the repair part on the illustration and note the illustration figure and item number of the repair part.

(3) Third. Using the Repair Parts Listing, find the assembly group to which the repair part belongs and locate the illustration figure and item number noted on the illustration.

b. When Federal stock number or reference number is known.

(1) First. Using the Index of Federal Stock Numbers or Reference Numbers find the pertinent Federal stock number or reference number. These indexes are in ascending Federal stock number and alpha-numerical sequence, cross-referenced to the illustration figure number and item number.

(2) Second. Using the Repair Parts Listing, find the assembly group of the repair part and the illustration figure number and item number referenced in the subject indexes.

#### 5. Federal Supply Code for Manufacturer

CODE	MANUFACTURER AND LOCATION
26337	Greer Hydraulics Inc. 5930 W Jefferson Blvd. Los Angeles CA 90016
81348	Federal Specifications Promulgated by General Services Administration
81349	Military Specifications Promulgated by Standardization Div Directorate of Logistic Services DSA
84685	Hydra-Power Corp Div of Teledyne Inc. 310 Main St. New Rochelle NY 10801
88044	Aeronautical Standards Group Dept of Navy and Air Force
96906	Military Standards Promulgated by Standardization Div Directorate of Logistic Services DSA

(1) SOURCE, MAINT AND RECV CODE			(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE		MODELS USABLE ON	(4) UNIT OF ISSUE	(5) QTY INC IN UNIT	(6) 30-DAY GS MAINT ALW			(7) 1-YR ALWPER 100 EQUIP ENVTGCTY	(8) DEPOT MAINT ALWPER 100 EQUIP	(9) ILLUSTRATION	
(a) SOURCE CODE	(b) MAINT CODE	(c) RECV CODE							(e) 1-20	(b) 21-50	(c) 51-100			(a) FIG NO	(b) ITEM NO
	R		1650-776-1958	HP796100 G802-10SL3P113	(84685)			EA	1					3	
			5305-941-9437	AN500AD4-6	(88044)			EA	4	*	*	*		3	1
P	H		5330-601-5468	HP345129	(84685)			EA	2	*	*	*		3	2
X2	H			HP663118	(84685)			EA	1	*	*	*		3	3
P	H		1650-994-4283	HP296111	(84685)			EA	2	*	*	*		3	4
P	H		5340-088-9046	HP663111	(84685)			EA	1	*	*	*		3	5
			5330-618-8893	MS28774-16	(96906)			EA	1	*	*	*		3	6
			5330-684-3419	MS28775-016	(96906)			EA	1	*	*	*		3	7
			5330-543-7090	MS28774-12	(96906)			EA	2	*	*	*		3	8
			5330-584-0265	MS28775-012	(96906)			EA	1	*	*	*		3	9
X2	H			HP663110	(84685)			EA	1	*	*	*		3	10
				HP663112	(84685)			EA	1	*	*	*		3	11
P	H		1650-996-2143	HP796105	(84685)			EA	1	*	*	*		3	12
X1	H			HP663102	(84685)			EA	1	*	*	*		3	13
P	H		5975-966-4470	HP663113	(84685)			EA	1	*	*	*		3	14
			5330-618-8893	MS28774-16	(96906)			EA	1	*	*	*		3	15
			5330-684-3419	MS28775-016	(96906)			EA	1	*	*	*		3	16
P	H		4730-969-9690	HP663114	(84685)			EA	1	*	*	*		3	17
			5330-585-9771	MS28775-004	(96906)			EA	1	*	*	*		3	18
X2	H			HP796501	(84685)			EA	1	*	*	*		3	19
				HP796104	(84685)			EA	1	*	*	*		3	20
			5305-150-9212	AN502-10-8	(88044)			EA	1	*	*	*		3	21
P	H		5945-966-4473	HP663504	(84685)			EA	1	*	*	*		3	22
			5330-833-4210	MS28774-17	(96906)			EA	1	*	*	*		3	23
			5330-818-1920	MS28775-017	(96906)			EA	1	*	*	*		3	24
				HP663106	(84685)			EA	1	*	*	*		3	25
P	H		5945-993-6269	HP663108	(84685)			EA	1	*	*	*		3	26
X1	H			HP663104	(84685)			EA	2	*	*	*		3	27
			5305-253-5603	MS21318-1	(96906)			EA	1	*	*	*		3	28
X1	H			HP796201M	(84685)			EA	1	*	*	*		3	29
				P-8				EA	1	*	*	*		3	30
				EC-10				EA	1	*	*	*		3	31
P	H		1650-895-9328	HP7962	(84685)			EA	1	*	*	*		3	32
P	H		1650-895-9329	HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*		3	
				HP7963	(84685)			EA	1	*	*	*		3	
				HP7962	(84685)			EA	1	*	*	*			



(1) SOURCE, MAINT AND RECOV CODE			(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION REFERENCE NUMBER & MFR CODE		(4) UNIT OF ISSUE	(5) QTY INC IN UNIT	(6) 30-DAY MAINT ALW			(7) 1-YR ALWPER 100 EQUIP CNTGCV	(8) DEPT MAINT ALWPER 100 EQUIP	(9) ILLUSTRATION	
(a) SOURCE CODE	(b) MAINT RECOV CODE	(c) RECOV CODE						(a) 1-20	(b) 21-50	(c) 51-100			(a) FIG NO	(b) ITEM NO
					MAINTENANCE SUPPLIES									
			3439-224-3567	(81348)	SOLDER, TIN ALLOY COMPOSITION SN60, . . FED QQ-S-571, 5 LB SPOOL	EA	AR	*	*	*				MSUP
			5350-221-0872	(81348)	CLOTH, ABRASIVE-CROCUS GRADE, 9 IN.W, 11 IN. LG, FED P-C-458	SV	AR	*	*	*				MSUP
			6850-264-9038	(81348)	DRY CLEANING SOLVENT LIQUID FORM, . . FOR DEGREASING METALS AND DRY CLEANING, FED-D-680, TYPE 1, 5 GAL	PL	AR	*	*	*				MSUP
			8010-527-2884	(81349)	LACQUER-ACRYLIC NITROCELLULOSE. . . . TYPE, JET BLACK, LUSTERLESS, 40 MIN MAX DRY HARD TIME, MIL-L-19358 1 GAL	CN	AR	*	*	*				MSUP
			9150-252-6383	RL102A	(81439)	HYDRAULIC FLUID, PETROLEUM BASE. . . . ANTIWEAR, CORROSION & OXIDATION RESISTANT, RED, MIL-H-5606, 1 QT	QT	AR	*	*	*			MSUP
			9150-265-9413	(81349)	HYDRAULIC FLUID, PETROLEUM BASE. . . . ANTIWEAR, CORROSION & OXIDATION RESISTANT, RED, MIL-H-6083, TYPE 1, 1 QT CAN	QT	AR	*	*	*				MSUP
					SECTION III SPECIAL TOOLS AND TEST EQUIPMENT									
					(NOT APPLICABLE)									

**FEDERAL STOCK NUMBER CROSS-REFERENCED TO  
FIGURE AND ITEM NUMBER**

<b>STOCK NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>	<b>STOCK NUMBER</b>	<b>FIG.</b>	<b>ITEM</b>
1650-776-1958	3				
1650-895-9328	3				
1650-895-9329	3				
1650-994-4283	3	5			
1650-996-2143	3	13			
3439-224-3567	MSUP				
4730-969-9690	3	18			
5305-150-9212	3	22			
5305-253-5603	3	31			
5305-941-9437	3	2			
5330-543-7090	3	9			
5330-584-0265	3	10			
5330-585-9TT1	3	19			
5330-601-5468	3	3			
5330-618-8893	3	7			
5330-618-8893	3	16			
5330-684-3419	3	8			
5330684-3419	3	17			
5330-18-1920	3	25			
5330-833-4210	3	24			
5340-088-9046	3	6			
5350-221-0872	MSUP				
5945-966-4473	3	23			
5945-993-6269	3	28			
5975-966-4470	3	15			
6850-264-9038	MSUP				
8010-527-2884	NSUP				
9150-252-6383	MSUP				
9150-265-9413	MSUP				
			<b>8</b>		

**SECTION IV  
REFERENCE NUMBER  
CROSS-REFERENCED TO  
FIGURE AND ITEM NUMBER**

REFERENCE NUMBER	MFG CODE	FIG NUMBER	ITEM NUMBER	REFERENCE NUMBER	MFG CODE	FIG NUMBER	ITEM NUMBER
AN500AD4-6	88044	3	2	HP796100	84685	3	
AN502-10-8	88044	3	22	HP796104	84685	3	21
EC-10		3		HP796105	84685	3	13
GS02-10SL3P113		3	1	HP7962	84685	3	
HPS31-2		3		HP796201M	84685	3	32
HP296111	84685	3	5	HP7963	84685	3	
HP345129	84685	3	3	HP796501		3	20
HP663102	84685	3	14	MS21318-1	96906	3	31
HP663104	84685	3	29	NS28774-12	96906	3	9
HP663104-2		3	27	Ms28774-16	96906	3	7
HP663106		3	26	MS28774-16	96906	3	16
HP663108	84685	3	28	MS28774-17	96906	3	24
HP663110	84685	3	11	MS28775-004	96906	3	19
HP663111	84685	3	6	MS28775-012	96906	3	10
HP663112		3	12	Ms28775-016	96906	3	8
HP663113	84685	3	15	MB28775-016	96906	3	17
HP663114	84685	3	18	MS28775 -017	96906	3	25
HP663118	84685	3	4	P-8		3	
'P663504	84685	3	23	RL102A	81349	MSUP	

By Order of the Secretary of the Army:

Official

KENNETH G. WICKHAM,  
Major General, United States Army,  
The Adjutant General

W. C. WESTMORELAND,  
General, United States Army,  
Chief of Staff.

**DISTRIBUTION:**

To be distributed in accordance with DA Form 12-31 (qty rqr block no. 11) requirements for Direct and General Support Maintenance Instructions for OV-1 Aircraft.

CHANGE

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, DC, 11 June 1968

No. 2

General Support Maintenance Manual

SLIDE VALVE ASSEMBLY

PART NO. HP796100

TM 55-1650-261-40, 3 January 1968, is changed as follows:

Page 6. The nomenclatures and part numbers for Figure 3 are superseded as follows:

Figure & Index No.	Part No.	Description 1 2 3 4 5 6 7	Quantity	Usable
			Per Assembly	On Code
3-	HP796100	Slide Valve Assembly	1	
-1	GS02-10SL3P113	Connector, Receptacle, Electrical	1	
-2	AN500AC4-6	Screw	4	
-3	HP345129	Gasket, Rubber	2	
-4	HP663118	Spacer	1	
-5	HP296111	Lock, Thread	2	
-6	HP663111	Ring, Lock	1	
-7	MS28774-16	Retainer	1	
-8	MS28775-016	Packing	1	
-9	MS28774-12	Retainer	2	
-10	MS28775-012	Packing	1	
-11	HP663110	Cap, Pressure	1	
-12	HP663112	Spring	1	
-13	HP796105	Ring	1	
-14	HP663102	Spool Assembly	1	
-15	HP663113	Cap	1	
-16	MS28774-16	Retainer	1	
-17	MS28775-016	Packing	1	
-18	HP663114	Plug	1	
-19	MS28775-004	Packing	1	
-20	HP796401	Filter	1	
-21	HP796104	Flange	1	
-22	AN502-10-8	Screw	4	
-23	HP663504	Solenoid Assembly	1	
-24	MS28774-17	Retainer	1	
-25	MS28775-017	Packing	1	
-26	HP663106	Spring	1	
-27	HP663104-2	Lock, Thread	2	
-28	HP663108	Plunger	1	
-29	HP663104	Pilot Spool Assembly	1	

\* This Change supersedes Change 1, 15 April 1968.

Figure & Index No.	Part No.	Description							Quantity Per Assembly	Usable On Code
		1	2	3	4	5	6	7		
3-30	HP796103	Nameplate							1	
-31	ANS35-00-2	Screw							2	
-32	HP796201M	Body							1	
REF	HP7962	Kit, Overhaul								
REF	HP7963	Kit, Cure Date								

By Order of the Secretary of the Army:

Official:  
KENNETH G. WICKHAM,  
Major General, United States Army,  
The Adjutant General.

HAROLD K. JOHNSON,  
General, United States Army,  
Chief of Staff.

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**DEPARTMENT OF THE ARMY TECHNICAL MANUAL**  
**General Support Maintenance Manual**  
**SLIDE VALVE ASSEMBLY**  
**PART NO. HP796100**

Headquarters, Department of the Army, Washington, DC  
*3 January 1968*

**WARNING**  
**PRECAUTIONARY DATA**

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

USING TOXIC MATERIALS. Provide adequate ventilation, as cleaning solutions and testing chemicals are toxic. Avoid prolonged contact with solutions and chemicals.

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\*This publication supersedes TM 55-1650-261-40, 31 January 1964.

**SECTION I  
INTRODUCTION**

**1. General Information**

This technical manual comprises overhaul instructions for Slide Valve Assembly, Part No. HP796100, FSN 1650-776-1958 (see figure 1), manufactured by Hydra-Power (Corporation (84685), New Rochelle, New York. Sections I through IV of this technical manual contain instructions for this part number.

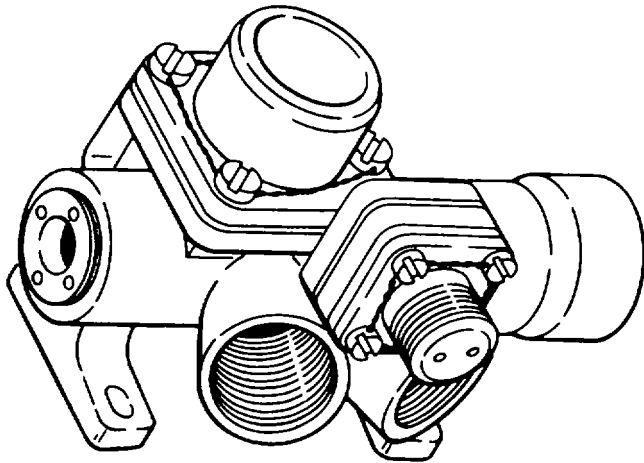


Figure 1. Slide Valve Assembly, Part No. HP796100.

**2. Reporting of Improvements**

Direct reporting of errors, omissions, and recommendations for improving this manual 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 Materiel Command, Attn.: AMSAV-M. P. O. Box 209, St. Louis, Missouri 63166.

**3. Purpose**

The slide valve assembly is used to control speed brake systems on aircraft.

**4. 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.

**5. Description**

The slide valve assembly is a two-position, four-way, single solenoid valve.

**6. Leading Particulars**

Leading particulars for the slide valve assembly are as follows:

Operating pressure	3000 psi
Proof pressure	4500 psi
Burst pressure	7500 psi
Current drain	75 amperes at 30 volts and 70°F (21°C)
Operating voltage	18 to 30 volts
Ambient temperature (+7 1C)	65°F t-53°C) to + 160F
Weight (actual)	2.25 lb

**7. Painting Requirements**

- Mask all ports, nameplates, holes, and electrical connector.
- Paint slide valve assembly in accordance with instructions listed in table 1.

**8. Preservation, Packaging, Packing, and Marking Requirements**

Preserve, package, pack, and mark slide valve assembly in accordance with instructions contained in figure 2.

Table 1. Painting Requirements

Item Name	Paint Type and Specification	Method of Application	No. of Coats	Notes
Slide Valve Assembly	Lacquer, Acrylic-Nitrocellulose, MIL-L-19538 Color Black 37038	Spray	2	Paint outside surface only.

<b>PRESERVATION, PACKAGING, PACKING AND MARKING REQUIREMENTS</b>																	
<b>NOMENCLATURE</b>  Valve Assembly, Slide		<b>STOCK NUMBER</b> 1650-776-1958  <b>PART NUMBER</b> HP796100															
<b>NET WEIGHT</b> 2.25 pounds	<b>DIMENSIONS</b>	<b>GROSS WEIGHT</b>	<b>CUBIC FEET</b>														
All specifications and standards applicable to the requirements herein shall be the issue in effect on date of invitation for bids.																	
<b>PACKAGING</b>																	
<input type="checkbox"/> LEVEL A <span style="margin-left: 200px;"><input type="checkbox"/> LEVEL B</span> <span style="margin-left: 100px;"><input type="checkbox"/> LEVEL C</span>																	
<input type="checkbox"/> PACKAGING SHALL BE IN ACCORDANCE WITH SPECIFICATION MIL-P-116. THE FOLLOWING DETAILED REQUIREMENTS SHALL APPLY:																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">UNIT</th> <th style="width: 15%;">PKG QTY</th> <th style="width: 20%;">METHOD</th> <th style="width: 20%;">PRESERVATIVE</th> <th style="width: 10%;">WRAP</th> <th style="width: 15%;">DUNNAGE</th> <th style="width: 10%;">CONTAINER</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				UNIT	PKG QTY	METHOD	PRESERVATIVE	WRAP	DUNNAGE	CONTAINER							
UNIT	PKG QTY	METHOD	PRESERVATIVE	WRAP	DUNNAGE	CONTAINER											
<input type="checkbox"/> OTHER (Specify)																	
NOTE: IF CONTRACTOR HAS A GOVERNMENT APPROVED ANA PT LIST, DISREGARD ABOVE REQUIREMENTS AND PACKAGE IN ACCORDANCE WITH SUCH LIST.																	
<b>PACKING</b>																	
<input type="checkbox"/> LEVEL A <span style="margin-left: 200px;"><input type="checkbox"/> LEVEL B</span> <span style="margin-left: 100px;"><input type="checkbox"/> LEVEL C</span>																	
<input type="checkbox"/> ITEMS PACKAGED AS ABOVE SHALL BE PACKED IN CONTAINERS CONFORMING TO SPECIFICATION.																	
<input type="checkbox"/> ITEMS PACKAGED AS ABOVE SHALL BE PACKED IN ACCORDANCE WITH GOOD COMMERCIAL PRACTICE IN A MANNER ACCEPTABLE TO COMMON OR OTHER CARRIER AT THE LOWEST APPLICABLE RATE.																	
<input type="checkbox"/> ITEMS PACKAGED AS ABOVE WILL BE PACKED IN ACCORDANCE WITH SPECIFICATION.																	
<input type="checkbox"/> OTHER (Specify)																	
<b>MARKING</b>																	
MARKING SHALL BE IN ACCORDANCE WITH STANDARD MIL-STD-129.																	
<b>REMARKS</b>																	

Figure 2. Preservation, Packaging, Packing, and Marking Requirements



**SECTION II  
TEST EQUIPMENT, SPECIAL TOOLS AND MATERIALS**

**9. Test Equipment**

Test equipment required for overhaul of the slide valve assembly is listed in table 2.

**10. Special Tools**

Not applicable.

**11. Consumable Materials**

Consumable materials required during overhaul of the slide valve assembly are listed in table 3.

*Table 2. Test Equipment Required*

<b>Part, Model, or Mil Des</b>	<b>Nomenclature</b>	<b>Technical Description</b>
HA5-1-2-3-5-6-7	Hydraulic Test Bench (Greer Hydraulics, Inc., Los Angeles, California)	Used during final, testing of the slide valve assembly

*Table 3. Consumable Materials Required*

<b>Item No.</b>	<b>Material</b>	<b>Type or Grade</b>	<b>Government Specification</b>
1	Dry Cleaning Solvent		P-D-680
2	Cloth, Abrasive, Crocus		P-C-458
3	Hydraulic Fluid, Petroleum Base		MII,-H-5606
4	Hydraulic Fluid, Petroleum Base		MIL-H-6083
5	Solder, Tin Alloy		QQ-S- 571

**SECTION III  
OVERHAUL INSTRUCTIONS**

**12. Disassembly**

Disassemble the slide valve assembly in accordance with index number sequence assigned to exploded view illustration (figure 3) and the following instructions:

- a. Cut lock wire and remove connector (1) from body (32) by removing screws (2) and unsoldering electrical leads. Remove gaskets (3) and spacer (4).
- b. Remove locks (5) and ring (6) from body (32) allowing pressure cap assembly to extend from body.
- c. Separate retainer (7), packing (8), retainers (9), and packing (10) from pressure cap (11).
- d. Remove spring (12) and ring (13) from pilot spool assembly (14).

- e. Remove cap (15), retainer(16), and packing (17) from body (32).
  - f. Remove plug (18), packing (19), and filter (20) from body (32).
  - g. Cut lock wire and remove flange (21) from body (32) by removing screws (22).
  - h. Lift solenoid assembly (23) from body (32). Separate retainer (24) and packing (25) from solenoid assembly.
  - i. Remove spring (26), locks (27), plunger (28), and spool-plug assembly (29) from body (32). Unscrew spool-plug assembly from plunger.
  - i. Remove nameplate (30) from body (32) by removing screws (31).
- Note: Do not remove nameplate unless it is damaged, deteriorated, or requires reidentification

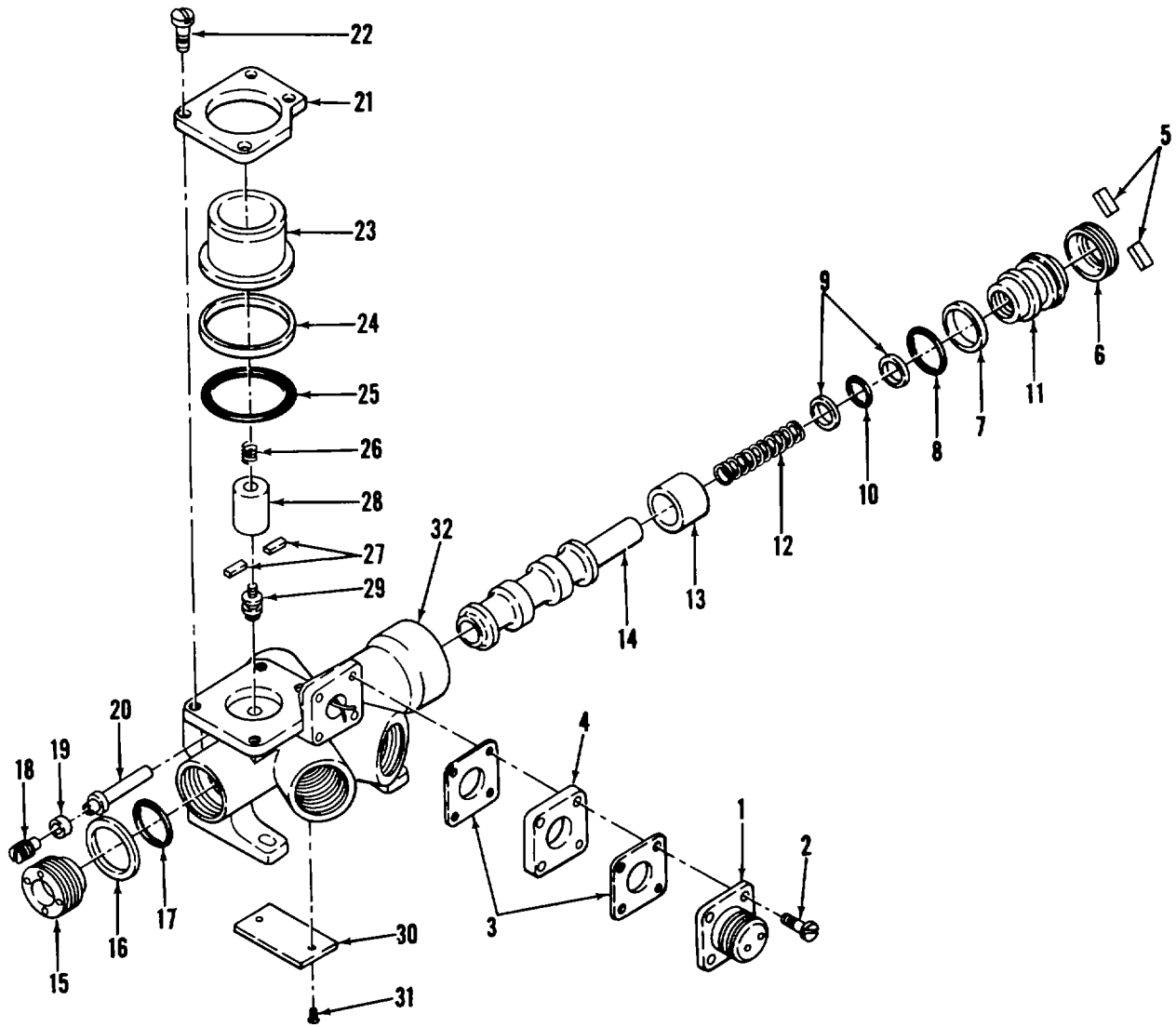


Figure 3. Slide Valve Assembly, Part No. HP796100, Exploded View

Figure & Index No.	Part No.	Description 1 2 3 4 5 6 7	Quantity Per Assembly	Usable On Code
3- -1	HP796100 GS02-10SL3 P13	SLIDE VALVE ASSEMBLY..... CONNECTOR, Receptacle, electrical .....	1 1	
-2	AN500AC4-6	(ATTACHING PARTS) SCREW .....	4	
-3	HP345129	GASKET, Rubber .....	2	
-4	HP663118	SPACER.....	1	
-5	HP296111	LOCK, Thread.....	2	
-6	HP663111	RING, Lock .....	1	
-7	MS28774-16	RETAINER.....	1	
-8	MS28775-016	PACKING.....	1	
-9	MS28774-12	RETAINER.....	2	
-10	MS28775-012	PACKING.....	1	
-11	HP663110	CAP, Pressure .....	1	
-12	HP663112	SPRING .....	1	
-13	HP796105	RING .....	1	
-14	HP663102	PILOT SPOOL ASSEMBLY.....	1	
-15	HP663113	CAP .....	1	
-16	MS28774-16	RETAINER.....	1	
-17	MS28775-016	PACKING.....	1	
-18	HP663114	PLUG .....	1	
-19	MS28775-004	PACKING.....	1	
-20	HP796501	FILTER .....	1	
-21	HP796104	FLANGE .....	1	
-22	AN502-10-8	(ATTACHING PARTS) SCREW .....	4	
-23	HP663504	SOLENOID ASSEMBLY.....	1	
-24	MS28774-17	RETAINER.....	1	
-25	MS28775-017	PACKING.....	1	
-26	HP663106	SPRING .....	1	
-27	HP663104-2	LOCK, Thread (Included with part No. HP 2) .....	2	
-28	HP663108	PLUNGER .....	1	
-29	HP663104	SPOOL-PLUG ASSEMBLY .....	1	
-30	HP796103	NAMEPLATE .....	1	
-31	AN535-00-2	(ATTACHING PARTS) SCREW .....	2	
-32	HP796500	BODY.....	1	

**13. Cleaning**

a. Clean all metallic parts with dry cleaning solvent (Item 1, table 3). Dry with clean, filtered compressed air not exceeding 15 psi.

b. Remove stubborn dirt or foreign matter from external surfaces of slide valve assembly by scrubbing with a stiff-bristled brush dipped in dry cleaning solvent (item 1, table 3). Dry each component with clean, filtered compressed air not exceeding 15 psi.

**14. Inspection**

a. Inspect all threaded components for crossed, stripped, or worn threads.

- b. Inspect all components for evidence of corrosion.
- c. Inspect filter for damaged screen.
- d. Inspect electrical receptacle connector for bent or broken pins.
- e. Inspect all metallic parts for breaks, cracks, nicks, scratches, scoring, distortion, gouging, or other obvious defects.
- f. Inspect springs for deterioration and damage.
- g. Inspect solenoid assembly for condition of cover and wiring for wear and damage.
- h. Refer to table 4 for serviceability of parts.

*Table 4. Non-Destructive Test Data*

Fig.. Item	Descriptive Nomenclature	Type of Test	Procedure	Applicable Defects
3-1	Connector	Visual		Replace if pins are broken or damaged.
3-12	Spring	Mechanical		Replace if damaged or if it does not support 20.7 pounds + 10 percent at 1.255 inches.
3-7	Retainer	Visual and Dimensional		Replace if OD exceeds 0.500 + 0.005 inch and ID exceeds 0.374 + 0.001 inch.
3-20	Filter	Visual		Replace if filter screen is damaged or distorted.
3-23	Solenoid Assembly	Visual		Replace if case is damaged or if the wiring is damaged or worn to the extent it may impair proper function.
3-26	Spring	Visual and Mechanical		Replace if damaged or plating is deteriorated or if it will not support 3.0 pounds + 5 percent at 0.226 inch.
3-28	Plunger	Visual and Dimensional		Replace if OD exceeds 0.4350 + 0.005 inch.
3-14	Pilot Spool Assembly	Visual		The pilot spool assembly, spool-plug assembly, and body are mating lap surfaces and all must be replaced if any of the lap surfaces are damaged or scored and will not meet the test procedures cited herein. The reference lap diameter of the spool-plug assembly and body
3-29	Spool-Plug Assembly	Visual		is 0.625-inch diameter. The reference lap diameter of the pilot spool assembly and body
3-32	Body	Visual		is 0.187-inch diameter.

**15. Repair or Replacement**

a. Replace all packings, retainers, gaskets, and nylon thread locks.

Note: The age of all packings must not exceed 24 months from date of manufacture at time of reassembly of the unit.

b. Replace all parts that have corresponding kitted parts and all parts that do not meet the

serviceability criteria of table 4.

c. Straighten bent electrical receptacle connector pins with a standard pin straightener.

d. Clean and neutralize all areas showing signs of corrosion.

e. Replace all threaded components that have crossed, stripped, or worn threads.

f. Resolder all connections, when required, in

accordance with Military Specification MIL-S-6872.

g. Replace all metallic parts exhibiting breaks, cracks, or distortion.

*Note:* Minor external nicks and scratches may be worked smooth with cloth (item 2, table 3).

**16. Testing**

Apply 18 to 30 vdc to solenoid assembly to determine if solenoid assembly is in a serviceable condition.

**17. Lubrication**

Lubricate packings and related components with hydraulic fluid (item 3, table 3) or hydraulic fluid (item 4, table 3) prior to reassembly.

**18. Reassembly**

a. Install nameplate (30, figure 3), if removed, and secure with screws (31).

b. Screw spool-plug assembly (29) onto plunger (28). Install spool-plug assembly, plunger, locks

(27), and spring (26) in body (32).

c. Install new packing (25) and retainer (24) on solenoid assembly (23). Position solenoid assembly in body (32).

d. Position flange (21) over solenoid assembly (23) and secure to body (32) using screws (22).

e. Install new packing (19) on plug (18). Insert filter (20) in body (32) and install plug.

f. Install packing (17) and retainer (16) in recess of cap (15), and install cap in body (32).

g. Position ring (13) on pilot spool assembly (14). Insert pilot spool assembly, ring, and spring (12) in body (32).

h. Install new packings (8 and 10) and retainers (7 and 9) on cap (11). Install cap in body (32) and secure with ring (6) and locks (5).

i. Properly place gaskets (3) and spacer (4) on body (32). Extend wire leads through gasket and spacer. Solder leads to connector (2) using solder (item 5, table 3). (See figure 4.)

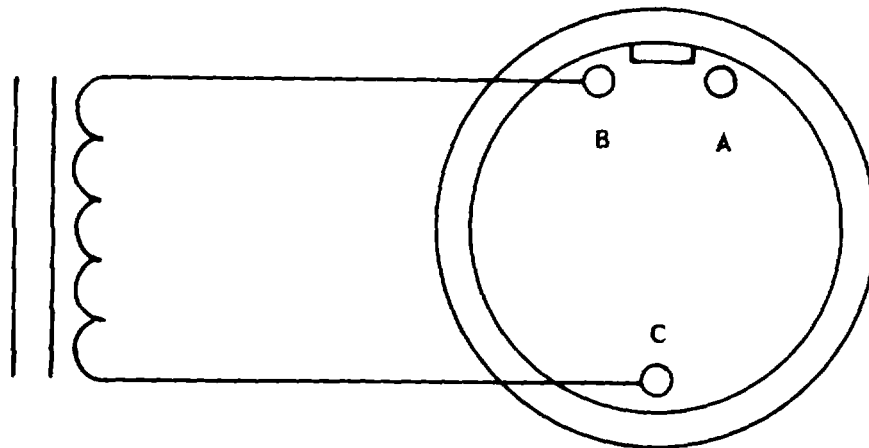


Figure 4. Slide Valve Assembly Wiring Diagram.

j. Properly position connector (1), gaskets (3), and spacer (4) on body (32) insuring holes in parts align with threaded holes in body and install screws (2).

*Note:* Do not lockwire any hardware until test procedures have been completed.

SECTION IV  
FINAL TEST PROCEDURES

**19. General Test Procedures**

Bench-test the slide valve assembly, using hydraulic test stand, part No. HA5-1-2-3-5-6-7. The proof pressure test must be performed first, but thereafter the sequence of performance of the following tests is immaterial. Hydraulic fluid used during tests must conform to Military Specification MIL-H-

5606 or MIL-H-6083. Filter the hydraulic fluid of all foreign matter over 10 microns in size. Conduct tests at room temperature of 70° to 90°F (21° to 32°C) and an oil temperature of 70° to 109°F (21° to 43°C). Record the actual oil temperature during tests.

**20. Proof Pressure Test.**

a. Deenergize solenoid assembly. (See figure 5.)

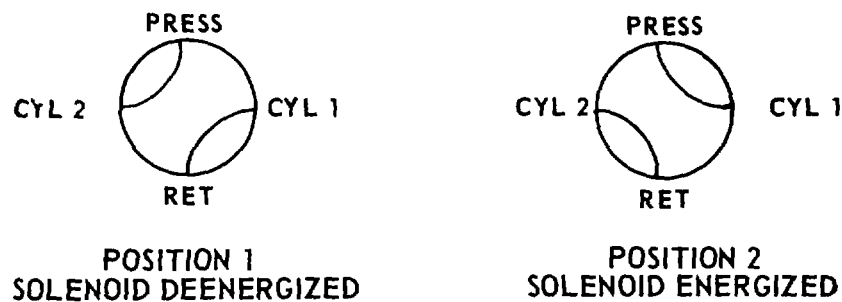


Figure 5. Slide Valve Assembly Schematic Diagram.

- b. Plug return and cylinder ports.
- c. Apply a hydraulic pressure of 4500 psig to pressure port and hold for 1 minute. There must be no evidence of external leakage, failure, or permanent set.
- d. Remove plug from return port and plug pressure port.
- e. Apply a hydraulic pressure of 4500 psig to return port and hold for 1 minute. There must be no evidence of external leakage, failure, or permanent set.

**21. Actuation Test**

- a. Cap cylinder ports with gages and open return port to drain.
- b. With solenoid assembly deenergized, apply a hydraulic pressure of 3000 psig to pressure port. Gage at cylinder port 2 must read 3000 psig.
- c. Energize solenoid assembly. Gage at cylinder port 1 must read 3000 psig, and gage at cylinder port 2 must read 0 psig.
- d. Deenergize solenoid assembly. Gage at cylinder port 2 must read 3000 psig, and gage at cylinder port 1 must read 0 psig.
- e. Perform steps c and d above 13 times, applying a hydraulic pressure of 100 psig instead of 3000 psig.

f. In each of the above tests, there must be no evidence of lag or hesitation during actuation.

**22. Leakage Test**

- a. Plug cylinder port 2. With solenoid assembly deenergized, apply a hydraulic pressure to pressure port.
- b. Remove plug from cylinder port 2 and plug cylinder port 1. With solenoid assembly energized, apply a hydraulic pressure of 3000 psig to pressure port.
- c. Remove plug from cylinder port 1 and plug cylinder port 2. With solenoid assembly deenergized, apply a hydraulic pressure of 5 psig to pressure port.
- d. Remove plug from cylinder port 2 and plug cylinder port 1 and increase pressure at pressure port to 100 psig. With solenoid assembly energized, apply a hydraulic pressure of 5 psig to pressure port.
- e. In each of the above tests, combined leakage from open ports must not exceed 20 cc a minute, measured immediately after selection.
- f. Lockwire screws (2, figure 3) and screws (22) upon completion of tests.

## APPENDIX A

REFERENCES

---

MIL-P-116	Preservation, Methods of
MIL-S-6872	Soldering Process, General Specification for
MIL-STD-129	Marking for Shipment and Storage
MS33540	Safety Wiring, General Practices for
TM 38-750	Army Equipment Record Procedures

By Order of the Secretary of the Army:

Official:

KENNETH G. WICKHAM,  
Major General, United States Army,  
The Adjutant General.

HAROLD K. JOHNSON,  
General, United States Army,  
Chief of Staff.

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