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10 May 1985
SUPERSEDING
FED-STD-H28/18
31 August 1978

FEDERAL STANDARD
SCREW-THREAD STANDARDS FOR FEDERAL SERVICES
SECTION 18
PHOTOGRAPHIC EQUIPMENT THREADS

This standard was approved by the Assistant Administrator,
Office of Federal Supply and Services, General Services
Administration, for the use of all Federal Agencies.

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NO DELIVERABLE DATA REQUIRED BY THIS DOCUMENT

THIS

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INFORMATION SHEET ON FEDERAL STANDARDS

This Federal Standard is issued in loose-leaf form to permit the insertion or removal of new or revised pages and sections.

All users of Federal Standards should keep them up to date by inserting revised or new pages as issued and removing superseded and cancelled pages.

New and revised pages will be issued under Change Notices which will be numbered consecutively and will bear the date of issuance. Change Notices should be retained and filed in front of the standard until such times as they are superseded by a reissue of the entire standard.

FOREWORD

This section was developed in order to provide photographic equipment thread data for the Federal Services. The present issue is a complete revision of FED-STD-H28/18 dated 31 August 1978.

FED-STD-H28/18A was prepared by the Defense Industrial Supply Center (DLA-IS). The following significant changes from the previous issue are included:

- (1) Connection details have been replaced by references to controlling standards.
- (2) Threads for attaching mounted lenses, which originally appeared in the American National Standard ANSI PH3.10-1954, have been removed. The ANSI PH3.10-1954 was withdrawn as a standard as of 18 January 1965.
- (3) Attachment thread sizes for lens accessories, which originally appeared in the superseded American National Standard ANSI PH3.12-1953, have been revised to agree with ANSI PH3.103-1983. These new sizes are consistent with a proposed revision of the International Standard, ISO 1948-1973.
- (4) Tapered threads for shutter cable release tip/socket, which originally appeared in the superseded American National Standard ANSI PH3.23-1950, have been revised to agree with ANSI PH3.107-1983 (ANSI/ISO 6053-1979). Release tip threads are interchangeable.
- (5) Straight threads for shutter cable release tip/socket, which originally appeared in the American National Standard ANSI PH3.24-1950, have been removed. The ANSI PH3.24-1950 was withdrawn as a standard as of 3 March 1976.
- (6) Added lens mount thread data for 16mm and 8mm motion picture cameras.

SECTION 18 - PHOTOGRAPHIC EQUIPMENT THREADS

1. Scope. This section describes the screw threads commonly used on photographic equipment in order to promote interchangeable connections.

2. Referenced documents.

2.1 Government publications. The issues of the following documents in effect on the date of invitation for bids or request for proposal form a part of this standard to the extent specified herein.

Federal standards.

- FED-STD-H28/1 Nomenclature, Definitions and Letter Symbols for Screw Threads.
 FED-STD-H28/2 Unified Inch Screw Threads - UN and UNR Thread Forms
 FED-STD-H28/20 Inspection Methods for Acceptability of UN, UNR, UNJ, M, and MJ Screw Threads
 FED-STD-H28/21 Metric Screw Threads

(Activities outside the Federal Government may obtain copies of Federal specifications, standards and commercial item descriptions as outlined under General Information in the Index of Federal Specifications, Standards, and Commercial Item Descriptions. The Index, which includes cumulative bi-monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

(Single copies of this specification and other Federal specifications and commercial item descriptions required by activities outside the Federal Government for bidding purposes are available without charge from General Services Administration Business Service Centers in Boston, MA; New York, NY; Philadelphia, PA; Washington, DC; Atlanta, GA; Chicago, IL; Kansas City, MO; Fort Worth, TX; Houston, TX; Denver, CO; San Francisco, CA; Los Angeles, CA; and Seattle, WA.

(Federal Government activities may obtain copies of Federal standardization documents, and the Index of Federal Specifications, Standards, and Commercial Item Descriptions from established distribution points in their agencies.)

2.2 Other publications. The following documents form a part of this standard to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

American National Standards.

- ANSI PH3.101 Photography (cameras) - Tripod connections for American cameras (1/4-inch-20 thread)

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- ANSI PH3.102 Photography (cameras)-Tripod connections for heavy-duty or imported cameras (3/8-inch-16 thread with adapter for 1/4-inch-20 tripod screws)
- ANSI PH3.103 Photography (cameras)-Lens barrel attachment threads for lens accessories
- ANSI PH3.107 Photography (cameras)-Shutter cable release and socket-dimensions
- ANSI PH22.76 Threaded Lens Mounts for 16mm and 8mm Motion Picture Cameras

(Application for copies should be addressed to the American National Standards Institute, 1430 Broadway, New York, NY 10018.)

3. Definitions. Screw thread terms applicable to this standard are defined in FED-STD-H28/1

4. General requirements. Not applicable.

5. Detailed requirements.

5.1 Standard threads. Standard threads for photographic equipment are listed in Table XVIII.1.

5.2 Screw thread acceptability. Inspection methods for acceptability shall be in accordance with FED-STD-H28/20. The required gaging system shall be specified in accordance with that document.^{1/}

MILITARY INTERESTS:

CIVIL AGENCY COORDINATING ACTIVITY:

Custodians:

GSA - FSS

- Army - AR
- Navy - AS
- Air Force - 11

Review Activities:

PREPARING ACTIVITY

- Army - ER, MI
- DLA - GS

DLA - IS

(DoD Project TRDS-0055)

^{1/}Gaging systems are defined in ANSI B1.3 which is incorporated in FED-STD-H28/20.

TABLE XVIII.1. Standard Threads for Photographic Equipment

<u>Connection</u>	<u>Standard Threads</u>	<u>Controlling Thread Standards</u>	<u>Controlling Connection Standards</u>
Tripod Connections	.250-20UNC-1A/LB ^{1/}	FED-STD-H28/2 ^{2/}	ANSI PH3.101
	.266-20UNS-1B ^{3/}	FED-STD-H28/2 ^{2/}	ANSI PH3.101
	.375-16UNC-1A/LB ^{4/}	FED-STD-H28/2 ^{5/}	ANSI PH3.102
Lens Accessory Attachments	M13.5x0.5-6H/6g ^{5/}	FED-STD-H28/21 ^{6/}	ANSI PH3.103
	M16.5x0.5-6H/6g ^{5/}		
	M19.5x0.5-6H/6g ^{5/}		
	M22.5x0.5-6H/6g ^{5/}		
	M25.5x0.5-6H/6g ^{5/}		
	M30.5x0.5-6H/6g ^{5/}		
	M35.5x0.5-6H/6g ^{5/}		
	M40.5x0.5-6H/6g ^{5/}		
	M43x0.75-6H/6g ^{5/}		
	M46x0.75-6H/6g ^{5/}		
	M49x0.75-6H/6g ^{5/}		
	M52x0.75-6H/6g ^{5/}		
	M55x0.75-6H/6g ^{5/}		
	M58x0.75-6H/6g ^{5/}		
	M62x0.75-6H/6g ^{5/}		
	M67x0.75-6H/6g ^{5/}		
	M72x0.75-6H/6g ^{5/}		
M77x0.75-6H/6g ^{5/}			
M82x0.75-6H/6g ^{5/}			
M86x1.0-6H/6g ^{5/}	FED-STD-H28/21 ^{6/}	ANSI PH.103	
M95x1.0-6H/6g ^{5/}			
Shutter Cable Release Tip/Socket, Tapered Thread Connections	Special See Figure 18.1	ANSI PH3.107	ANSI PH3.107
Shutter Cable Release Tip/Socket, Straight Thread Connections	M3.4 x0.5-6H	FED-STD-H28/21 ^{6/}	ANSI PH3.107
Lens Mounts for Motion-Picture Cameras	1-32UN-2A (for 16mm)	FED-STD-H28/2 ^{2/}	ANSI PH22.76
	.625-32UN-2A (for 8mm)	FED-STD-H28/2 ^{2/}	ANSI PH22.76

- Notes: 1/ In ISO 1222-1973, an allowance of 0.0043 inch is applied to pitch and major diameters of the internal thread.
- 2/ The equivalent industry standard for unified screw threads is ANSI B1.1. This standard is incorporated into FED-STD-H28/2.
- 3/ Non-standard socket thread used to accommodate an oversized tripod screw thread.
- 4/ In ISO 1222-1973, an allowance of 0.0059 inch is applied to pitch and major diameters of the internal thread.
- 5/ In ANSI PH3.103, tolerance class is indicated as inch standard class 2.
- 6/ The equivalent industry standard for metric M profile screw threads is ANSI/ASME B1.13M. This standard is incorporated into FED-STD-H28/21.

