

Highway Maintenance WELDING Techniques and Applications

This manual was written by the Cornell Local Roads Program in New York for distribution to participants in tow courses: Highway Maintenance Welding Techniques and Applications, and Advanced Maintenance Welding Techniques and Applications.

The author of this workbook is Tom Cook, who is an instructor in the Department of Agricultural and Biological Engineering (Power and Machinery Group) at Cornell University. Mr. Cook has taught the basic and advanced welding courses in Maine since 1997 and many other for the Local Roads Programs across the country. The content of this manual is directed to new and experienced welders who perform routine, maintenance welding in local highway departments. A variety of welding techniques and safety issues are presented here.

Some topics covered in the Basic workshop are:

- Welding Equipment and Safety
- Alloys/Cast Steel Welding
- Bead Placement/Reinforcing/Boxing
- Surfacing and Buildup
- Hard Facing
- Bucket and Cutting Edges

Some topics covered in the Advanced workshop are:

- Hard Facing/Hard Surfacing
- Stainless Steel/Aluminum
- Metallic Inert Gas (MIG)
- Tungsten Inert Gas (TIG)
- Special Applications