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**NBS  
Voluntary  
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Standard**

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# VOLUNTARY PRODUCT STANDARDS

*Voluntary Product Standards* are standards developed under procedures established by the Department of Commerce (15 CFR Part 10, as amended, May 28, 1970). The standards may include (1) dimensional requirements for standard sizes and types of various products, (2) technical requirements, and (3) methods of testing, grading, and marking. The objective of a *Voluntary Product Standard* is to establish requirements which are in accordance with the principal demands of the industry and, at the same time, are not contrary to the public interest.

## Development of a VOLUNTARY PRODUCT STANDARD

The Office of Engineering Standards Services of the National Bureau of Standards has been assigned by the Department of Commerce the responsibility to work closely with scientific and trade associations and organizations, business firms, testing laboratories, and other appropriate groups to develop *Voluntary Product Standards*. The Bureau has the following role in the development process: It (1) provides editorial assistance in the preparation of the standard; (2) supplies such assistance and review as is required to assure the technical soundness of the standard; (3) acts as an unbiased coordinator in the development of the standard; (4) sees that the standard is representative of the views of producers, distributors, and users or consumers; (5) seeks satisfactory adjustment of valid points of disagreement; (6) determines the compliance with the criteria established in the Department's procedures cited above; and (7) publishes the standard.

Industry customarily (1) initiates and participates in the development of a standard; (2) provides technical counsel on a standard; and (3) promotes the use of, and support for, the standard. (A group interested in developing a *Voluntary Product Standard* may submit a written request to the Office of Engineering Standards Services, National Bureau of Standards, Washington, D.C. 20234.)

A draft of a proposed standard is developed in consultation with interested trade groups. Subsequently, a Standard Review Committee is established to review the proposed standard. The committee, appropriately balanced, includes qualified representatives of producers, distributors, and users or consumers of the product being standardized. When the committee approves a proposal, copies are distributed for industry consideration and acceptance. When the acceptances show general industry agreement, and when there is no substantive objection deemed valid by the Bureau, the Bureau announces approval of the *Voluntary Product Standard* and proceeds with its publication.

## Use of a VOLUNTARY PRODUCT STANDARD

The adoption and use of a *Voluntary Product Standard* is completely voluntary. *Voluntary Product Standards* have been used most effectively in conjunction with legal documents such as sales contracts, purchase orders, and building codes. When a standard is made part of such a document, compliance with the standard is enforceable by the purchaser or the seller along with other provisions of the document.

*Voluntary Product Standards* are useful and helpful to purchasers, manufacturers, and distributors. Purchasers may order products that comply with *Voluntary Product Standards* and determine for themselves that their requirements are met. Manufacturers and distributors may refer to the standards in sales catalogs, advertising, invoices, and labels on their product. Commercial inspection and testing programs may also be employed, together with grade labels and certificates assuring compliance, to promote even greater public confidence. Such assurance of compliance promotes better understanding between purchasers and sellers.

# Body Measurements for the Sizing of Boys' Apparel

Effective October 10, 1970 (See Section 6.)

(This Voluntary Product Standard, initiated by the Mail Order Association of America, has been developed under the *Procedures for the Development of Voluntary Product Standards*, published by the U.S. Department of Commerce, as a revision of CS 155-50, *Body Measurements for the Sizing of Boys' Apparel*. See Section 7, *History of Project*, for further information.)

## 1. PURPOSE

The purpose of this Voluntary Product Standard is to establish standard size designations and definitions for the guidance of those engaged in producing, distributing, or specifying boys' apparel and patterns. It is also intended to provide sales clerks and purchasers with a means of associating standard size designations with boys' body types so that the best fit may be obtained irrespective of price, type of garment, or by whom produced.

## 2. SCOPE AND CLASSIFICATION

**2.1. Scope**—This Voluntary Product Standard covers standard size designations and body measurements for the sizing of boys' apparel. The Standard also covers:

- a. Application of the system (see section 3).
- b. Recommended methods of identification (see section 5).
- c. Methods of measuring (see appendix A).
- d. Clothing allowances (see appendix B).
- e. Chest-waist measurements and drops (see appendix C).
- f. Sizing grades for regulars, huskys, and slims (see appendix D).
- g. Suggested span charts for regulars, huskys, and slims (see appendix E).

**2.2. Classification**—This Standard contains the following three sizing classifications:

- a. Boys' "Regulars"
- b. Boys' "Slims"
- c. Boys' "Huskys"

**2.3. Size designations and ranges**—The sizes are designated by numbers which identify a specific set of body measurements (see tables 2, 3, and 4). The sizes do not identify ages.

**2.3.1. Height**—The height of the boy (in his stocking feet) is the primary guide to size. The size designation is directly related to height and is not affected by girth (i.e., a boy 54 inches (137.16 cm) tall is a size 10 in all classifications, irrespective of his girth).

**2.3.2. Girth**—The girth of the boy is the secondary guide to size. He may be a "Slim," "Regular," or "Husky," depending on his waist and chest girths, which vary with each classification.

**2.3.3. Size range**—The size range for each classification is given in table 1.

TABLE 1. Size ranges

Classification	Size Range
Boys' Regulars.....	2 to 24
Boys' Slims.....	6 to 24
Boys' Huskys.....	6 to 24

**2.4. Body measurements**—Thirty different body measurements are provided for all boys' sizes above size 5. For sizes 2 to 5 where the body measurement data are less extensive, only 23 measurements are provided (see table 2).

**2.5. Grading**—A guide to grading has been included in appendix D. The difference between similar body measurements of consecutive sizes within a classification is called the grade.

## 3. APPLICATION

The measurements given herein are applicable to:

- a. Sizing or grading of garment patterns.
- b. Preparing specifications for apparel and model forms.
- c. Coordinating body measurements of boys with classifications and size designations for their apparel.
- d. Studying the marketing aspects of apparel sizing.

## 4. TABLES OF SIZE RANGES AND CORRESPONDING MEASUREMENTS

The size designations and corresponding body measurements are given in tables 2 to 4.<sup>1</sup>

<sup>1</sup> These tables were developed from the U.S. Department of Agriculture data used in United States Department of Agriculture Miscellaneous Publication No. 366.

TABLE 2. Body measurements for boys' REGULARS.

Size (number)	STATURE (inches) AND WEIGHT (pounds)																						
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23 <sup>b</sup>	24 <sup>b</sup>
Stature—in inches.....	34	37	40	43	46	48	50	52	54	56	58	59½	61	62½	64	65	66	67	68	69	70	71	72
Weight—pounds.....	29	34	38	44	49	54	59	65	73	80	87	93	100	107	115	121	126	132	138	145	152	160	168

	GIRTH MEASUREMENTS (inches)																						
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23 <sup>b</sup>	24 <sup>b</sup>
Chest.....	21	22	23	24	25	25½	26½	27½	28	28½	29½	30½	31½	32½	33	33½	34½	35½	36	36½	37½	38½	39
Waist.....	20½	21	21½	22	22½	23	23½	24	24½	25	25½	26½	27	27½	28	28½	29	29½	30	30½	31	31½	31½
Hip.....	21	22	23	24	25	25½	26½	27½	28	29	30	31	32	33	34	35	35½	36½	37½	38½	39½	39½	39½
Vertical trunk.....	33½	35½	38	40	42	43½	45	46½	48	49½	51	52½	54	55½	57	58½	59½	60½	61½	62½	63½	64½	65½
Neck base.....	10½	10½	10½	11	11½	11½	12	12½	12½	13	13½	13½	14	14½	14½	15	15½	15½	16	16½	16½	17½	17½
Armeyce.....	9	9½	10	10½	11	11½	11½	12	12½	12½	13	13½	14	14½	15	15½	16	16½	17	17½	17½	18½	18½
Upper arm.....	16	6	6	6½	6½	7	7½	7½	8	8	8½	8½	9	9	9½	9½	9½	10	10½	10½	10½	11	11½
Elbow.....	7½	8	8	8½	8½	8½	8½	8½	8½	9	9½	9½	9½	9½	10	10½	10½	10½	11	11½	11½	12	12½
Thigh.....	11½	12½	12½	13½	13½	14½	15	15½	16½	16½	17½	17½	18½	18½	19½	19½	20½	20½	21	21½	21½	22½	22½
Calf, maximum.....	9½	9½	9½	10	10½	10½	11	11½	11½	11½	12	12½	12½	12½	12½	12½	13	13½	13½	13½	14½	14½	15½
Knee.....	9½	10½	10½	11	11½	11½	12	12½	12½	12½	13	13½	13½	13½	13½	14½	14½	14½	14½	15½	15½	16½	16½

WIDTH AND LENGTH (inches) AND SLOPE (degrees) MEASUREMENTS

Shoulder length.....	2½	2½	2½	3	3½	3½	3½	3½	3½	3½	3½	4	4½	4½	4½	4½	4½	4½	4½	5	5½	5½	5½
Shoulder slope (degrees).....	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Cross-back width.....	8½	9½	9½	9½	10½	10½	10½	11½	11½	11½	12½	12½	12½	12½	13	13½	13½	13½	14	14½	14½	15	15½
Cross-chest width.....	8½	8½	9½	9½	9½	9½	9½	9½	10½	10½	10½	10½	11	11½	11½	12	12½	12½	12½	13	13½	13½	14½
Crotch length, total.....	16½	17½	18½	19½	19½	20½	21½	22½	22½	23½	24½	25½	25½	26½	27½	27½	28½	28½	29½	29½	30½	30½	31½
Cervicale to wrist length.....	15½	17½	18½	19½	21½	22½	23½	24½	25½	26½	27½	28	28½	29½	30½	31½	31½	31½	32½	32½	33½	33½	34½

VERTICAL MEASUREMENTS (inches)

Head and neck length.....	6½	7½	7½	7½	8	8½	8½	8½	8½	8½	8½	8½	9	9½	9½	9½	9½	9½	9½	9½	9½	9½	10
Cervicale height.....	27½	29½	32½	35½	38	39½	41½	43½	45½	47½	49½	50½	51½	53½	54½	55½	56½	57½	58½	59½	60½	61½	62
Scye depth, along spine.....	4½	4½	4½	4½	5½	5½	5½	5½	5½	6	6½	6½	6½	6½	7	7½	7½	7½	7½	7½	8½	8½	8½
Trunk line, along body.....	5½	5½	5½	5½	5½	5½	5½	5½	5½	6½	6½	6½	6½	7	7½	7½	7½	7½	8	8½	8½	8½	8½
Cervicale to waist, along curve of spine.....	8½	8½	9½	9½	10½	10½	11	11½	11½	12½	12½	13	13½	13½	14	14½	14½	15	15½	16	16½	17	17½
Neck to waist, along front of body.....	9½	9½	9½	9½	10	10½	10½	10½	11½	11½	12½	12½	13	13½	13½	14	14½	14½	15	15½	16	16½	17
Waist height.....	19½	21½	23½	26	28	29½	31	32½	34	35½	37	38	39	40	41	41½	42	42½	43	43½	44	44½	45
Waist to hips, along side of body.....	4½	4½	5	5	5½	5½	5½	5½	6½	6½	6½	6½	7	7½	7½	7½	8	8½	8½	8½	8½	8½	9½
Crotch height.....	13½	15	16½	18½	19½	21	22½	23½	24½	26	27½	28½	29½	30½	31	31½	31½	32½	32½	32½	32½	33½	33½
Knee height.....	8½	9½	10½	11½	12½	13½	14½	14½	15½	16	16½	17	17½	18	18½	18½	19	19½	19½	19½	19½	20	20
Ankle height.....	1½	1½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½

\* Dashes in table indicate lack of reliable data. 1 pound equals 0.45 kilogram, 1 inch equals 2.54 centimeters.

<sup>b</sup> Measurement(e) extrapolated from United States Department of Agriculture survey data.

TABLE 3. Body measurements for boys' SLIMS<sup>a</sup>

Size (number)	STATURE (inches) AND WEIGHT (pounds)																		
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23 <sup>b</sup>	24 <sup>b</sup>
Stature—in inches.....	46	48	50	52	54	56	58	59½	61	62½	64	66	68	69	70	71	72		
Weight—pounds.....	48	48	53	58	65	71	77	83	90	97	104	110	116	121	126	132	138	145	152
	GIRTH MEASUREMENTS (inches)																		
Chest.....	23½	24½	25½	26	26½	27½	28½	29½	30	30½	31½	32½	33	33½	34½	35½	36½	37½	
Waist.....	20½	21	21½	22	22½	23	23½	24	24½	25	25½	26	26½	27	27½	28	28½	29	29½
Hip.....	23½	24½	25½	26	27	28	29	29½	30½	31½	32½	33½	34	34½	35½	36½	37	37½	38½
Vertical trunk.....	41	42½	44	45	46½	48	49½	51	52½	54	55½	57	58½	59½	60½	61½	62½	63½	64½
Neck base.....	11½	11½	12	12½	12½	13	13½	13½	14	14½	14½	15	15½	15½	16½	16½	17½	17½	17½
Armscye.....	10½	11	11½	11½	12½	12½	13	13½	13½	14½	14½	15	15½	15½	16½	16½	17½	17½	17½
Upper arm.....	• 6½	6½	6½	7	7½	7½	• 7½	7½	8½	8½	8½	8½	9½	9½	9½	10½	10½	10½	10½
Elbow.....	7½	7½	7½	8½	8½	8½	8½	9½	9½	9½	9½	9½	10½	10½	10½	11½	11½	11½	11½
Thigh.....	12½	13½	13½	14½	14½	15½	15½	16½	16½	17½	17½	18½	18½	19½	19½	20½	20½	21½	21½
Calf, maximum.....	• 8½	9½	9½	10½	10½	10½	10½	11½	11½	11½	11½	12½	12½	12½	13	13½	13½	14	14
Knee.....	• 9½	10	10½	10½	10½	11½	11½	11½	12½	12½	12½	13	13½	13½	14	14½	14½	14½	14½
	WIDTH AND LENGTH (inches) AND SLOPE (degrees) MEASUREMENTS																		
Shoulder length.....	8	3½	3½	3½	3½	3½	3½	3½	4	4½	4½	4½	4½	4½	4½	4½	5	5½	5½
Shoulder slope (degrees).....	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Cross-back width.....	• 9½	10½	10½	10½	11½	11½	• 11½	12	12½	12½	12½	13	13½	13½	14	14½	14½	14½	14½
Cross-chest width.....	• 8½	8½	8½	9½	9½	9½	10½	10½	10½	11½	11½	11½	12	12½	12½	13	13½	13½	• 13½
Crotch length, total.....	19½	19½	20½	21½	22½	22½	23½	24½	25½	25½	26½	27½	27½	28½	28½	29½	29½	30½	30½
Cervicale to wrist length.....	21	22	23	24	25	26	27	27½	28½	29½	30	30½	31	31½	32	32½	33	33½	34
	VERTICAL MEASUREMENTS (inches)																		
Head and neck length.....	8	8½	8½	8½	8½	8½	8½	9	9½	9½	9½	9½	9½	9½	9½	9½	9½	10	10
Cervicale height.....	38	39½	41½	43½	45½	47½	49½	50½	51½	53½	54½	55½	56½	57½	58½	59½	60½	61½	62
Scye depth, along spine.....	• 5	5½	5½	5½	5½	6	6½	6½	6½	6½	• 6½	7	7½	7½	7½	7½	7½	7½	7½
Trunk line, along body.....	• 5½	5½	5½	6½	6½	6½	6½	6½	7	7½	7½	7½	7½	8	8½	8½	8½	8½	• 8½
Cervicale to waist, along curve of spine.....	10½	10½	10½	11½	11½	12	12½	12½	13½	13½	13½	14½	14½	15½	15½	16	16½	16½	17½
Neck to waist, along front of body.....	• 9½	9½	9½	10½	10½	10½	11½	11½	11½	12	12½	12½	12½	13½	13½	14	14½	14½	15
Waist height.....	28	29½	31	32½	34	35½	37	38	39	40	41	41½	42	42½	43	43½	44	44½	45
Waist to hips, along side of body.....	• 5½	5½	6½	6½	6½	6½	6½	7	7½	7½	7½	7½	8	8½	8½	8½	8½	8½	• 9½
Crotch height.....	19½	21½	22½	23½	24½	26½	27½	28½	28½	29½	30½	31½	31½	31½	31½	31½	32½	33	33½
Knee height.....	12½	12½	13½	14½	14½	15½	16	16½	17	17½	18	18½	18½	19½	19½	19½	19½	20	20
Ankle height.....	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½

<sup>a</sup> 1 pound equals 0.45 kilogram, 1 inch equals 2.54 centimeters.  
<sup>b</sup> All measurements for these sizes extrapolated from United States Department of Agriculture survey data.  
 • ¼-inch pattern grade per size between sizes marked with this footnote.  
 • ½-inch pattern grade per size between sizes marked with this footnote.

TABLE 4. Body measurements for boys' HUSKYS.

Size (number)	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23 <sup>b</sup>	24 <sup>b</sup>
Stature—in inches.....	46	48	50	52	54	56	58	59½	61	62½	64	65	66	67	68	69	70	71	72
Weight—pounds.....	55	61	67	73	81	88	95	103	112	121	130	137	143	150	156	163	170	178	186
STATURE (inches) AND WEIGHT (pounds)																			
Chest.....	26	26½	27½	28½	29	30	31	32	33	34	35	35½	36½	37½	38	38½	39½	40½	41
Waist.....	24½	25	25½	26	26½	27	27½	28	29	29½	30	30½	31	31½	32	32½	33	33½	34
Hip.....	26½	27½	28½	29½	30½	31½	32½	33½	34½	35½	36½	36½	37½	38½	38½	39½	40	40½	41½
Vertical trunk.....	43½	45	46½	48	49½	51	52½	54	55½	57	58½	60	61	62	63	64	65	66	67
Neck base.....	12	12½	12½	12½	13	13½	13½	14	14½	14½	15	15½	15½	16	16½	16½	17½	17½	17½
Armhole.....	11½	11½	12½	12½	13½	13½	14½	14½	15½	15½	16	16½	16½	17½	17½	17½	18½	18½	19
Upper arm.....	7½	7½	8	8½	8½	9	9	9½	9½	10	10½	10½	11	11½	11½	11½	12	12½	12½
Elbow.....	8	8½	8½	8½	9	9½	9½	10½	10½	10½	11	11½	11½	11½	12	12½	12½	12½	13
Thigh.....	15	15½	16½	16½	17½	18½	18½	19½	19½	20½	20½	21½	21½	22	22½	22½	23½	23½	23½
Calf, maximum.....	9½	10½	10½	10½	11½	11½	12	12½	12½	13½	13½	13½	14	14½	14½	14½	15	15½	15½
Knee.....	10½	10½	11½	11½	11½	12½	12½	13	13½	13½	14½	14½	14½	14½	14½	15½	15½	15½	16½
GIRTH MEASUREMENTS (inches)																			
Shoulder length.....	3½	3½	3½	3½	3½	3½	3½	4	4½	4½	4½	4½	4½	4½	4½	5	5½	5½	5½
Shoulder slope (degrees).....	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Cross-back width.....	• 10½	10½	11½	11½	11½	12	12½	12½	13	• 13½	13½	13½	14½	14½	14½	14½	15½	15½	15½
Cross-chest width.....	• 8½	9½	9½	10½	10½	10½	10½	11½	11½	11½	12	12½	12½	13	13½	13½	13½	14½	• 14½
Crotch length, total.....	20½	21½	22½	22½	23½	24½	25½	25½	26½	27½	28½	28½	29½	29½	30½	30½	31½	31½	32½
Cervicale to wrist length.....	21½	22½	23½	24½	25½	26½	27½	28½	29	29½	30½	31	31½	32½	32½	33½	33½	34½	34½
WIDTH AND LENGTH (inches) AND SLOPE (degrees) MEASUREMENTS																			
Head and neck length.....	8	8½	8½	8½	8½	8½	8½	9	9½	9½	9½	9½	9½	9½	9½	9½	9½	9½	10
Waist height.....	38	39½	41½	43½	45½	47½	49½	50½	51½	53½	54½	55½	56½	57½	58½	59½	60½	61½	62
Cervicale height.....	• 5½	5½	5½	5½	6	6½	6½	6½	6½	7½	7½	7½	7½	7½	7½	8	8½	8½	• 8½
Scye depth, along spine.....	• 5½	5½	5½	6½	6½	6½	6½	6½	7	7½	7½	7½	7½	8	8½	8½	8½	8½	• 8½
Trunk line, along body.....	• 5½	5½	5½	6½	6½	6½	6½	6½	7	7½	7½	7½	7½	8	8½	8½	8½	8½	• 8½
Cervicale to waist, along curve of spine.....	10½	10½	11½	11½	11½	12½	12½	13	13½	13½	14½	14½	14½	15½	15½	16½	16½	17½	17½
Neck to waist, along front of body.....	• 9½	9½	10½	10½	10½	11½	11½	• 11½	12	12½	12½	• 12½	13½	13½	13½	14½	14½	14½	15½
Waist height.....	28	29½	31	32½	34	35½	37	38	39	40	41	41½	42	42½	43	43½	44	44½	45
Waist to hips, along side of body.....	• 5½	5½	6½	6½	6½	6½	6½	7	7½	7½	7½	7½	8	8½	8½	8½	8½	8½	• 8½
Crotch height.....	19½	20½	22½	23½	24½	25½	27½	28½	29½	30½	30½	30½	30½	31½	31½	32	32½	33	33½
Knee height.....	12½	12½	13½	14½	14½	15½	16	16½	17	17½	18	18½	18½	19½	19½	19½	19½	19½	20
Ankle height.....	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½	2½

<sup>a</sup> 1 pound equals 0.45 kilogram, 1 inch equals 2.54 centimeters.  
<sup>b</sup> All measurements for these sizes extrapolated from United States Department of Agriculture survey data.  
<sup>c</sup> ½-inch pattern grade per size between sizes marked with this footnote.  
<sup>d</sup> ¼-inch pattern grade per size between sizes marked with this footnote.

## 5. IDENTIFICATION

In order that purchasers may identify products conforming to all requirements of this Voluntary Product Standard, producers and distributors may include a statement of compliance in conjunction with their name and address on product labels, invoices, sales literature, and the like. The following statement is suggested when sufficient space is available:

This apparel is sized in accordance with Voluntary Product Standard PS 36-70, developed cooperatively with the industry and published by the National Bureau of Standards under the *Procedures for the Development of Voluntary Product Standards* of the U.S. Department of Commerce. Full responsibility for the conformance of this product to the standard is assumed by (name and address of producer or distributor).

The following abbreviated statement is suggested when available space on labels is insufficient for the full statement:

Sized in accordance with Voluntary Product Standard PS 36-70, (name and address of producer or distributor).

## 6. EFFECTIVE DATE

The effective date of this Voluntary Product Standard is the date upon which reference to the Standard may be made by producers, distributors, users and consumers, and other interested parties. Compliance by producers with all of the requirements of this Voluntary Product Standard may not actually occur until some time after its effective date. Products shall not be represented as conforming to this Voluntary Product Standard until such time as all requirements established in the Standard are met. The effective date of this Standard is October 10, 1970.

## 7. HISTORY OF PROJECT

Commercial Standard CS 155-50, *Body Measurements for the Sizing of Boys' Apparel*, was developed at the request of the Mail Order Association of America and was published in 1950.

At the request of the Mail Order Association of America in May 1968, a revision of CS 155-50 was developed to provide size definitions for more of the boys' population. The revision defines not only the regular sizes but includes two additional classifications, slim and husky. All references to trouser lengths have been deleted. Span charts and grading charts were added as appendixes.

With the approval of the reconstituted Standing Committee, copies of the recommended Standard designated TS 5502c were distributed June 9, 1970, to the industry to determine acceptability. An analysis of the responses indicated a consensus among producers, distributors, and users as defined in the published procedures.

The new edition of the Standard was designated Voluntary Product Standard PS 36-70, *Body Measurements for the Sizing of Boys' Apparel*, and became effective on October 10, 1970.

*Technical Standards Coordinator:*

Charles W. Devereux, II, Office of Engineering Standards Services, National Bureau of Standards, Washington, D.C. 20234

## 8. STANDING COMMITTEE

The individuals whose names are listed below constitute the membership of the Standing Committee for this Standard. The function of the committee is to review all proposed revisions and amendments in order to keep this Standard up to date. Comments concerning this Standard and suggestions for its revision may be addressed to any member of the committee or to the Office of Engineering Standards Services, National Bureau of Standards, Washington, D.C. 20234, which acts as secretary for the committee.

### *Representing Producers*

David P. Trachtenburg, (Chairman), Chips'n Twigs, 112 West 34th Street, New York, New York 10010

Charles Lentnek, Elder Manufacturing Company, P. O. Box 273, St. Louis, Missouri 63166

Frances Alsen, Wolf Form Company, Inc., 140 Fifth Avenue, New York, New York 10011

Ivan Moser, Tex-Togs, Inc., P. O. Box 1021, El Paso, Texas 79901

J. M. Niver, Blue Bell, Inc., 335 Church Street, Greensboro, North Carolina 27402

### *Representing Distributors*

Joan Brinkman, Jewel Home Shopping Service, Jewel Park, Barrington, Illinois 60010

James M. Considine, Aldens, Inc., 5000 West Roosevelt Road, Chicago, Illinois 60607

Shirley Trosk, 350 Fifth Avenue, Room 4616, New York, New York 10001

Moe Sklar, Ida's Department Store, 5601 Georgia Avenue, NW., Washington, D.C. 20005

John O'Sullivan, A. H. Benoits', 278 Middle Street, Portland, Maine 04111

### *Representing Consumer-Users*

Mrs. John Stochaj, 65 Riceman Road, Berkley Heights, New Jersey 07922  
Mattie Waymer, Morris Brown College, Atlanta, Georgia 30314  
Mrs. Walter Varney Magee, General Federation of Women's Clubs, 1734 N Street, NW., Washington, D.C. 20036  
Mrs. Mark Valory, 1234 Valory Lane, Lafayette, California 94549  
Doris J. Brockway, School of Home Economics, University of Washington, Seattle, Washington 98105

### *Representing General Interest*

Rowena Dowlen, Textiles and Clothing Laboratory, Southern Marketing and Nutrition Research Development Division, Agricultural Research Service, U.S. Department of Agriculture, 2005 Lake Avenue, Knoxville, Tennessee 37916

## **9. ACCEPTORS**

The producers, distributors, users, and others listed below have individually indicated in writing their acceptance of this Voluntary Product Standard prior to its publication. The acceptors have indicated their intention to use this Standard as far as practicable but reserve the right to depart from it when necessary. The list is published to show the extent of recorded public support for this Standard.

### **ASSOCIATIONS**

Boys' and Young Men's Apparel Buyers Association, New York, New York  
Communications Workers of America, Washington, D.C.  
Consumers League of New Jersey, Berkeley Heights, New Jersey  
Mail Order Association of America, Chicago, Illinois  
Menswear Retailers of America, Washington, D.C.  
National Consumers League, Washington, D.C.

### **PRODUCERS**

A-1 Kotzin Company, Los Angeles, California  
Aberdeen Sportswear, Inc., New York, New York  
Adler Pants Company, New York, New York  
Ainsbrooke, New York, New York  
Allison Manufacturing Company, Inc., Allentown, Pennsylvania  
Anson Pajama Company, Dushore, Pennsylvania  
Anthracite Overall Manufacturing Company, Inc., Scranton, Pennsylvania  
Ark Manufacturing Company, Inc., Los Angeles, California  
Arkay Outerwear, Division of Arkay Pants Company, Fall River, Massachusetts

Atlas Underwear Corporation, Piqua, Ohio  
B. V. D. Boys' Pajamas, New York, New York  
Barouch Brothers, Inc., New York, New York  
Barrow Manufacturing Company, Winder, Georgia  
Bauer, Eddie, Inc., Seattle, Washington  
Berkley Fashions, Inc., Chicago, Illinois  
Berkley Shirt Company, New York, New York  
Blue Bell, Inc., Greensboro, North Carolina  
Blue Jeans, Jonbil Corporation, New York, New York  
Branson Manufacturing Company, Jay Zee, Inc., Branson, Missouri  
Breier of Amsterdam, Inc., Amsterdam, New York  
Butwin Sportswear Company, St. Paul, Minnesota  
Calvin Clothing Corporation, New Bedford, Massachusetts  
Cameo Sportswear, Woods Cross, Utah  
Campus Sweater & Sportswear Company, Cleveland, Ohio  
Cape Cod Sportswear, Inc., New York, New York  
Carolina Underwear Company, Inc., Thomasville, North Carolina  
Carter & Churchill Company, Inc., West Lebanon, New Hampshire  
Carter, H. W., & Sons, Inc., Lebanon, New Hampshire  
Champion Products, Inc., Rochester, New York  
Chesterfield Manufacturing Corporation, Chesterfield, South Carolina  
Chester Sportswear, Chester, South Carolina  
Chips 'n Twigs, Philadelphia, Pennsylvania  
Cinderella Knitting Mills, Inc., New York, New York  
Day's Sportswear, Inc., Tacoma, Washington  
Dunmar Robes, Ltd., New York, New York  
Elder Manufacturing Company, St. Louis, Missouri  
Finesilver Manufacturing Company, San Antonio, Texas  
Finkelstein, J. & Sons, Woonsocket, Rhode Island  
Genesco, Inc., Nashville, Tennessee  
Glaser Enterprises, Inc., New York, New York  
Good Lad Company, Philadelphia, Pennsylvania  
Gordon & Ferguson Company, St. Paul, Minnesota  
Grinchuck, J., Company, Braidwood, Illinois  
Hansley, Inc., Paris, Kentucky  
Hansley Industries, New York, New York  
Hellgate Industries, Inc., Missoula, Montana  
Hill Company, Inc., Fort Smith, Arkansas  
H. I. S. for Boys, New York, New York  
Hortex, Inc., El Paso, Texas  
Hubbard Company, Bremen, Georgia  
Ideal Outerware Company, Inc., New York, New York  
Imperial Reading, Lynchburg, Virginia  
Jablow, I., & Company, Inc., Philadelphia, Pennsylvania  
Janville Manufacturing Company, Inc., New York, New York  
Jay Garment Company, Portland, Indiana  
JEB, Inc., Los Angeles, California  
Jem Manufacturing Corporation, Rockville Centre, Long Island, New York  
Kazoo, Inc., Kalamazoo, Michigan  
Kellwood Company, St. Louis, Missouri  
Lee, H. D., Company, Inc., Shawnee Mission, Kansas

Leasons Clothes, Inc., New York, New York  
 Levi Strauss & Company, San Francisco, California  
 Lion Knitting Mills, Cleveland, Ohio  
 MacPerth Sportswear, Cincinnati, Ohio  
 Marks, Irving, Nite-Wear Corporation, Ambassador  
 Pajama Corporation, New York, New York  
 Marshall Ray Corporation, Troy, New York  
 Matsil, Harry, & Sons, New York, New York  
 McMurray Slacks, New York, New York  
 Mighty-Mac, Inc., Gloucester, Massachusetts  
 Miller, Henry L., & Son, Inc., Port Carbon, Pennsylvania  
 Modern Jacket Company, St. Louis, Missouri  
 Morell, Barry, Shirt Company, Division Morell Industries, New York, New York  
 Neumann, D. H., Ltd., New York, New York  
 Nurses Uniform Company, Inc., Baltimore, Maryland  
 Oklee Manufacturing Company, Oklee, Minnesota  
 Palm Island of Miami, Inc., Miami, Florida  
 Pilgrim Sportswear, Inc., New York, New York  
 Prior Company, The, Denver, Colorado  
 Roanoke Mills, Inc., Roanoke, Virginia  
 Rob Roy Company, Inc., Cambridge, Maryland  
 Rough Rider, Inc., Napa, California  
 Royal Manufacturing Company, Inc., New York, New York  
 Ruddock Manufacturing Company, El Paso, Texas  
 Russell Mills, Inc., Alexander City, Alabama  
 Salant & Salant, Inc., New York, New York  
 Salmar Sportswear, Inc., Los Angeles, California  
 Santone Industries, Inc., San Antonio, Texas  
 Seagull Manufacturing Company, Jenkintown, Pennsylvania  
 Shirtees, Inc., New York, New York  
 Simon & Mogilner, Birmingham, Alabama  
 Spartans Industries, Inc., Sparta, Tennessee  
 Standard Knitting Mills, Inc., Knoxville, Tennessee  
 Standard Romper Company, Inc., New York, New York  
 Sturdi-Wear Clothes, Inc., Scranton, Pennsylvania  
 Sunset Sportswear, San Francisco, California  
 Sweet-Orr & Company, Inc., New York, New York  
 Thompson, Les, Associates, Athens, Georgia  
 Union Underwear Company, Inc., Bowling Green, Kentucky  
 United Knitwear, Cincinnati, Ohio  
 Warmflash, Louis, Associates, Inc., New York, New York  
 Weathercraft Manufacturing, Inc., Farmingdale, New York  
 Young Squire, Inc., Mount Olive, North Carolina

## DISTRIBUTORS

Adam, Meldrum & Anderson, Buffalo, New York  
 Aldens, Inc., Chicago, Illinois  
 Anderson Newcomb Company, Huntington, West Virginia  
 Ann & Hope Factory Outlet, Inc., Cumberland, Rhode Island  
 Arkwright, Inc., New York, New York

Associated Dry Goods Corporation, New York, New York  
 Ball Stores, Inc., Muncie, Indiana  
 Beckwith Men's Shop, Winfield, Kansas  
 Benoit, A. H., & Company, Portland, Maine  
 Blackburn Men's Stores, Amarillo, Texas  
 Bond Stores, New York, New York  
 Bon Marche, Lewiston, Idaho  
 Brody, F., & Sons Company, Des Moines, Iowa  
 Butlers Stores, Inc., Biddeford, Maine  
 Carlisle-Allen Department Stores, Ashtabula, Ohio  
 Chambers Bect Company, Inc., Phoenix, Arizona  
 Donaldson's, Minneapolis, Minnesota  
 Dorfman-Pacific Company, Oakland, California  
 Eckles Department Store Company, Inc., Dodge City, Kansas  
 Europa Sport, Inc., New York, New York  
 Feinsteins, Aberdeen, South Dakota  
 Filene, William, & Sons Company, Boston, Massachusetts  
 Furchgott's Jacksonville, Florida  
 Galloway's Inc., Madison, South Dakota  
 Gamble-Skogmo, Inc., Minneapolis, Minnesota  
 Grant, W. T., Company, New York, New York  
 Holmes, Grace, Inc., Ashton, Rhode Island  
 Hovey's Shops Inc., St. Johnsbury, Utah  
 Hutton, A.P., & Company Department Store, Kellogg, Idaho  
 Ida's Department Store, Washington, D.C.  
 Jacobson Stores, Inc., Jackson, Michigan  
 Jewel Direct Marketing, Division of Jewel Companies, Inc., Barrington, Illinois  
 Kassis, Inc., Laramie, Wyoming  
 Kresge, S. S., Company, Detroit, Michigan  
 Krosney, Manny, Inc., New York, New York  
 Leggett Department Store, Lynchburg, Virginia  
 Lipschultz, Irving, Company, San Francisco, California  
 Lynch Corporation, The Manchester, New Hampshire  
 M & G Sportswear, Fall River, Massachusetts  
 Macy, R. H., Company, Inc., New York, New York  
 Miller Brothers, Chattanooga, Tennessee  
 Milwaukee Knit, Inc., Milwaukee, Wisconsin  
 Montgomery Ward & Company, New York, New York  
 Paul's Stores, Inc., Hurley, Wisconsin  
 Peck, B., Company, Lewiston, Maine  
 Penney, J. C., Company, Inc., New York, New York  
 Polsky's, Akron, Ohio  
 Proffitt's Inc., Alcoa, Tennessee  
 Ritz Department Stores, The, Honolulu, Hawaii  
 Roeper, Hanson & Newman Company, Cincinnati, Ohio  
 Sears, Roebuck and Company, Chicago, Illinois  
 Shushan Brothers, New Orleans, Louisiana  
 Spiegel, Inc., Chicago, Illinois  
 Springfoot, Inc., New York, New York  
 Stiefel's Store for Men & Boys, Salina, Kansas  
 Stienmetz Brothers, Inc., New York, New York  
 Van Arsdell's Inc., West St. Paul, Minnesota  
 Vornado, Inc., Hanover, New Jersey  
 Wender's Department Store, Woodstock, Virginia  
 Woodward & Lothrop, Washington, D.C.

## USERS

Clemson University, Clothing Extension Specialist,  
Clemson, South Carolina  
Family Service Center, Syracuse, New York  
Georgia, University of, Cooperative Extension Service,  
Athens, Georgia  
Iowa State University Extension Service, Newton,  
Iowa  
Iowa, University of, Textiles & Clothing Department,  
Iowa City, Iowa  
Maryland, University of, Cooperative Extension Ser-  
vice, College Park, Maryland  
Michigan State University, Department of Textiles,  
East Lansing, Michigan  
Minnesota, University of, St. Paul, Minnesota  
Missouri, University of, Textiles and Clothing Depart-  
ment, Columbia, Missouri  
Montana State University, School of Home Economics,  
Bozeman, Montana  
Montgomery Blair High School, Silver Spring, Mary-  
land  
Southeastern Louisiana College, Hammond, Louisiana  
Wayne State University, Detroit, Michigan  
Winthrop College, Rock Hill, South Carolina  
Wyoming, University of, Laramie, Wyoming

## GENERAL INTEREST

Antioch College, Yellow Springs, Ohio  
California Fashion Institute, Los Angeles, California  
Consumers' Research, Inc., Washington, New Jersey  
Department of General Service, Bureau of Procure-  
ment, Washington, D.C.  
Department of Property and Supplies, Harrisburg,  
Pennsylvania  
Fashion Institute of Technology, New York, New York  
Italian Trade Commission, Philadelphia, Pennsylvania  
Merchandise Research Laboratories, Glenside, Pennsylv-  
ania  
Office of Consumer Affairs, Mineola, New York  
Parents' Magazine, New York, New York

## FEDERAL GOVERNMENT

U.S. Army Natick Laboratories, Natick, Massachusetts  
U.S. Department of Agriculture, Knoxville, Tennessee

## LOCAL GOVERNMENT

Cooperative Extension Service, Cannelton, Indiana  
Cooperative Extension Service, Las Vegas, Nevada

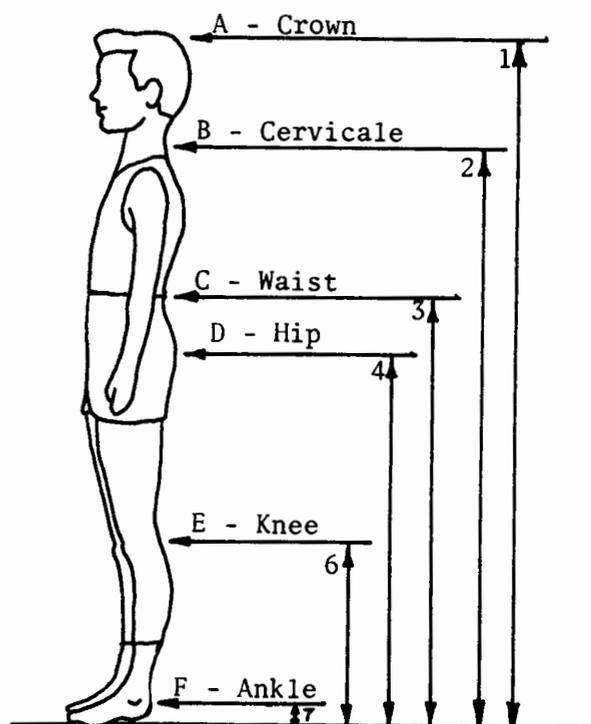


FIGURE 1A. Principal body landmarks.

## APPENDIX A—METHODS OF MEASURING THE BODY

### 1. GENERAL

A1.1. All measurements were taken in centimeters and converted to the nearest  $\frac{1}{8}$  inch.

A1.2. Principal body landmarks are identified on figure 1A by capital letters—A to F. Body measurements in the Standard are identified on figures 1A to 9A by numbers—1 to 29.

### 2. PRINCIPAL BODY LANDMARKS

A2.1. **Crown**—Top of head, A, figure 1A.

A2.2. **Cervicale**—The prominence on the seventh, or lowest cervicale vertebra at the back of the neck, B, figure 1A, which becomes more prominent when the head is bent forward. (Cervicale height measurements are taken, however, only when the head is in an erect position.)

A2.3. **Waist**—The lower edge of lower floating rib, located at the side of the body in a line directly below the center of the armpit, C, figure 1A.

A2.4. **Hip**—The outer bony prominence at the upper end of the thigh bone (the femur), D, figure 1A.

A2.5. **Knee**—The inner bony prominence at the upper end of the tibia, the larger of the two bones of the leg extending from knee to ankle, E, figure 1A.

**A2.6. Ankle**—The inner bony prominence of the lower end of the tibia, the larger of the two bones of the leg extending from knee to ankle, F, figure 1A.

### 3. METHODS OF MEASURING THE BODY<sup>1</sup>

#### A3.1. Vertical measurements—

- 1—Stature—Measured from crown to soles of feet, figure 1A.
- 2—Cervicale height—Measured from cervicale to soles of feet, figure 1A.
- 3—Waist height—Measured from waist height to soles of feet, figure 1A. This waist height establishes the waist level around the body.
- 4—Hip height—Measured from hip to soles of feet, figure 1A.
- 5—Crotch height—Measured from the midpoint of the crotch to soles of feet. The end of the tape measure (or anthropometer) should be raised until it firmly presses against the flesh of the midpoint of the crotch, figure 2A.
- 6—Knee height—Measured from knee to soles of feet, figure 1A.
- 7—Ankle height—Measured from ankle to soles of feet, figure 1A.

**A3.2. Girth measurements**—See figure 4A or 5A for garments worn at time of measuring.<sup>2</sup>

- 8—Chest—Measured horizontally close up under arms, figure 3A. The measurements should include the lower portion of the shoulder blades.

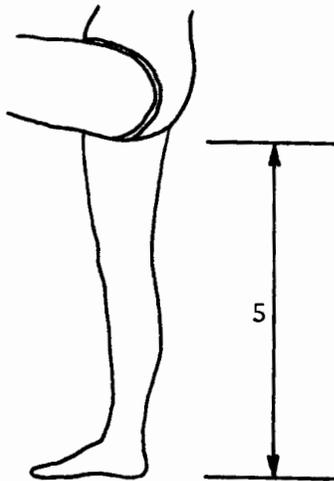


FIGURE 2A. Crotch height.

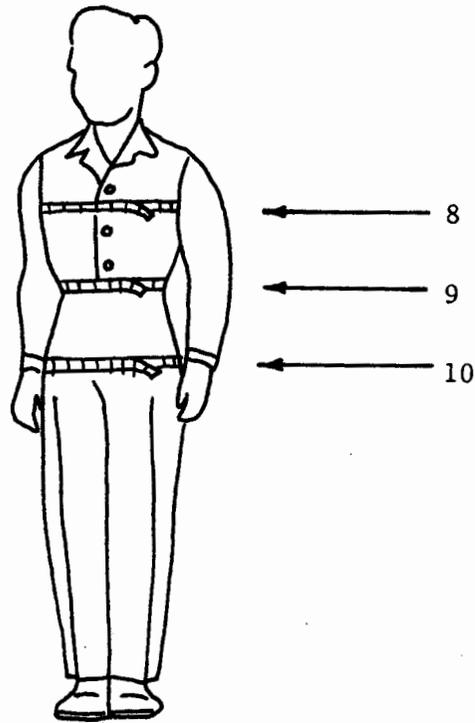


FIGURE 3A. Chest, waist, and hip girths.

- 9—Waist—Measured horizontally at waist height with belt removed, figure 3A.
- 10—Hip—Measured horizontally at hip height, figure 3A.
- 11—Vertical trunk—Measured from a point on the shoulder midway between the neck and the normal arm-hole line, down the front through the crotch, and up the back to the shoulder point, figure 4A. The measurement should be taken without constriction at the crotch.
- 12—Total crotch length (girth of crotch)—Measured from waist level at front through the crotch to the waist level at the back, figure 9A.
- 13—Thigh—Measured horizontally around the upper part of the leg, close up to the crotch, figure 4A.
- 14—Knee—Measured horizontally around the leg at knee height, figure 4A.
- 15—Calf—Measured horizontally around the leg at the level of maximum girth, below the knee, figure 4A.
- 16—Neck base—Measured around the neck, touching the cervicale at the back and the upper borders of the collar bone at the front, and following the curve that would be made by a fine link chain passing over these landmarks, figures 5A and 6A.

<sup>1</sup> More complete information regarding the methods of measuring the body may be obtained from Miscellaneous Publication No. 366 of the U. S. Department of Agriculture.

<sup>2</sup> See appendix B, regarding weights and clothing allowances included in these measurements.

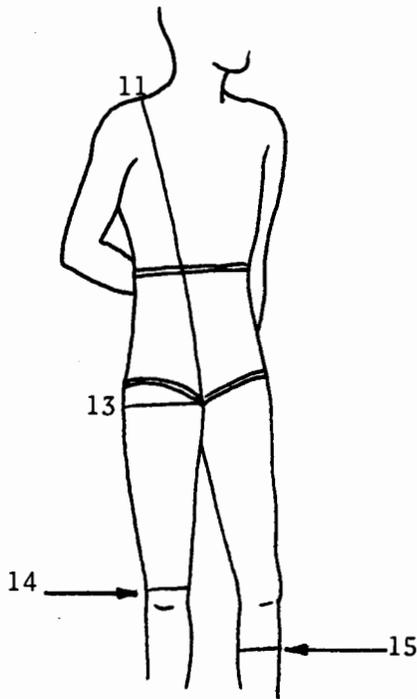


FIGURE 4A. Vertical trunk, thigh, knee, and calf girths.

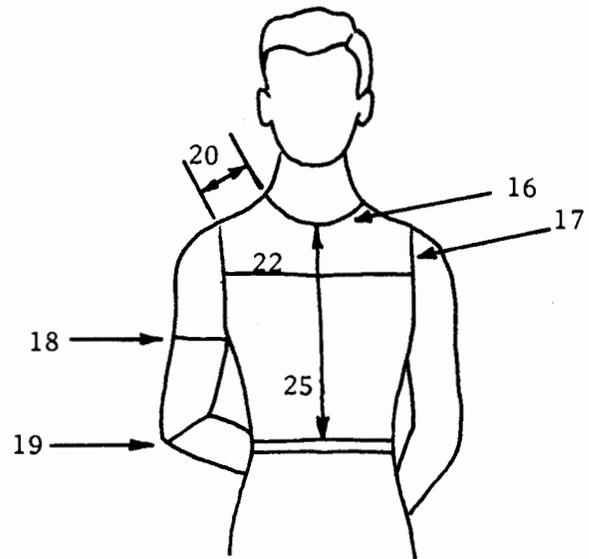


FIGURE 5A. Neck base, armscye, upper arm, and elbow girths; shoulder and collar bone to waist lengths; cross-chest width.

17—Armscye—Measured from a point at the armhole edge of the shoulder, midway between the acromion and the highest prominence at the lateral end of the collar bone and through the underarm midpoint, figures 5A and 6A.

18—Upper arm—Measured horizontally, when the arms are relaxed, midway between the shoulder and the elbow without constriction, figure 5A.

19—Elbow—With the arm flexed at approximately a 90° angle, measure around the arm over the elbow, figure 5A.

#### A3.3. Width and length measurements—

20—Shoulder length—Measured along a line corresponding to the customary shoulder line of a garment from the neck base line to the armscye line, figure 5A.

21—Cross-back width—Measured across the back from armscye to armscye, halfway between the cervicale and the bottom of the armscye, figure 6A.

22—Cross-chest width—Measured across the chest from armscye to armscye, halfway between the high shoulder point and the bottom of the armscye, figure 5A.

23—Scye depth—Measured from cervicale

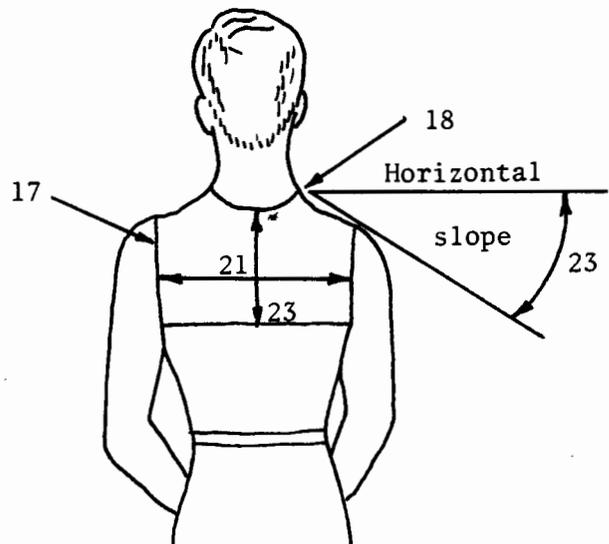


FIGURE 6A. Neck base and armscye girths; shoulder slope; cross-back width; scye depth.

to point at the "center back" where chest line crosses the "center back" line, figure 6A.

24—Cervicale to waist, including curve of spine (posterior waist length)—Measured along the spine from cervicale to waist, figure 9A.

25—Collar bone to waist, along front of body (anterior waist length)—Measured from upper edge of collar bone to waist, figure 5A.

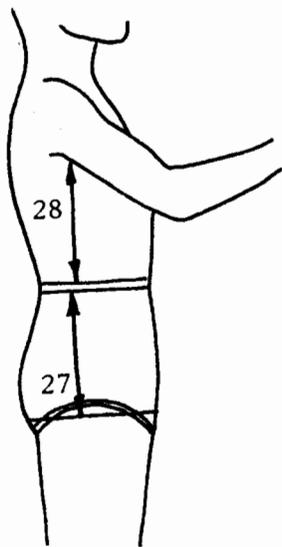


FIGURE 7A. Trunk line waist to hips.

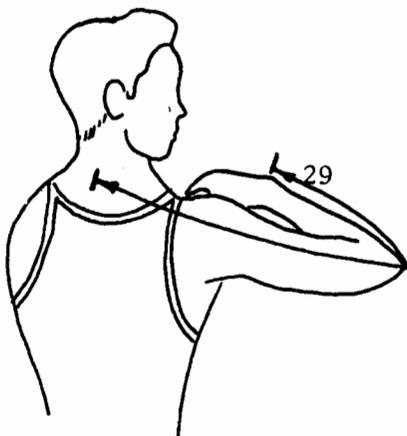


FIGURE 8A. Cervicale to wrist length.

- 26—Trunk line (armscye to waist)—Measured from the mid-underarm point downward along the side of the body to the waist level, figure 7A.
- 27—Waist to hips—Measured along the side of the body from the waist level to the mid-hip directly below, figure 7A.
- 28—Shoulder slope (degrees)—Slope in degrees of the shoulder with respect to the horizontal, figure 6A.
- 29—Cervicale to wrist length—Measured from the cervicale, to the wristbone at the back of the hand. The arm should be bent at the elbow and raised so that the measurement can be taken as straight as possible from cervicale to elbow, figure 8A.

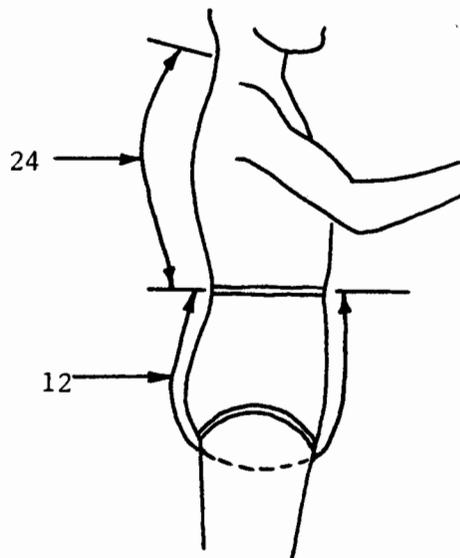


FIGURE 9A. Cervicale to waist and total crotch length.

## APPENDIX B—CLOTHING ALLOWANCES

**B1.1. Weight**—As there is no way to predetermine just what clothing will be worn when the measurements are taken, the weights represented in table 1B were selected and added to the body weights as clothing allowances.

TABLE 1B. Clothing weight allowances for classification by size

Size range	Weight for classification		
	Slim	Regular	Husky
Sizes 2 to 6.....	12	14	16
Sizes 7 to 10.....	16	18	20
Sizes 11 to 16.....	22	24	26
Sizes 17 to 24.....	24	26	28

\*1 ounce equals 28.35 grams.

**B1.2. Girth**—Similarly, adjustments had to be made in some of the girth measurements. These allowances were arbitrarily selected and uniformly added to the body measurements given in table 2B.

Table 2B. Clothing girth allowances for all sizes

Girth	Allowance for all sizes of all classifications
	(inches) <sup>a</sup>
Chest.....	$\frac{3}{4}$
Waist.....	1
Hip.....	$\frac{3}{4}$
Vertical trunk girth.....	1
Total crotch length.....	$\frac{5}{8}$

\*1 inch equals 2.54 centimeters.

The "nude" or "skin" measurements of the body may be obtained by deducting these clothing allowances from the body measurement data in tables 2 to 4.

**APPENDIX C.—CHEST-WAIST MEASUREMENTS AND DROPS\***

**KEY MEASUREMENT DATA BY CLASSIFICATIONS<sup>b</sup>**

Size	Stature	CHEST			WAIST					
		Slims	Regs.	Huskys	Slims		Regulars		Huskys	
					Meas't	Drop	Meas't	Drop	Meas't	Drop
No.	in	in	in	in	in	in	in	in	in	in
6	46	23 3/4	25	26	20 1/2	3 1/4	22 1/2	2 1/2	24 1/2	1 1/2
7	48	24 1/2	25 3/4	26 3/4	21	3 1/2	23	2 3/4	25	1 3/4
8	50	25 1/4	26 1/2	27 1/2	21 1/2	3 3/4	23 1/2	3	25 1/2	2
9	52	26	27 1/4	28 1/4	22	4	24	3 1/4	26	2 1/4
10	54	26 3/4	28	29	22 1/2	4 1/4	24 1/2	3 1/2	26 1/2	2 1/2
11	56	27 1/2	28 3/4	30	23	4 1/2	25	3 3/4	27	3
12	58	28 1/2	29 1/2	31	23 1/2	5	25 1/2	4	27 1/2	3 1/2
13	59 1/2	29 1/4	30 1/2	32	24	5 1/4	26	4 1/2	28	4
14	61	30	31 1/2	33	24 1/2	5 1/2	26 1/2	5	29	4
15	62 1/2	30 3/4	32 1/4	34	25	5 3/4	27	5 1/4	29 1/2	4 1/2
16	64	31 1/2	33	35	25 1/2	6	27 1/2	5 1/2	30	5
17	65	32 1/4	33 3/4	35 3/4	26	6 1/4	28	5 3/4	30 1/2	5 1/4
18	66	33	34 1/2	36 1/2	26 1/2	6 1/2	28 1/2	6	31	5 1/2
19	67	33 3/4	35 1/4	37 1/4	27	6 3/4	29	6 1/4	31 1/2	5 3/4
20	68	34 1/2	36	38	27 1/2	7	29 1/2	6 1/2	32	6
21	69	35 1/4	36 3/4	38 3/4	28	7 1/4	30	6 3/4	32 1/2	6 1/4
22	70	36	37 1/2	39 1/2	28 1/2	7 1/2	30 1/2	7	33	6 1/2
23	71	36 3/4	38 1/4	40 1/4	29	7 3/4	31	7 1/4	33 1/2	6 3/4
24	72	37 1/2	39	41	29 1/2	8	31 1/2	7 1/2	34	7

\* Drop is the arithmetic difference between the chest and waist measurements.

<sup>b</sup> 1 inch equals 2.54 centimeters.

• Measurement (s) extrapolated from United States Department of Agriculture survey data.

**APPENDIX D. SIZING GRADES**  
**Boys' Regulars (R)**

	Grade Between 2R-3R	Grade Between 3R-4R	Grade Between 4R-5R	Grade Between 5R-6R	Grade Between 6R-7R	Grade Between 7R-8R	Grade Between 8R-9R	Grade Between 9R-10R	Grade Between 10R- 11R	Grade Between 11R- 12R	Grade Between 12R- 13R
<b>GIRTH MEASUREMENTS (inches)</b>											
Chest.....	1	1	1	1	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	1
Waist.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$							
Hip.....	1	1	1	1	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	1	1	1
Vertical trunk.....	2	2 $\frac{1}{2}$	2	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$
Neck base.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Armscye.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Upper arm.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Elbow.....	—	—	—	—	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Thigh.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Calf, max.....	—	—	—	—	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$
Knee.....	—	—	—	—	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
<b>WIDTH AND LENGTH (inches) AND SLOPE (degrees) MEASUREMENTS</b>											
Shoulder length.....	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$							
Shoulder slope.....	—	—	—	—	0	0	0	0	0	0	0
Cross back width.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$
Cross chest width.....	—	—	—	—	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$
Crotch length, total....	1	1	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
Cervicale to wrist.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	1	1	1	1	1	1	$\frac{1}{8}$
<b>VERTICAL MEASUREMENTS (inches)</b>											
Head & neck length....	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$
Cervicale height.....	1 $\frac{5}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{5}{8}$	1 $\frac{7}{8}$	1 $\frac{3}{4}$	1 $\frac{7}{8}$	1 $\frac{7}{8}$	1 $\frac{7}{8}$	1 $\frac{7}{8}$	1 $\frac{3}{8}$
Scye depth along spine.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$
Trunk line along body.....	—	—	—	—	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$
Cervicale to waist, along curve of spine.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Neck to waist, along front of body.....	—	—	—	—	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$
Waist height.....	2 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	2	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1 $\frac{1}{2}$	1
Waist to hips, along side of body.....	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$
Crotch height.....	1 $\frac{5}{8}$	1 $\frac{5}{8}$	1 $\frac{5}{8}$	1 $\frac{1}{2}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$	$\frac{3}{4}$
Knee height.....	1	1	1	$\frac{7}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{1}{2}$
Ankle height.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$	0	0	$\frac{1}{8}$	0	0	0	$\frac{1}{8}$

**APPENDIX D. SIZING GRADES (Continued)**

**Boys' Regulars (R) (Continued)**

	Grade Between 13R- 14R	Grade Between 14R- 15R	Grade Between 15R- 16R	Grade Between 16R- 17R	Grade Between 17R- 18R	Grade Between 18R- 19R	Grade Between 19R- 20R	Grade Between 20R- 21R	Grade Between 21R- 22R	Grade Between 22R- 23R	Grade Between 23R- 24R
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**GIRTH MEASUREMENTS (inches)**

Chest.....	1	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
Waist.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Hip.....	1	1	1	1	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Vertical trunk.....	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{4}$	$1\frac{1}{4}$	1	1	1	1	1	1
Neck base.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Armscye.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Upper arm.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Elbow.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Thigh.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Calf, max.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Knee.....	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

**WIDTH AND LENGTH (inches) AND SLOPE (degrees) MEASUREMENTS**

Shoulder length.....	$\frac{1}{8}$										
Shoulder slope.....	0	0	0	0	0	0	0	0	0	0	0
Cross back width.....	$\frac{3}{8}$	$\frac{1}{4}$									
Cross chest width.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$								
Crotch length, total.....	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{1}{2}$							
Cervicale to wrist.....	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{1}{2}$							

**VERTICAL MEASUREMENTS (inches)**

Head & neck length....	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	0	$\frac{1}{8}$	0	$\frac{1}{8}$	0	$\frac{1}{8}$
Cervicale height.....	$1\frac{3}{8}$	$1\frac{3}{8}$	$1\frac{3}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	1	$\frac{1}{8}$	1	$\frac{1}{8}$	1	$\frac{1}{8}$
Scye depth along spine.....	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$
Trunk line along body.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$
Cervicale to waist, along curve of spine.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$
Neck to waist, along front of body.....	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$
Waist height.....	1	1	1	$\frac{1}{2}$							
Waist to hips, along side of body.....	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{4}$
Crotch height.....	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{8}$							
Knee height.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{4}$							
Ankle height.....	0	0	0	$\frac{1}{8}$	0	0	0	0	0	0	0

**APPENDIX D. SIZING GRADES (Continued)**  
**Boys' Slims (S)**

Grade Between 6S-7S	Grade Between 7S-8S	Grade Between 8S-9S	Grade Between 9S-10S	Grade Between 10S- 11S	Grade Between 11S- 12S	Grade Between 12S- 13S	Grade Between 13S- 14S	Grade Between 14S- 15S	Grade Between 15S- 16S
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**GIRTH MEASUREMENTS (inches)**

Chest.....	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	1	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
Waist.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Hip.....	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	1	1	1	$\frac{3}{4}$	$\frac{3}{4}$	1	1
Vertical trunk.....	$1\frac{1}{2}$	$1\frac{1}{2}$	1	$1\frac{1}{2}$						
Neck base.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Armscye.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Upper arm.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Elbow.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Thigh.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Calf, max.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Knee.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

**WIDTH AND LENGTH (inches) AND SLOPE (degrees) MEASUREMENTS**

Shoulder length.....	$\frac{1}{8}$									
Shoulder slope.....	0	0	0	0	0	0	0	0	0	0
Cross back width.....	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Cross chest width.....	$\frac{5}{16}$									
Crotch length, total.....	$\frac{3}{4}$									
Cervicale to wrist length.....	1	1	1	1	1	1	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$

**VERTICAL MEASUREMENTS (inches)**

Head & neck length.....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$							
Cervicale height.....	$\frac{7}{8}$	$1\frac{3}{4}$	$1\frac{7}{8}$							
Scye depth, along spine.....	$\frac{3}{16}$									
Trunk line, along body.....	$\frac{3}{16}$									
Cervicale to waist, along curve of spine.....	$\frac{3}{8}$									
Neck to waist, along front of body.....	$\frac{5}{16}$									
Waist height.....	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	1	1	1	1
Waist to hips, along side of body.....	$\frac{3}{16}$									
Crotch height.....	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
Knee height.....	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Ankle height.....	0	0	$\frac{1}{8}$	0	0	0	$\frac{1}{8}$	0	0	0

**APPENDIX D. SIZING GRADES (Continued)**

**Boys' Slims (S) (Continued)**

	Grade Between 16S-17S	Grade Between 17S-18S	Grade Between 18S-19S	Grade Between 19S-20S	Grade Between 20S-21S	Grade Between 21S-22S	Grade Between 22S-23S	Grade Between 23S-24S
<b>GIRTH MEASUREMENTS (inches)</b>								
Chest.....	$\frac{3}{4}$							
Waist.....	$\frac{1}{2}$							
Hip.....	$\frac{3}{4}$							
Vertical trunk.....	$1\frac{1}{2}$	$1\frac{1}{2}$	1	1	1	1	1	1
Neck base.....	$\frac{3}{8}$							
Armscye.....	$\frac{3}{8}$							
Upper arm.....	$\frac{1}{4}$							
Elbow.....	$\frac{1}{4}$							
Thigh.....	$\frac{1}{2}$							
Calf max.....	$\frac{1}{4}$							
Knee.....	$\frac{1}{4}$							

	<b>WIDTH AND LENGTH (inches) AND SLOPE (degrees) MEASUREMENTS</b>							
Shoulder length.....	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
Shoulder slope.....	0	0	0	0	0	0	0	0
Cross back width.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Cross chest width.....	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$
Crotch length, total.....	$\frac{3}{4}$	$\frac{1}{2}$						
Cervicale to wrist length.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$

	<b>VERTICAL MEASUREMENTS (inches)</b>							
Head & neck length.....	$\frac{1}{8}$	$\frac{1}{8}$	0	$\frac{1}{8}$	0	$\frac{1}{8}$	0	$\frac{1}{8}$
Cervicale height.....	$\frac{7}{8}$	$\frac{7}{8}$	1	$\frac{7}{8}$	1	$\frac{7}{8}$	1	$\frac{7}{8}$
Scye depth, along spine.....	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
Trunk line, along body.....	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$	$\frac{3}{16}$
Cervicale to waist, along curve of spine.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$
Neck to waist, along front of body.....	$\frac{5}{16}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{4}$
Waist height.....	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Waist to hips, along side of body.....	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$
Crotch height.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Knee height.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Ankle height.....	$\frac{1}{8}$	0	0	0	0	0	0	0

**APPENDIX D. SIZING GRADES (Continued)**

**Boys' Huskys (H)**

	Grade Between 6H-7H	Grade Between 7H-8H	Grade Between 8H-9H	Grade Between 9H- 10H	Grade Between 10H- 11H	Grade Between 11H- 12H	Grade Between 12H- 13H	Grade Between 13H- 14H	Grade Between 14H- 15H	Grade Between 15H- 16H	Grade Between 16H- 17H
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**GIRTH MEASUREMENTS (inches)**

Chest.....	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	1	1	1	1	1	1	$\frac{3}{4}$
Waist.....	$\frac{1}{2}$	1	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$						
Hip.....	1	1	1	1	1	1	1	1	1	1	$\frac{5}{8}$
Vertical trunk.....	$1\frac{1}{2}$										
Neck base.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$						
Arm scye.....	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$
Upper arm.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$						
Elbow.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
Thigh.....	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$						
Calf, max.....	$\frac{3}{8}$	$\frac{1}{4}$									
Knee.....	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$							

**WIDTH AND LENGTH (inches) AND SLOPE (degrees) MEASUREMENTS**

Shoulder length.....	$\frac{1}{8}$										
Shoulder slope.....	0	0	0	0	0	0	0	0	0	0	0
Cross back width.....	$\frac{5}{16}$	$\frac{1}{4}$									
Cross chest width.....	$\frac{5}{16}$										
Crotch length, total....	$\frac{3}{4}$										
Cervicale to wrist length.....	1	1	1	1	1	1	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{1}{2}$

**VERTICAL MEASUREMENTS (inches)**

Head & neck length....	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{8}$								
Cervicale height.....	$1\frac{7}{8}$	$1\frac{3}{4}$	$1\frac{7}{8}$	$1\frac{7}{8}$	$1\frac{7}{8}$	$1\frac{7}{8}$	$1\frac{3}{8}$	$1\frac{3}{8}$	$1\frac{5}{8}$	$1\frac{1}{8}$	$\frac{7}{8}$
Scye depth, along spine.....	$\frac{3}{16}$										
Trunk line, along body.....	$\frac{3}{16}$										
Cervicale to waist, along curve of spine.....	$\frac{3}{8}$										
Neck to waist, along front of body.....	$\frac{5}{16}$										
Waist height.....	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	1	1	1	1	1
Waist to hips, along side of body.....	$\frac{3}{16}$										
Crotch height.....	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{8}$
Knee height.....	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{4}$
Ankle height.....	0	0	$\frac{1}{8}$	0	0	0	$\frac{1}{8}$	0	0	0	$\frac{1}{8}$

**APPENDIX D. SIZING GRADES (Continued)**

**Boys' Huskys(H) (Continued)**

	Grade Between 17H-18H	Grade Between 18H-19H	Grade Between 19H-20H	Grade Between 20H-21H	Grade Between 21H-22H	Grade Between 22H-23H	Grade Between 23H-24H
<b>GIRTH MEASUREMENTS (inches)</b>							
Chest.....	$\frac{3}{4}$						
Waist.....	$\frac{1}{2}$						
Hip.....	$\frac{5}{8}$						
Vertical trunk.....	1	1	1	1	1	1	1
Neck base.....	$\frac{3}{8}$						
Armscye.....	$\frac{3}{8}$						
Upper arm.....	$\frac{1}{4}$						
Elbow.....	$\frac{1}{4}$						
Thigh.....	$\frac{3}{8}$						
Calf, max.....	$\frac{1}{4}$						
Knee.....	$\frac{1}{4}$						
<b>WIDTH AND LENGTH (inches) AND SLOPE (degrees) MEASUREMENTS</b>							
Shoulder length.....	$\frac{1}{8}$						
Shoulder slope.....	0	0	0	0	0	0	0
Cross back width.....	$\frac{1}{4}$						
Cross chest width.....	$\frac{5}{16}$						
Crotch length, total.....	$\frac{1}{2}$						
Cervicale to wrist length.....	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
<b>VERTICAL MEASUREMENTS (inches)</b>							
Head & neck length.....	$\frac{1}{8}$	0	$\frac{1}{8}$	0	$\frac{1}{8}$	0	$\frac{1}{8}$
Cervicale height.....	$\frac{1}{8}$	1	$\frac{1}{8}$	1	$\frac{1}{8}$	0	$\frac{1}{8}$
Scye depth, along spine.....	$\frac{3}{16}$						
Trunk line, along body.....	$\frac{3}{16}$						
Cervicale to waist, along curve of spine.....	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{8}$
Neck to waist, along front of body.....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$
Waist height.....	$\frac{1}{2}$						
Waist to hips, along side of body.....	$\frac{3}{16}$						
Crotch height.....	$\frac{3}{8}$						
Knee height.....	$\frac{1}{4}$						
Ankle height.....	0	0	0	0	0	0	0

**APPENDIX E. SPAN CHART<sup>1</sup>**

**Boys' Slims (S)**

	6	7	8	10	12
Height.....	44 -46½	47 -48½	49 -50½	51 -54½	55 -58½
Chest.....	23½-24	24 -24½	25 -25½	26 -27	27½-29
Waist.....	20 -20½	20½-21	21½-22	22½-23	23½-24
Hip.....	23½-24	24 -24½	25 -25½	26 -27½	28 -29½
	16	18	20	22	24
Height.....	62 -64½	65 -66½	67 -68½	69 -70½	71 -72½
Chest.....	31 -32	32½-33½	34 -35	35½-36½	37 -38
Waist.....	25½-26	26½-27	27½-28	28½-29	29½-30
Hip.....	31½-33	33½-34½	35 -36	36½-37½	38 -39

**Boys' Regulars (R)**

	2	3	4	5	6
Height.....	32 -34½	35 -37½	38 -40½	41 -43½	44 -46½
Chest.....	20½-21	21½-22	22½-23	23½-24	24½-25
Waist.....	20 -20½	20½-21	21 -21½	21½-22	22 -22½
Hip.....	20½-21	21½-22	22½-23	23½-24	24½-25
	8	10	12	14	16
Height.....	49 -50½	51 -54½	55 -58½	59 -61½	62 -64½
Chest.....	26½-27	27½-28½	29 -30	30½-32	32½-33½
Waist.....	23½-24	24½-25	25½-26	26½-27	27½-28
Hip.....	26½-27	27½-28½	29 -30½	31 -32½	33 -34½
	20	22	24		
Height.....	67 -68½	69 -70½	71 -72½		
Chest.....	35½-36½	37 -38	38½-39½		
Waist.....	29½-30	30½-31	31½-32		
Hip.....	36½-37½	38 -38½	39 -40		

**Boys' Huskeys (H)**

	6	7	8	10	12
Height.....	44 -46½	47 -48½	49 -50½	51 -54½	55 -58½
Chest.....	25½-26	26 -27	27½-28	28½-29½	30 -31½
Waist.....	24 -24½	24½-25	25½-26	26½-27	27½-28
Hip.....	26 -26½	27 -27½	28 -29	29½-30½	31 -32½
	16	18	20	22	24
Height.....	62 -64½	65 -66½	67 -68½	69 -70½	71 -72½
Chest.....	34 -35½	36 -37	37½-38½	39 -40	40½-41½
Waist.....	30 -30½	30½-31½	32 -32½	33 -33½	34 -34½
Hip.....	35½-36½	37 -38	38½-39½	40 -40½	41 -42