

U.S. Department  
of Transportation

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United States Coast Guard

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**United States  
Coast Guard**

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NVIC 14-92  
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NAVIGATION AND VESSEL INSPECTION CIRCULAR No. 14-92

Subj: Suitability of Extended Size and Certain Adult Life Preservers for Some Children

1. PURPOSE.

- a. This Circular reduces the carriage requirements for child-size life preservers when "Extended Size" life preservers (or lifejackets) are used.
- b. It also repeats the conditions under which certain adult life preservers, contrary to their markings, are considered suitable for children more than 57 inches (4 feet 9 inches) tall.

2. DIRECTIVES AFFECTED. Navigation and Vessel Inspection Circular (NVIC) No. 6-86 is canceled.

3. BACKGROUND. Enclosure (1) provides historical information on the interpretation of life preserver carriage requirements on various vessels. Development and testing of life preservers that cross the traditional size limits are also discussed.

4. DISCUSSION.

- a. Standard life preservers have been available in an adult size for persons over 90 lb. and a child size for persons under 90 lb. since the end of World War II. Testing of these standard designs in 1985 showed that most adult sizes were suitable for children over 57" tall (or weighing over 75 lb.).
- b. NVIC 6-86 previously authorized the use of standard adult life preservers for persons over 57 inches tall. Those provisions are repeated in enclosure (2) of this NVIC.
- c. Recently, life preservers have been approved that are suitable for an even broader range of users. These new non-standard designs (designated "EXTENDED SIZE" rather than "ADULT" and/or "CHILD") have been tested and found suitable for all persons over 47 inches tall or weighing over 45 lb. Such life preservers are being marked with the "EXTENDED SIZE" designation along with these height and weight limits.
- d. Note that height has been identified as a better indicator than weight of life preserver performance limits for children. Thus, the use of weight limits will gradually be phased out.

5. IMPLEMENTATION.

- a. The following table and paragraphs provide revised carriage requirements based on the kind of life preserver used.

Carriage Requirements by Life Preserver Size for vessels with No Child Passenger Limit  
on their Certificates of Inspection (COI)\*

Life Preserver Size	Standard	Size Range Listed in Encl (2)	Extended Size Range**
Adult	--- One for each person allowed on board )per COI) ---		
Suitable for persons:	90 lb. and over	57 inches (75 lb.) and over	47 inches (45 lb.) and over
Child	--- None, if COI is for ADULTS ONLY, or the following: ---		
	10% or 1 per child under 90 lb., whichever is greater	10% or 1 per child under 57 inches (75 lb.), whichever is greater	5% or 1 per child under 47 inches (45 lb.), whichever is greater

\* Carriage of a mixture of lifejacket models/styles with different lower size limits should not be accepted when using this table.

\*\* Future life preserver approvals may permit smaller values of height and weight. Such values as marked on the approved life preserver may be substituted here.

- b. Life preservers bearing the approval numbers listed in enclosure (2) may be used to meet mandatory carriage requirements for persons over 57 inches tall (or weighing over 75 lb.) regardless of their labels.
- c. Life preservers with other, lower height/weight limits marked on them may be used to meet mandatory carriage requirements for persons as their labels indicate.
- d. When all "EXTENDED SIZE" life preservers (ones with a lower size limit of 47 inches [or less]) are carried on board, a minimum of only 5% additional child-size devices must be carried, unless the Certificate of Inspection (COI) is endorsed as per paragraph 5.f.(l).
- e. Action for operators:
  - (1) Operators may use enclosure (3) as a guide to estimate the number of child-sized life preservers which may be required for a group of children based on their age. However, the enclosure is only a guide, and the number of child-size life preservers must be at least equal to the number of persons on board who are under the height/weight limits of the respective life preservers.
  - (2) If an operator must carry child-size life preservers in addition to those listed on the COI (or if the COI lists "zero (0)" child's lifejackets) in order to provide for an unusual number of children (or some children) on a particular trip, the appropriate life preservers may be borrowed. Normal stowage and marking requirements need not be complied with for such borrowed life preservers, however, (a) these life preservers must be stowed separate from adult life preservers and (b) they must have been inspected by a marine inspector within the past year.

- (3) Stowage locations for life preservers listed in enclosure (2) or extended range life preservers must be clearly marked. The following text, or equivalent, is appropriate:

"LIFE PRESERVERS (or IMO Symbol for Lifejacket), for persons over \_\_\_\_\_ inches (or \_\_\_\_\_ lb.)"

- (4) Additional suggested marking at the stowage location is a line \_\_\_\_\_ inches (same number of inches as above paragraph) above the deck with the text:

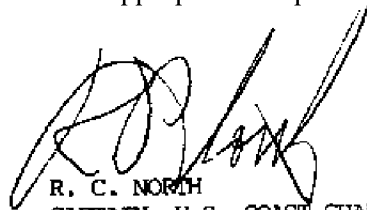
"Children shorter than this line must use Child-size Life Preservers"

f. Action for U.S. Coast Guard Inspectors:

- (1) If no child-size life preservers are carried on board, the vessel's COI must be endorsed, as appropriate:
- (a) "For the carriage of ADULTS ONLY"; or
- (b) "For the carriage of persons taller than \_\_\_\_ inches or weighing over \_\_\_\_ lb. Replacement lifejackets must have an approval for all persons over inches \_\_\_\_ lb. or a smaller lower-limit." (Number in second set of blanks must be the same as the first set).
- (2) When the above endorsement from paragraph 5.f. (1) (b) is used, the height/weight limits (\_\_\_\_ inches/\_\_\_\_ lb.) are 57 inches/75 lb. for the life preservers in enclosure (2) or, for life preservers with lower limits below 57 inches, must be taken from their label. Enter a zero ("0") for the number of child's lifejackets on the COI using the MSIS product VFLS.

6. RECOMMENDATIONS TO OPERATORS :

- a. When outfitting a vessel that carries extended range life preservers with the necessary complement of child-size life preservers, the Coast Guard recommends the use of child-size life preservers with approval numbers beginning with "160.055" (which are bib/yoke style devices). For smaller children (under 37 inches or 30 lb.) these life preservers are preferred over those with approval numbers beginning with "160.002" (which are vest style devices). The bib/yoke style devices are preferred because they are smaller, fit small children better, and generally provide a better flotation attitude. For children between 37 inches and 47 inches any approved child-size life preserver is suitable.
- b. When many children are carried with minimal adult supervision, operators are encouraged to have the children wear appropriate life preservers on open decks.



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End: (1) Background on Life Preserver Sizes and Vessel Carriage Requirements

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- (2) Adult Life Preservers Suitable for Children Over 57 Inches Tall or Weighing Over 75 lb.
- (3) Estimated Percentages of Children Under Certain Heights Based on Age

Non-Standard Distribution:

- C:e New Orleans (90); Hampton Roads (50); Baltimore (45); San Francisco (40); Philadelphia, Port Arthur, Honolulu, Puget Sound (35); Miami, Houston, Mobile, Long Beach, Morgan City (25); Jacksonville, Portland OR (20); Boston, Portland ME, Charleston, Galveston, Anchorage (15); Cleveland (12); Louisville, Memphis, Paducah, Pittsburgh, St. Louis, Savannah, San Juan, Tampa, Buffalo, Chicago, Detroit, Duluth, Milwaukee, San Diego, Juneau, Valdez (10); Providence, Huntington, Wilmington, Corpus Christi, Toledo, Guam (5).
- C:m New York (70); St. Ignace (5); Sturgeon Bay (4).
- D:d Except Baltimore, Moriches.
- D:l CG Liaison Officer MILSEALIFTCOMD (Code N-7CG), CG Liaison Officer RSPA (DHM-22), CG Liaison Officer MARAD (MAR-742), CG Liaison Officer JUSMAGPHIL, CG Liaison Officer World Maritime University (1).

NOAA Fleet Inspection Officer (1).  
US Merchant Marine Academy (1).

**BACKGROUND ON LIFE PRESERVERS SIZES AND  
VESSEL CARRIAGE REQUIREMENTS**

1. Standard life preservers have had a size limit between adult and child sizes of 90 pounds which dates back to the end of World War II. However, any weight limitation is difficult to apply accurately in practice, and any single cutoff point is rather arbitrary. It is reasonable to expect that some overlap in adult and child sizes can be tolerated.
2. Inspected passenger vessels are required by 46 CFR 75.40-10(a) and 46 CFR 180.25-5 to carry a quantity of approved life preservers "suitable for children equal to at least 10 percent of the total number of persons carried." The Coast Guard has interpreted this regulation to require at least 10 percent child-size life preservers or enough for the number of children actually on board, whichever is -greater. Regulations for other vessels that may carry children have similar provisions<sup>1</sup> but generally more clearly require "a suitable size for each person on board" (46 CFR 25.25-5(b)).
3. At the request of the vessel owners/operators, the Coast Guard contracted in 1985 with Underwriters Laboratories, Inc. (UL) for limited testing of several standard adult and child life preservers to determine the performance of adult size devices when worn by children. The testing established that certain designs of adult life preservers are suitable for children weighing over 75 pounds (or over 57 inches tall). However, no presently approved adult life preserver can be used by all children, since the bulk and excess buoyancy may result in dangerous floating positions or unacceptable mobility restrictions for smaller children.
4. NVIC 6-86 authorized the use of certain adult kapok and cloth covered foam life preservers by larger children. The Coast Guard subsequently had UL test children in the standard adult vinyl coated foam life preserver. Based on that testing, this NVIC now also authorizes the standard adult vinyl coated foam life preserver to be used on certain larger children. Some manufacturers have not tested their non-standard adult designs of life preservers to see if they are also suitable for larger children.
  - (1) The relationship between weight, height, and age has been further investigated. Analysis of all testing to date indicates that a height of 57 inches is a better limit for the use of these adult life preservers on children than the 75 pound limit. Additionally, a height limit is an easier measure for vessel operators to use in determining the number of child-size life preservers required on board and in distributing the devices to the correct individuals in the event of an emergency.
  - (2) Recently, several designs of life preservers (and some devices also marked lifejackets) have been tested and approved that are suitable for an even broader range of users. These new non-standard designs (designated "EXTENDED SIZE" rather than "ADULT" and/or "CHILD") have been found suitable for all persons over 47 inches tall or weighing over 45 lb. Such life preservers will be marked with this size designation and height and weight limits. (Designs with size limits even lower than 47 inches or 45 lb. may be approved in the future. However, mobility of the child appears to be a limiting factor in how low the size limit can be pushed.)
6. Operators carrying passengers often cannot predict the weight of young passengers accurately. Weighing each passenger is not practical. Any overlap in applicability of the existing sizes of life preservers will relieve some of the burden on the operator of

predicting the passenger mix and providing an adequate number of suitable life preservers.

7. Enclosure (3) provides a guide to estimate the number of child-sized life preservers which may be required for a group of children based on their age and the kind of life preservers on board a vessel. While age is not a good indicator of performance the relationship between height and age allows a rough estimate of how many child-size devices will be required for a given age group.

**ADULT LIFE PRESERVERS SUITABLE FOR CHILDREN OVER 57 INCHES TALL**  
**OR WEIGHING OVER 75 LB**

<u>Manufacturer</u>	<u>Model No.</u>	<u>Approval No.</u>
Kapok Life Preservers		
Atlantic-Pacific Mfg. Co.	41033,41037	160.002/124/0
American Recreation Products (formerly Buddy Schoellkopf Products)	3	160.002/102/1
ERO Industries, Inc.	3	160.002/114/0
Kent Sporting Goods, Inc.	8810	160.002/128/0
Plott Manufacturing, Inc. (formerly Paris Industries, Inc. and Gladding Corp)	AF500	160.002/78/0
Red Head Brand	3	160.002/A102/1
Red Head Brand	3	160.002/120/0
Safeguard Corp.	190, 190RT	160.002/70/0
Sears, Roebuck & Co.	3	160.002/116/0

Foam Filled Life Preservers

Atlantic-Pacific Mfg. Co.	81407	160.055/121/1*
Buddy SchoellkopfProducts	ALP-1	160.055/147/0
Cal-June Corporation	601	160.055/115/0*
Kent Sporting Goods, Inc.	8830	160.055/149/0
Safeguard Corp.	195, 195RT	160.055/134/0
Stearns Mfg. Co.	ILJ-100	160.055/126/0
Taylortec, Inc.	LP-2A	160.055/136/0
Taylortec, Inc.	62	160.055/96/0

\*New entry since NVIC 6-86 was published

**ESTIMATED PERCENTAGES OF CHILDREN UNDER  
CERTAIN HEIGHTS BASED ON AGE**

Operators may use the following as a guide to estimate the number of child-sized life preservers which may be required for a group of children of a given age. Table 1 applies when the adult life preservers listed in enclosure (2) are on board. Table 2 is for any non-standard design of life preserver which is labeled "Extended Size" and suitable for persons over 47" tall.

If a life preserver with a height limit of less than 47" is approved, the manufacturer will have a revised table to estimate the percent of children under the height limit of the new design.

TABLE 1

Estimated Percent by Age of Children Needing  
Child-Size Life Preservers when  
ADULT Life Preservers Carried on Board are  
Listed in Enclosure (2)

<u>Age</u>	<u>Percent of children under 57 inches tall</u>
9	95
10	80
11	50
12	20
13	5

TABLE 2

Estimated Percent by Age of Children Needing  
Child-Size Life Preservers when  
Life Preservers Carried on Board for Adults and  
Larger Children are Marked EXTENDED SIZE

<u>Age</u>	<u>Percent of children under 47 inches tall</u>
5	96
6	65
7	25
8	5