

Effective Safety
 Communications in a
Global Marketplace

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Agenda

- U.S. warnings law
- Multi-lingual solution
- Pictorials
 - ANSI Z535.4
 - ISO 3864-Part 2
 - Testing
- Instructions

Defects in Warnings

- Defective if reasonably foreseeable risks could have been reduced by providing reasonable instructions or warnings and omission renders product not reasonably safe
- Exception: Not required for risks and risk avoidance measures that should be obvious to reasonably foreseeable product users
- Only required for reasonably foreseeable users and risks

What is an adequate warning in the U.S.

- It is in a form that could reasonably be expected to catch the attention of a reasonably prudent person in the circumstances of the product's use;
- The content is of such a nature as to be comprehensible to the average user; and
- It conveys a fair indication of the nature and extent of the danger to the mind of a reasonably prudent person

Content of adequate warnings

- Description of hazard
- Probability of hazard occurring
- Severity if occurs
- How to avoid hazard

What is an adequate warning in the U.S.

- Warning does not have to be followed in order for it to be adequate
- Studies tend to show that many warnings are not noticed or noticed and not followed
- Best defense is that injured would not have complied with a better warning (lack of causation)

Z535 Signal Words

- **Danger** – will cause serious injury or death
- **Warning** – could cause serious injury or death
- **Caution** – will or could cause moderate or minor injury and property damage



⚠ DANGER

Moving parts can
crush and cut.
Do not operate with
guard removed.
Follow lockout procedure
before servicing.

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Product No. 5974-90000



⚠ WARNING

CUTTING HAZARD

To prevent serious injury, keep
away from blade.

Disconnect power before
servicing and replace guard
before operating.

Part #

Sufficiency of Warnings

- Description of hazard - words, pictorial
- Probability of hazard occurring - signal word, words
- Severity if hazard occurs - signal word, pictorial, words
- How to avoid hazard - words, pictorial

Illiterate and non-English reading users

- Some courts in U.S. have held that a manufacturer may be liable if the reasonably foreseeable users are illiterate or do not read English and the label does not have pictograms or text that are readily understood by such users
- No U.S. cases requiring foreign language on labels

Multi-lingual

WARNING

Infants and young children can fatally suffocate when their faces are within or next to a plastic bag. Discard this bag immediately. Keep away from children, infants, cribs, beds, playpens or carriages.

WARNUNG

Geben Sie Säuglingen und Kleinkindern keine Plastiktüten zum Spielen - es besteht Erstickungsgefahr. Werfen Sie diesen Plastikbeutel sofort weg. Lassen Sie diese Verpackung nicht in der Nähe von Kindern, Säuglingen, Kinderbetten, Laufstühlen oder Kinderwagen liegen.

ADVARSEL

Spædbarn og småbarn kan bli kvælt, hvis deres ansigt ligger inde i eller op mod en plastikpose. Kassér denne pose med det samme, og sørg for, at den ikke kommer i nærheden af børn, spædbarn, vugger, bamseenge, kravlegårde og børnevogne.

WAARSCHUWING

Plastic verpakkingsmateriaal kan verstikkingsgevaar opleveren voor baby's en jonge kinderen. Houd deze verpakking dan ook uit de buurt van kinderen en baby's, wiegjes, boxes en kinderwagens. Gooi de verpakking meteen weg.

ADVERTENCIA

Los bebés y los niños pequeños pueden sufrir asfixia jugando con una bolsa de plástico. Descarte esta bolsa inmediatamente. Mantener fuera del alcance de bebés y niños pequeños y alejada de cunas, cunas, parques o cunas.

VAROITUS

Pikkulapsat ja tekkä-käiset voivat hukkua, jos näi hirtään kasvons joutuval muovipussin sisään tai sen läheisyyteen. Heitä pussi pois välittömästi. Ei lasten tai leikki-ikäisten ulottuville eikä lastoneiden, leikkihuoneiden tai -alueiden läheisyyteen.

ATTENZIONE

Bambini e neonati potrebbero soffocare infilando la testa o venendo a contatto con sacchetti di plastica. Gettare questo sacchetto immediatamente. Tenere lontano dalla portata di bambini, neonati, culla, lettini, neonati di gioco e carrozzine.

AVISO

Bebés e crianças podem ser sufocados se colocarem a cabeça próxima ou dentro de um saco plástico. Jogue fora esta embalagem imediatamente. Mantenha-a longe de crianças, bebés, berços, cunas, cercadinhos ou cunhos de bebé.



WARNING

Si no lee ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad.

To prevent serious injury or death:

- Read Operator's Manual before using machine. Review safety instructions with all operators annually.
- Stop tractor engine, lower machine to the ground, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing, unplugging or fitting.
- Install and secure all guards before starting.
- Keep hands, feet, hair and clothing away from moving parts.
- Do not allow riders.
- Clean reflectors, SMV and lights before transporting.
- Install safety locks before transporting or working beneath components.
- Add extra lights and use pilot vehicle when transporting during times of limited visibility.
- Use hazard flashers in tractor when transporting.
- Install safety chain when attaching to tractor.

Multi-lingual in U.S.

- But some customers (e.g. retailers) require multi-lingual labels and you have no choice.
- Population is growing increasingly non-English speaking and reading. And there are more advertisements in foreign languages in TV, radio, print.

Multi-lingual in U.S.

- Do very carefully – which languages?
- Don't diminish conspicuity of English labels
- Put burden on customer to ask for languages other than English
- Use more pictorials instead of words
- Use of website to offer other languages
- Should instructions be in foreign language?

Goal of some manufacturers

- No text labels
- Pictorial only
- Use worldwide
- But what about instructions?

Pictorials in U.S.

- Not required generally by most standards
- Some courts have encouraged use of pictorials in addition to text where some users are illiterate or speak another language
- Labels with pictorials and no text are vulnerable unless they clearly transmit entire message

ANSI Z535.4 Relationship to ISO

- New version of Z535.4 allows product safety information to be conveyed by ISO formatted safety labels in compliance with ISO 3864-2
- However, pictorial labels still have to contain required messages

ISO Safety Labeling Standards

- ISO 3864 Part 2 Product Safety Labels
- Accepts symbol-only formats



ISO 3864-2 incorporated by reference in 2007 ANSI Z535.4

3864-Part 2 Accepts Various Formats



Electrical hazard.
Contact with water will cause electric shock.
Do NOT touch with wet hands. Always unplug when not in use.

CAUTION



WARNING



Electrical hazard.
Contact with water can cause electric shock.



Do NOT touch with wet hands.



Always unplug when not in use.

DANGER



Moving clamps can crush and cut.
Do not operate with guard removed.
Follow lockout procedure before servicing.



DANGER

Electrical hazard.
Contact with water will cause electric shock.
Do NOT touch with wet hands. Always unplug when not in use.



WARNING

Lifting hazard.
Do not lift or move this equipment without assistance.

ISO 3864-2 (2003)

To assist in the communication of safety information across language barriers, all of the product safety label layouts shown in this standard incorporate safety signs. This International Standard includes product safety label layouts that use only safety signs as well as layouts that use additional graphical symbols and text. Product safety labels that include text can be used when some of the necessary safety information cannot be communicated in symbolic form, when the combination of safety sign with text is judged to be more effective or when legal requirements in countries mandate the use of text to communicate safety information. Education is an essential part of any system that provides safety information. Because the amount of safety information necessary to operate or service a product safely may be more than can be conveyed in a product safety label, a product's accompanying documentation (e. g. product literature, installation manual, operation manual, service manual) may supplement the product's safety labels to provide the user with the additional information necessary for safety. A product's user documentation also offers a place to educate users on the meaning of the safety signs and supplementary safety information symbols shown on the product's safety labels (see Annex A).

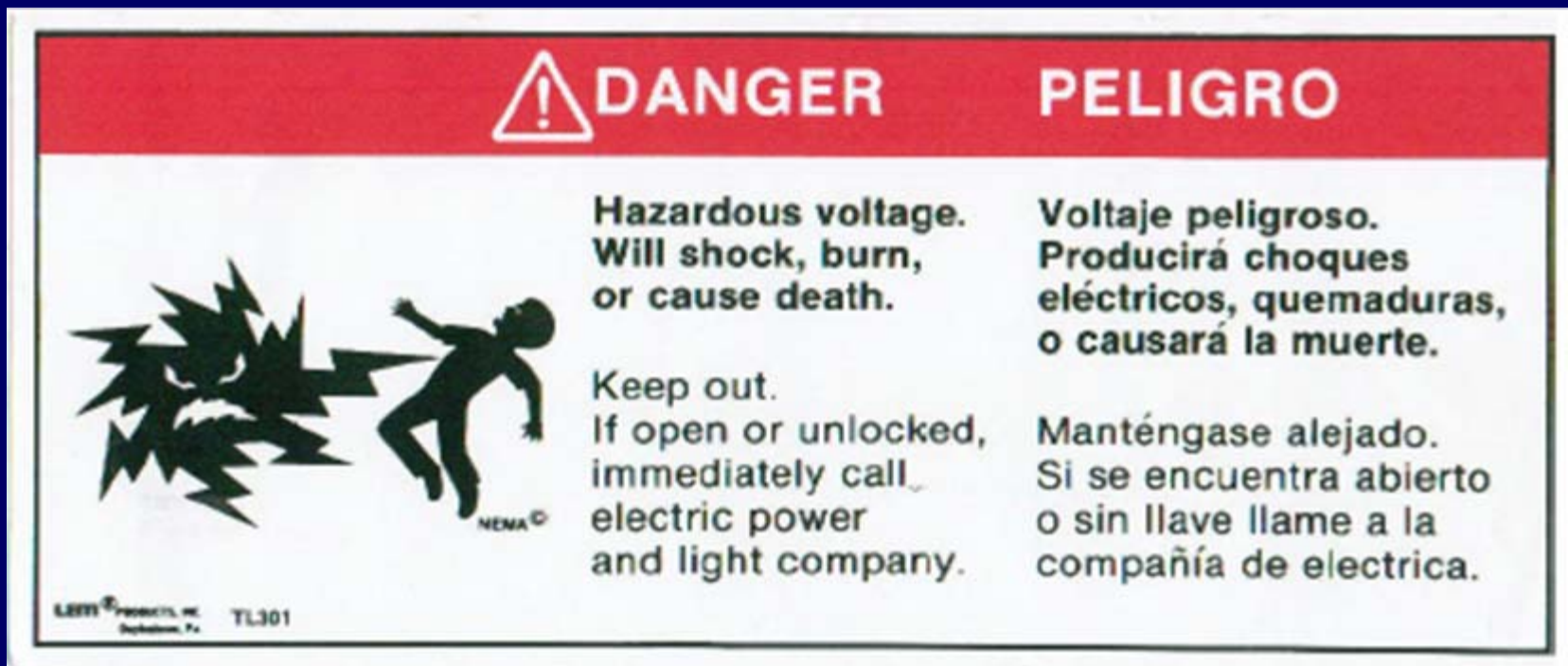
DTI Study Conclusion

Pictograms are not the language free answer to written safety warnings. There is no clear objective evidence to suggest that they have any significant effect on ultimate compliance with safety warnings on products. Therefore the desire to decrease text information on packaging due to the internationalisation of markets must not take the route of language free pictorial warnings unless they have been proven to be effective across all the relevant cultures.

ISO Standards and No Text Labels in U.S.

- If no text labels used in U.S., testing is more important
- Some pictorials adequately communicate the entire message – most don't
- Balance risk of inadequate label in U.S. versus benefit of having one set of labels for worldwide use

Mr. Ouch - 1980



Testing

- Voluntary
- ISO 9186 vs. ANSI Z535.3
- Varying acceptability ratings

What now?

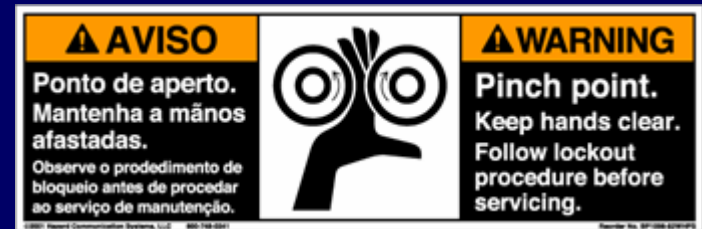
No text - Testing

- Compliance with standards is not generally a defense
 - But you should comply.
 - Which one – ANSI or ISO?
- Is testing the answer? What countries and cultures? What testing protocol? Words and pictorials?

Pick a format

Choose a format -
what's right for your
product and its
audience

1. "Straight" ANSI
2. "Harmonized"
ANSI
3. Bilingual ANSI
4. Pictorial only



ANSI Z535.6 - goals

- address the applicability of elements of other ANSI Z535-series standards to collateral materials,
- establish a uniform and consistent visual layout for safety information in collateral materials for a wide variety of products
- minimize the proliferation of designs for safety information in collateral materials

Types of Safety Messages

- Supplemental Directives
- Grouped Safety Messages
- Section Safety Messages
- Embedded Safety Messages

Grouped Safety Messages

CHAPTER 1. GENERAL SAFETY PRECAUTIONS

WARNING

Read the original equipment manufacturer's manual(s) and this handbook before servicing Tecumseh and Peerless products.

Always follow recommended service procedures. Such procedures affect the safe operation of the equipment and the safety of you and/or the operator.

Failure to follow the instructions and warnings may result in serious injury or death. Call Tecumseh Products Company at (800) 558-5402 if you have questions.

ALWAYS PROVIDE ADEQUATE VENTILATION

To avoid serious injury or death, always ensure that you are working in a properly ventilated facility. Special precautions are required to avoid carbon monoxide poisoning.



All engine exhaust contains carbon monoxide, a deadly gas. Breathing carbon monoxide can cause headaches, dizziness, drowsiness, nausea, confusion and eventually death. Carbon monoxide is a colorless, odorless, tasteless gas which may be present even if you do not see or smell any engine exhaust.

Deadly levels of carbon monoxide can collect rapidly and you can quickly be overcome and unable to save yourself. Also, deadly levels of carbon monoxide can linger for hours or days in enclosed or poorly-ventilated areas.

If you experience any symptoms of carbon monoxide poisoning, leave the area immediately get fresh air, and SEEK MEDICAL TREATMENT.

To prevent serious injury or death from carbon monoxide:

- ALWAYS direct engine exhaust outdoors.
- NEVER run an engine outdoors where engine exhaust can be drawn into a building through openings such as windows and doors.

USE PROPER METHODS WHEN CLEANING

To reduce the risk of serious injury or death from fires and/or explosions, NEVER use flammable solvents (e.g., gasoline) to clean transmissions. Use a water-based, non-flammable solvent such as Tecumseh Degreaser Cleaner.



COMPRESSED AIR PRECAUTIONS

Never use compressed air to clean debris from yourself or your clothing. When using compressed air to clean or dry transmission products:

- Wear appropriate eye protection
- Use only approved air blow nozzles
- Air pressure must not exceed 30 psi
- Shield yourself and bystanders from flying debris

USE PERSONAL PROTECTIVE EQUIPMENT

To avoid injury, wear protective equipment including appropriate clothing, eyewear, safety shoes and ear plugs when servicing transmission and drive products.



STAY AWAY FROM ROTATING PARTS

Rotating parts can cause severe injury or death. Use special care when making service adjustments with covers or guards removed. Keep tools, hands, feet, hair jewelry and clothing away from all moving parts. Replace covers and guards before operating equipment.



STAY AWAY FROM HOT SURFACES

Parts of the equipment being serviced become extremely hot during operation and remain hot after the equipment has stopped. To avoid severe burns, stay away from hot surfaces or allow the unit to cool prior to service.



AVOID ACCIDENTAL EQUIPMENT MOVEMENT

To prevent accidental movement of equipment, always set the parking brake. For gear-driven products that do not have a parking brake, leave equipment in gear and chock the wheels. Refer to original equipment operator manuals for additional information.

Heading indicates safety-related information

Sub-headings allow easy navigation

Supplemental directive

Safety messages apply to entire document

All caps only used for brief emphasis only

No Z535.4-style formatting for each message

Safety symbols

Summary

- Comply with U.S. law and ANSI Z535 or other product specific standard.
- Avoid multi-lingual labels unless absolutely necessary. Use pictorials in lieu of foreign languages.
- Test pictorials if necessary.
- Consider multi-lingual in instructions and website.