

Romeo Engineering, Inc.

WaterJet Cutting Systems

Training Schedule

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Length: 4.5 Days

Tuition: No cost for equipment purchasers and employees

Course Purpose: To provide you with an in-depth study of, and extensive practice of the tasks required to successfully operate, program, and maintain the Romeo Engineering Waterjet Cutting System. The instructor(s) will explain and demonstrate each of the operational functions of the Control System, along with the complete maintenance of the Drive and Motion System, and Intensifier Pump.

Course Objectives: Upon completion of this course, you will have experienced and be able to perform the following:

- Power up/down the Control System and use the operator input devices to change control functions
- Understand all Safety Interlocks of the WaterJet Cutting System
- Exercise the Complete WaterJet Cutting System using Manual Mode, MDI (Manual Data Input), and Auto Mode
- Home the Motion System
- Adjust the Motion System Soft Travel Limits
- Use Verify Program to test part program syntax and create a tool path plot
- Load and start execution of part programs
- Dynamically adjust the Abrasive Delivery and Cutting Speed while the part program is executing
- Adjust Part Program Cutter Compensation
- Disassemble and Assemble the Autoline™ Abrasive Cutting Head
- Create part programs
- Understand the basic RS-274 (M codes and G codes)

Who Should Attend: Engineers, Technical Support Person, CAD/CAM Programmers, and Machine Operators

Topical Outline:

- **Introduction of WaterJet Technology**
- **Basic Control Operation**
- **CAD/CAM Part Programming**
- **Motion System Maintenance**
- **KMT Autoline™ Cutting Nozzle Assembly/Disassembly**
- **KMT SL-V Intensifier Pump Maintenance**

WaterJet Cutting System Training – Day 1
Introduction of WaterJet Technology and RE2000NT WaterJet Controller Operation

8:00 am	Customer Travel Time		3 Hours
11:00 am	Introduction of Romeo Engineering Personal and WaterJet Cutting Systems Equipment		
12:00 pm	Lunch Break		1 Hour
1:00 pm	RE2000NT WaterJet Control System Operation	This discussion and hands-on based session will provide an overview of capabilities of the R2000NT WaterJet Controller.	2 Hours
3:00 pm	Afternoon Break		
3:15 pm	RE2000NT WaterJet Control System Operation (Continued)	This hands-on based session will allow all students to fully operate and exercise the WaterJet Cutting System.	2 Hours

Ingersoll-Rand Intensifier Pump Training – Day 2
Operation and Maintenance of the High Pressure Pump and Related Equipment

8:00 am	Overview of KMT Intensifier Pump	This discussion based session will provide an overview of the major sub-sections of the Intensifier Pump which includes: Utility Connections, Low Pressure Water, High Pressure Water, Hydraulic System, Electrical System	1.5 Hours
9:30 am	Autoline™ Cutting Nozzle	This discussion and hands-on based session will provide an understanding of the AutoLine™ pre-aligned cartridge body, orifice and focusing tube assembly.	.75 Hour
10:15 am	Morning Break		
10:30 am	KMT Video	This session provides the opportunity to view the KMT Maintenance Video.	1 Hour
11:30 am	KMT Smartline Software	This discussion and hands-on based session will provide an overview of cutting parameters for a variety of materials.	.5 Hour
12:00 pm	Lunch Break		1 Hour
1:00 pm	Intensifier Pump Maintenance	This discussion and hands-on based session will cover the maintenance and re-building of the major components of the KMT Intensifier Pump.	2 Hour
3:00 pm	Afternoon Break		
3:15 pm	Intensifier Pump Maintenance (Continued)	This discussion will review the Ingersoll-Rand High Pressure Waterjet Pump – Operation and Service Manual.	2 Hours

CAD/CAM Training – Day 3 Designing and Developing Part Programs for the WaterJet Cutting System			
8:00 AM	Overview of CAD/CAM system		
10:15 AM	Morning Break		
10:30 AM			
12:00 PM	Lunch Break		1 Hour
3:00 PM	Afternoon Break		
3:15 PM	CAD/CAM		

Machine Operation – Day 4 Hands On Operation of the WaterJet Cutting System			
8:00 AM	WaterJet Cutting System Operation	This hands-on based session allows all students to fully operate the WaterJet Cutting System.	2 Hours
10:15 AM	Morning Break		
10:30 AM	WaterJet Cutting System Operation (Continued)		1.5 Hours
12:00 PM	Lunch Break		1 Hour
1:00 PM	WaterJet Cutting System Operation (Continued)		2 Hours
3:00 PM	Afternoon Break		
3:15 PM	WaterJet Cutting System Operation (Continued)		2 Hours

Open Training – Day 5 Review and Provide Additional Training – Students to choose which major topic(s) for additional training			
8:00 AM	Additional Training – Student Choice	Additional Training covering RE2000NT Controller, Intensifier Pump Maintenance, CAD/CAM, or WaterJet Cutting System Operation	2 Hours
10:15 AM	Morning Break		
10:30 AM	Additional Training – Student Choice		1.5 Hours
12:00 PM	Lunch Break		1 Hour
1:00 PM	Customer Travel		