Foreword

This standard is a revision of the Standards Administrative Order (SAO) series of 1980 – "Symbols for operator controls on Agricultural Tractors and Farm Machinery". The revision was initiated by the Agricultural Machinery Testing and Evaluation Center (AMTEC) under the project entitled "Enhancing the Implementation of AFMA Through Improved Agricultural Engineering Standards" which was funded by the Bureau of Agricultural Research (BAR) of the Department of Agriculture (DA).

This revised standard was reviewed by the Technical Committee for Study 1- Development of Standards for Agricultural Production Machinery and was circulated to various private and government agencies/organizations concerned for their comments and reactions. This standard was presented to the Philippine Society of Agricultural Engineers (PSAE) and subjected to a public hearing organized by the National Agriculture and Fisheries Council (NAFC). The comments and reactions received during the presentation and public hearing were taken into consideration in the finalization of this standard.

This standard has been technically revised in accordance with PNS 01:Part 4:1998 - Rules for the Structure and Drafting of Philippine National Standards. The main changes are listed below:

- title of the standard has been modified in conformity to the format of International Standard; and
- definitions of agricultural machines and symbols;

In the formulation of this standard, reference was made to International Organization for Standardization (ISO) 3767-1:1998 – Tractors, machinery for agriculture and forestry, powered lawn and garden equipment – Symbols for operator controls and other displays-Part1:General.

Agricultural Machinery – Symbols for Operator's Controls and Other Displays – Common Symbols

1 Scope

This standard specifies symbols which are commonly used for controls and other displays on agricultural machinery and equipment.

2 Definitions

For the purpose of this standard, the following definitions shall apply:

2.1
agricultural machines
consists of agricultural tractors, self-propelled and pedestrian-operated machines, implements, and combinations thereof primarily used for agricultural operations

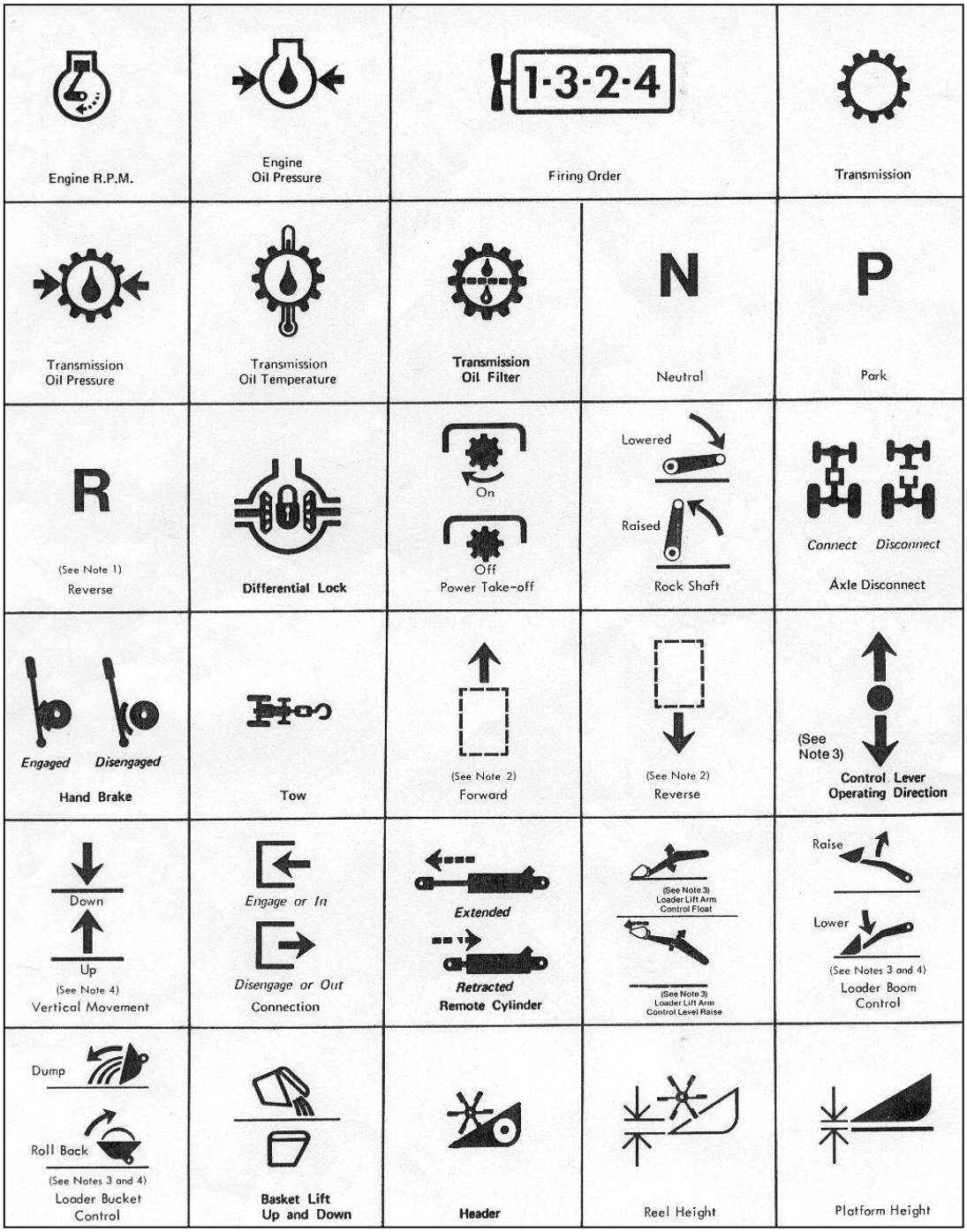
2.2
symbol
visually perceptible figure used to transmit information independent of language

NOTE It may be produced by drawing, printing or other means.

3 General Requirements

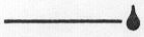
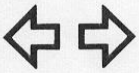
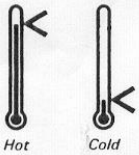
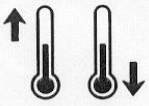
3.1 The designation and illustration of symbols are shown in Table 1. Word captions in the symbols are for reference only. However, suitable descriptive words may be used to define the application of symbols.

Table 1. Designation and Illustration of Commonly Used Symbols



NOTE: 1) Reverse symbol for transmission shift pattern.
2) Replace block with appropriate machine symbol correctly oriented to arrow.
3) Control Lever Operating Direction symbol may be used in conjunction with other symbols to designate lever motion.
4) Captions within the symbols are for information, and should not be reproduced with the symbol.

Table 1 (Continued)

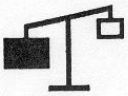
 Reel Speed	 Cylinder Speed (Combine)	 Concave Clearance (Combine)	 *Full*  1/2  *Empty* Volume Level	 **Unloading Auger**
 **Ground Speed**	 **All Mechanisms**	 Fuel		 Choke
 Oil Level	 **Dipstick**	 **Oil Lubricant Type & Frequency**	 **Grease Lubricant Frequency**	 Engine Coolant Temperature
 **Air Filter**	 **Pressurized Open Slowly**	 Upper Beam Lower Beam Lights	 (See Notes 5 and 6) Turn Signals	 Horn
 Windshield Defroster	 Windshield Wiper	 Windshield Washer	 Windshield Wiper and Washer	 Lighter
 Ammeter or Generator Light	 *Hot* *Cold* Temperature	 (See Note 7) Temperature Control	 Ventilating Fan	 *Fast* *Slow* Speed Range

NOTE: 5) Framed area of this symbol may be solid.

6) It is permissible to separate the left and right arrows.

7) Symbol for use at controls and not at temperature measurements.

Table 1 (Continued)

 Continuously Variable (Speed Range)	 Hours	 Fasten Seat Belt	 Caution	 Read Operator's Manual
 Heavy - - - - Light	 Increase	Decrease		

3.1.1 The values (1-3-2-4) indicated in the symbol are only for illustration. While using this symbol, actual firing order shall be indicated.

3.1.2 For symbols representing speed, clearance and height, the recommended values shall be properly indicated.

3.2 Symbols, which are shown in outline form, may be shaded in actual use for clarity of reproduction and improved visual perception by the operator, except as otherwise noted for individual symbols.

3.3 Limitations inherent in some reproduction and display technologies may require increased line thickness or other major modifications of symbols. Such modifications are acceptable provided the symbol remains unchanged in its basic graphical elements, and easily discernible by the operator.

3.4 To improve the appearance and perceptibility of a graphical symbol or to coordinate with the design of the new equipment to which it is applied, it may be necessary to change the line thickness or round off the corners of the symbol. The graphical designer is normally free to make such changes provided that the essential perceptual characteristics of the symbol are maintained.

3.5 For actual use, all symbols shall be produced large enough to be easily discerned by the operator. Symbols shall be used in the orientations shown in Table 1 unless otherwise noted for individual symbols.

3.6 Symbols on controls and displays shall have good contrast to their background. A light symbol on a dark background is preferred for most controls. Displays may use either a light symbol on a dark background or a dark symbol on a light background, depending upon which alternative provides the best visual perception.

3.7 Symbols shall be located on or adjacent to the control or display that is being identified. Where more than one symbol is required for a control, the symbols shall be located in relation to the control such that movement of the controls towards the symbol shall effect the function depicted by that symbol.

3.8 Letters and numerals may be used as symbols. Letters and numerals have the meaning indicated when used in association with transmission gear controls and displays on tractors and machinery for agriculture.

3.9 When used on illuminated displays, the following colors have the meanings indicated:

a) red : failure or serious malfunction; requires immediate attention;
b) yellow or amber : outside normal operating limits; and
c) green : normal operating condition.

3.10 Certain colors are used for specific functions such as:

a) blue : headlight main- / high- beam display;
b) red : hazard warning display; and
c) green : turn signal display.

3.11 If color is used on symbols for the heating and/or cooling systems, the color red shall be used to indicate hot, and the color blue shall be used to indicate cold.

3.12 Color combinations and sizes of all symbols shall be adjusted to its particular unit. It is desirable to use colors, such as red, amber and green to indicate the urgency of action(see Figure 1).

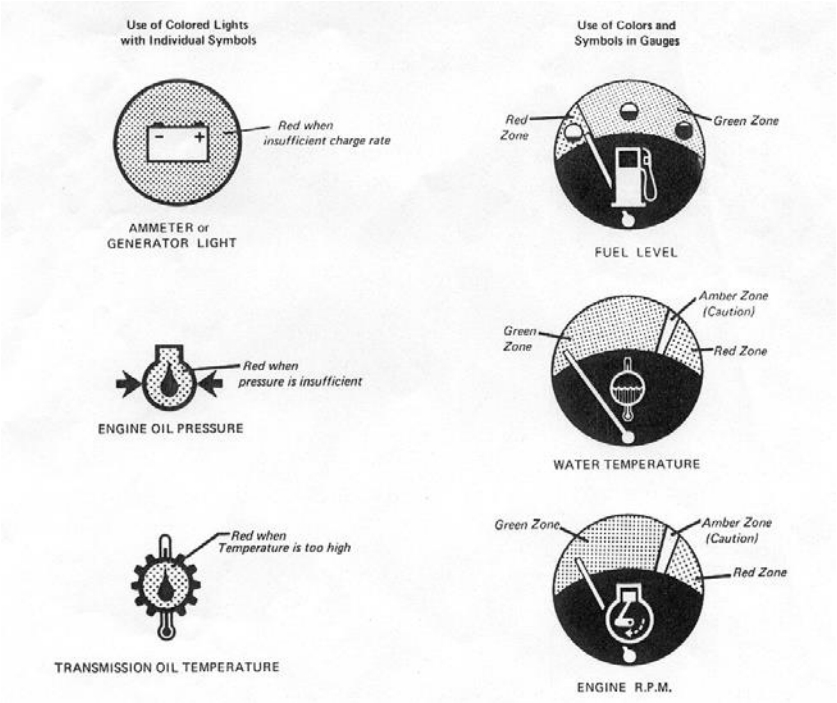


Figure 1 – Symbols with colored lights