

Agricultural Construction

Volume III

Writers:

Craig W. Gladney, Janis L. Levsen, Susan Rhyne, and Patricia DeFacio
Instructional Materials Laboratory
University of Missouri-Columbia

Produced by:
Instructional Materials Laboratory
University of Missouri-Columbia
10 London Hall
Columbia, Missouri 65211

Volume 34
Number 7

Catalog Number 10-7143-I

Available from:
Instructional Materials Laboratory
University of Missouri
2316 Industrial Drive
Columbia, Missouri 65202
573-882-2883
800-669-2465

© 2002 Curators of the University of Missouri. All rights reserved.

The activity that is the subject of this report was supported in whole or in part by funds from the Department of Elementary and Secondary Education, Division of Vocational and Adult Education. However, the opinions expressed therein do not necessarily reflect the position or policies of the Missouri Department of Elementary and Secondary Education or the Division of Vocational and Adult Education, and no official endorsement should be inferred.

Agricultural Construction

Table of Contents

Competencies/Objectives.....	v
Unit I – Oxy-Gas and Other Cutting/Welding Processes	
Arc Cutting and Plasma Air Cutting	1
TM 1.1 Schematic of Air Carbon-Arc Gouging	15
TM 1.2 Schematic of Plasma-Arc Cutting	17
DM 1.1 Air Carbon-Arc Cutting	19
DM 1.2 Plasma-Arc Cutting	21
JS 1.1 Air Carbon-Arc Cutting	23
JS 1.2 Plasma-Arc Cutting	27
Unit II –Arc Welding	
Gas Metal Arc Welding (GMAW)/MIG	29
DM 2.1 Prewelding and Postwelding Procedures for GMAW	39
DM 2.2 Welds in the Flat Position	41
DM 2.3 Welds in the Horizontal Position.....	43
DM 2.4 Welds in the Vertical Position.....	45
DM 2.5 Welds in the Overhead Position	49
JS 2.1 Prewelding and Postwelding Procedures for GMAW	51
JS 2.2 Welds in the Flat Position	53
JS 2.3 Welds in the Horizontal Position.....	55
JS 2.4 Welds in the Vertical Position.....	57
JS 2.5 Welds in the Overhead Position	61
Unit III – Arc Welding	
Gas Tungsten Air Welding (GTAW)/TIG	63
DM 3.1 Prewelding and Postwelding Procedures for GTAW	73
DM 3.2 Welds in the Flat Position	75
DM 3.3 Welds in the Horizontal Position.....	79
DM 3.4 Welds in the Vertical Position.....	83
DM 3.5 Welds in the Overhead Position	87
JS 3.1 Prewelding and Postwelding Procedures for GTAW	91
JS 3.2 Welds in the Flat Position	93
JS 3.3 Welds in the Horizontal Position.....	97
JS 3.4 Welds in the Vertical Position.....	101
JS 3.5 Welds in the Overhead Position	105

COMPETENCIES/OBJECTIVES

Unit I – Oxy-Gas and Other Cutting/Welding Processes

1. Cut a piece of metal using air carbon-arc and plasma arc cutting processes.

Unit II – Arc Welding

1. Make a series of welds in a variety of positions using gas metal arc welding welding.

Unit III – Arc Welding

1. Make a series of welds in a variety of positions using gas tungsten arc welding.

