



file

MEMORANDUM

TO: Richard Saunders, President
FROM: Jim Warner, Academic Dean *JW*
SUBJECT: Laser Optics Technology Need Assessment
DATE: June 27, 1988

Attached is a need assessment report on a proposed laser optics technology program.

Kay Fortin, who conducted the enclosed survey, and I would like to meet with you to discuss the contents of the report and to assist in any way that we can in reaching the decision as to whether or not to proceed with the development of this program.

JW/df

pc: C. Nelson
H. Azarbayejani
B. O'Mahoney
D. Thompson
J. Macri
K. Fortin

(001)

Laser Optics Technology Assessment Report

Prepared by:

Kay Fortin
Jim Warner

Date: June 27, 1988

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REVIEW OF THE LITERATURE

Review of the Literature

The following reports were reviewed in the preliminary phase of assessment of the need for a Laser Optics Technology program at Oakland Community College.

1. Annual Planning Information Reports for 1988 prepared by Michigan Employment Security Commission Bureau of Research and Statistics Labor Market Analysis for:

State of Michigan, Macomb-St. Clair, Pontiac Area consortium, city of Detroit, Balance of Wayne County, Downriver-Monroe, Balance of Oakland County.

There was no mention of Laser Optics Technician as an occupational title in any of the above reports.

2. Laser Optics Study, 1986, prepared by the Laser/Optics Consortium, report submitted to Schoolcraft College, Livonia, MI, December, 1985.

A consortium of five Michigan community colleges designed and conducted a study of the potential demand for a training program in Laser or Optics technology. Responses were obtained from 316 Michigan businesses representing most relevant industrial classifications throughout the state. The responses indicated a total of approximately 30 technicians will be needed in the next five years. With respect to national trends, of 86 questionnaires that were sent out by the consortium 11 were returned. Those companies that returned their surveys indicated there would be a need for over 166 laser optic technicians in the five year period following this report. The following statement is included in the conclusions and recommendations of the consortium's report: "...planning and designing a program without the benefit of input from those actually using the services is inherently risky. Colleges that attempt to offer programs before the technology is sufficiently mature or demand is adequate may be faced with a program burdened with outdated equipment or insufficient demand."

3. New and Emerging Occupations in Selected Michigan Industries by Mattila, Smock, Owen. Report prepared by Center for Urban Studies, College of Urban, Labor, and Metropolitan Affairs, Wayne State University, Detroit, MI.

Received by Academic Dean's office Highland Lakes, April 14, 1988. There was again no mention of laser optic technician as an occupational title in this draft report.

4. Michigan Industry Outlook, 1995 developed by Michigan Employment Security Commission Bureau of Research and Statistics.

Received by Academic Dean's office Highland Lakes, April 14, 1988. Once again, no mention of laser optics technician as an occupational title in this report.

**LASER /OPTICS TECHNOLOGY
SURVEY RESPONSE SHEET**

Laser/Optics Technology Survey Response Sheet

If your name, title, company name, address, or phone number differs from that on the envelope, please show corrections on the following lines.

Contact Person _____
 Title _____
 Firm _____
 Address _____
 Phone (____) _____

1. What is the current number of employees in your firm? _____
2. Does your firm currently utilize Laser/Optics Technology? Yes No
3. If YES, in what areas Manufacturing
 (Continue with question #5) Health/Medicine
 Communications
 Other _____
4. If NO, why are you not currently using Laser/Optics technology?
 Cost prohibitive
 Not currently applicable to firm
 Insufficient number of trained users
 Other _____

NOTE: If you are planning to employ laser-related personnel in the future, please proceed to SECTION I. If not, please return survey. Thank you.

5. How many Laser/Optics personnel do you employ (plan to employ) in the following areas

	Now	in 5 Years
Scientific	_____	_____
Engineering	_____	_____
Technical	_____	_____
Operations	_____	_____
Support	_____	_____
TOTAL	_____	_____

Section I: Future Use

6. Is your firm planning to incorporate Laser/Optics Technology or to expand its present use? YES NO
7. If YES, in what applications? Manufacturing
 Health/Medicine
 Communications
 Other _____
8. How many laser-related technicians do you expect to hire during the next...
 2 Years _____ 5 Years _____ 10 Years _____
 Please complete reverse side

9. For what applications would you employ Laser/Optics technicians?

(Mark as many as apply)

- Laboratory
- Production
- Technical
- Service/Repair
- Other

10. In your opinion, is Laser/Optics use increasing among other firms in your industry?

- YES NO

Section II: Employment Conditions

11. How would you rate the demand for technicians in the following Laser/Optics areas ...

	Very Poor	Poor	Average	Good	Very Good	Don't Know
Applications Set-up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repair Technicians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communications Specialist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marketing/Field Representatives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Production Operators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Laboratory Assistants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applications Programmers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. What starting salary level would you expect to pay an entry-level laser/optics technician from a two-year program?

\$ _____ . ____ Yearly Monthly Hourly

13. Do you plan to retrain any existing personnel in Laser/Optics Technology?

- Yes, How many? _____
 No, not at this time

14. If YES, do you plan to use in-house or outside training?

- In-House
 Outside Resources

15. Does your firm presently employ any Community College graduates?

- Yes, Many
 Yes, Some
 No
 Don't Know

16. Would you be interested in serving as an advisor to a Laser/Optics training program?

- Yes, I would be interested
 No
 Send me more information

17. Please recommend a person in your organization for further follow-up contacts.

M _____

Comments: _____

SUMMARY OF RESPONSES TO SURVEY

SUMMARY OF RESPONSES TO SURVEY

There were 615 "Survey Response Sheets" mailed to Michigan hospitals and Michigan and Ohio high technology businesses.
Fifty-two (8.5%) were completed and returned.

The following is a tabulation of responses for each item on the "Response Sheet."

1. What is the current number of employees in your firm? 2-1700
2. Does your firm currently utilize Laser/Optics Technology? Yes No
13 YES 39 NO
3. If YES, in what areas
(Continue with question #5)
 - 4- Manufacturing
 - 5- Health/Medicine
 - 1- Communications
 - 3- Other _____
4. If NO, why are you not currently using Laser/Optics technology?
 - 4- Cost prohibitive
 - 30- Not currently applicable to firm
 - 1- Insufficient number of trained users
 - 4- Other _____

NOTE: If you are planning to employ laser-related personnel in the future, please proceed to SECTION I. If not, please return survey. Thank you.

5. How many Laser/Optics personnel do you employ (plan to employ) in the following areas

	Now	in 5 Years
Scientific	<u>25</u>	<u>22</u>
Engineering	<u>4</u>	<u>5</u>
Technical	<u>4</u>	<u>8</u>
Operations	<u>11</u>	<u>10</u>
Support	<u>3</u>	<u>6</u>
TOTAL	<u>47</u>	<u>51</u>

Section I: Future Use

6. Is your firm planning to incorporate Laser/Optics Technology or to expand its present use? YES NO
14 YES 10 NO 28 NA
7. If YES, in what applications?
 - 6- Manufacturing
 - 3- Health/Medicine
 - 2- Communications
 - 3- Other _____
8. How many laser-related technicians do you expect to hire during the next...
 - 2 Years 10 5 Years 29 10 Years 15

Please complete reverse side

9. For what applications would you employ Laser/Optics technicians?

(Mark as many as apply)

- 1- Laboratory
- 5- Production
- 4- Technical
- 5- Service/Repair
- 3- Other

10. In your opinion, is Laser/Optics use increasing among other firms in your industry?

YES NO
 14 YES 5 NO 33NA

Section II: Employment Conditions

11. How would you rate the demand for technicians in the following Laser/Optics areas ...

	Very Poor	Poor	Average	Good	Very Good	Don't Know
Applications Set-up	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 5	<input type="checkbox"/> 2	<input type="checkbox"/> 7
Repair Technicians	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 7
Communications Specialist	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 8
Marketing/Field Representatives	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> 2	<input type="checkbox"/> 10
Production Operators	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 10
Laboratory Assistants	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> 2	<input type="checkbox"/> 9
Applications Programmers	<input type="checkbox"/> 1	<input type="checkbox"/> 0	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 7

5 0 8 12 12 58

12. What starting salary level would you expect to pay an entry-level laser/optics technician from a two-year program?

\$ _____ . ____ Yearly Monthly Hourly
 12-40 0 7-16.50

13. Do you plan to retrain any existing personnel in Laser/Optics Technology?

8- Yes, How many? 16 _____
 9- No, not at this time

14. If YES, do you plan to use in-house or outside training?

3- In-House
 8- Outside Resources

15. Does your firm presently employ any Community College graduates?

2- Yes, Many
 4- Yes, Some
 7- No
 4- Don't Know

16. Would you be interested in serving as an advisor to a Laser/Optics training program?

0- Yes, I would be interested
 17- No
 2- Send me more information

17. Please recommend a person in your organization for further follow-up contacts.

M _____
 Contact persons on file.

Comments: _____

EXISTING MICHIGAN LASER OPTICS TECHNOLOGY PROGRAMS

EXISTING MICHIGAN LASER OPTICS TECHNOLOGY PROGRAMS

Jackson Community College

The program at Jackson Community College is an extension of the electrical engineering technology program. There were 12 students enrolled for the first time in the Fall of 1987. More are expected in the Fall of 1988. (phone call to Wallace Ollila, Vocational Dean Jackson Community College from Highland Lakes Academic Deans office 6/15/88.)

Schoolcraft College

Program began in the Fall of 1987 there were 15 students enrolled. (phone call to Secretary of the Academic Dean Schoolcraft Community College from Highland Lakes Academic Deans office 6/15/88.)

LASER AND OPTICS TECHNOLOGY
A PROPOSED NEW PROGRAM FOR OAKLAND COMMUNITY COLLEGE (PRELIMINARY)

LASERS AND OPTICS

TECHNOLOGY

**A Proposed New Program for
Oakland Community College
(Preliminary)**

by
**G.H. Azarbajani,
C.C. Nelson**

August 5, 1986

I. INTRODUCTION

The program of lasers and optics technology (LOT) is conceived as a full program conferring associate degrees in various aspects of optics and laser fields.

The program will have 7 options suited for students with special background and aiming at specific objectives. The options are: (a) Manufacturing, (b) Communication, (c) Metrological and Diagnostics, (d) Medical and Therapeutic (e) Arts and Science, (f) Design and Development, and (g) Strategic.

A. Manufacturing Option

In this option the use of lasers in welding, drilling, cutting of textile etc. will be discussed. Special emphasis will be made on combined laser/robot systems with laser either in stationary position and its energy output mirrors manipulated by the robot unit or the laser itself movable.

B. Communication Option

In this option the use of lasers in fiber-optics communication data storage, multicolor printing, and optical computers will be discussed. The emphasis will be on the expected growth of fiber-optics circuits in both telephone systems and traditional electrical circuits in automobiles and other mobile or stationary vehicles exposed to a high level of Electromagnetic Interference (EMI). Combustion engines generate a copious amount of Electromagnetic (EM) noise which deteriorates the fidelity of the electrical system in unshielded wires of automotive, airline, off-road vehicles etc. The effects of EMI, in the past, were tolerable for rather strong and analog signals transmitted in the electrical circuits of such vehicles. Increased use of microcomputers in various parts of such vehicles may require optical circuits in place of electrical circuits. Laser printing is another major area of growth with strong impacts on small printers connected to the personal computers as well as publication of major journals, catalogs, bulk mailing etc.

C. Metrological and Diagnostics

In this option the measuring and inspection potentials of lasers are discussed. Alignment and distance measurements in surveying fall in this option and benefit students interested in construction, carpeting, carpentry and similar vocations. Laser inspection, an extension of the well-established field of optical inspection, has many benefits for manufacturers of the machined tools and finished parts.

D. Medical and Therapeutic Option

Laser surgery, laser dental-cleaning, laser therapy of cancerous tumors and many similar applications fall in this option. Lasers, coupled with fiber optics, are of great help in observation of internal organs which have been diagnosed as being abnormal. Wherever a malignant internal organ can be safely removed by burning, lasers allow surgeons to do the job without the expensive process of incision and additional post surgery rehabilitations. Moreover use of lasers in cleaning plaques, tartars, and cavities could reduce both the time a dental hygienist spends with the patients and more importantly, the pain suffered by the patients.

E. Arts and Science Option

The arts and science option benefits students desiring continuation of their studies in arts and science programs of the 4-year colleges. In this program, the use of lasers in making holograms, moire patterns, artistic designs, the principles of lasers, electro-optical, acousto-optical and other relevant properties pertaining to the science of lasers will be offered. Here, also, different types of lasers such as continuous versus pulsed, solid-state versus gas and liquid, single versus multiple modes and simple system versus complex lasers systems using dyes second harmonic generators etc. will be described. Use of lasers in generation of thermonuclear fusion and isotope separation falls under this option.

F. Design and Development Option

The building of simple lasers such as He-Ne and CO₂ lasers and their associated components constitute this option. Mirrors, beam splitters, corner cubes, optical condensers, pin holes, slits, diaphragms etc. are among the parts that will be discussed in this option. Making of such parts by polishing of selected high quality glasses and methods of designing such components and also optical lenses will be covered in this section. Students eager to make lenses for eye glasses will benefit from several courses to be offered under this option. Likewise student in photographic vocations could avail themselves of the benefits of this section in choosing, making or repairing optical components used in photographic cameras.

G. Strategic Option

Powerful lasers constitute a major part of the Strategic Defense Initiative (SDI) program, cost is the several billion dollars now and promises to grow to much higher levels in the future. Students of engineering, liberal arts, medical, business, accounting and many other fields in the college may become extremely interested in the impact of SDI on their future. Politicians running for local election may also welcome the knowledge and an objective description of how lasers contribute to the attainment of SDI goals.

II. RESOURCES AND PLANS

The Lasers and Optics Technology program is envisioned to be completed in 3 phases in a period of 3 to 6 years. The scope of successive phases depends on the attendance of the students and the benefit of the program to both OCC and the community it serves. The resources for each phase consists of two categories: (1) Equipment and Materials and (2) Manpower.

A. Phase 1 of LOT: Establishment

Study existing surveys by the OCC staff and by outside sources for a more definite assessment of the benefits of the program and its impact on the student body at OCC.

Parallel with the above investigation, establish a laboratory, a laser suited for manufacturing and optical component polishing facilities. In addition, offer two courses on "Laser Applications" mostly to students of engineering, medical technology and science. The specifics of each of these resources and courses would be solidified as results of the on-going surveys and studies are analyzed. As an example, a list for the first phase includes:

1. Laboratory 1000 square feet
2. Optical bench and a moderate-power (50 mw) He-Ne laser
3. A moderate-power (100 W) carbon-dioxide (CO₂) laser operable in both pulsed and continuous modes.
4. Optical components for the infra red ($\lambda = 10.6$ microns) beam of the CO₂ laser and gas tanks and gages.
5. Lasers Applications I and II courses each 4-6 credits including laboratory experiments.

B. Phase 2 of LOT: Expansion 1

This phase, to begin in 1988 or 1989, involves establishment of an associate degree program on LOT with 20 to 30 credits of major requirements in various aspects of physics and engineering of the lasers and optics and about 30 credits in other fields related to the option chosen by the student. Acquisition of an ion, excimer, or solid state laser and associated options would become necessary to accommodate the increased load.

C. Phase 3 of LOT: Expansion 2

This phase, to begin in 1990 or 1991 involves expansion of LOT from 1 associate degree program (manufacturing) to 4 options (manufacturing, medical, design and development, communications). Additional resources for this stage includes expansion of the laboratory to a larger area preferably on the ground or subground level and required climate control auxiliaries. Semiconductors lasers (GaAs) and associated parts become necessary. Facilities for splicing fiber-optics strands and bundles and using proper laser to fiber optics coupling should also be obtained.

III. PERSONNEL/CONSULTANTS

1. G.H. Azarbajani (10 years of experience in lasers and optics at Bendix Research Labs)
2. C. Nelson
3. S. Martin
4. *T. Sawatari, President/Sentec Corporation

*Consultant

IV. REFERENCES

1. Photonics Spectra, Optical Publishing Co. Pittsfield MA, April 1985 (413/499-0514).
2. Lasers and Application, Torrance, CA 90505 (213/534-3700)
3. Laser Supertool of 1980, J. Heckt and D. Teresi, Ticknord and Fields, New Haven, CT 06519
4. Principles and Practice of Laser Technology H.M. Muncheryan; Tab Books Inc. Blue Ridge Summit, PA 17214, (1983)
5. Lasers B.A. Lengyel; Wiley Interscience New York, (1971)
6. Laser Parameter Measurements Handbook H.G. Heard, John Wiley & Sons Inc., New York (1968)

CAPITOL EQUIPMENT REQUIRED

RECEIVED

NOV 11 1986

ACADEMIC DEAN'S OFFICE
HIGHLAND LAKES

To: Dr. James Warner
From: G.H. Azarbajejani and C. Nelson
Subject: A 5-year Capital-Equipment Budget Plan
for the Proposed "Lasers and Optics Technology"
Program at OCC

The capital equipment required to initiate the lasers and optics technology (LOT) program at OCC involves three plans for low, intermediate, and large-size projects, respectively. The choice of the plan depends on the number of students taking the course, the college's growth plans and other factors to be arrived at as the project progresses.

Table 1 gives a rough estimate of the capital-equipment needs envisioned for the 5 years of 1987-1991. The annual outlays for each of the three plans are summarized. The low-size project requires about \$86,000 (\$86K), the intermediate size about \$180K and the large size about \$320K, respectively. A breakdown of the costs for each of the three plans is as follows:

A. Low-Size Plan

The main components in this plan include a He-Ne laser of 20-30 mW, a CO₂ laser of about 50W and a number of essential optical components such as micro-positioners, lenses, shutters, optical tables, etc. A list of the estimated price of the above components

TABLE 1. Capital-Equipment Budget for 1987-1991

Year	Low-Size Plan (\$K)	Intermed-Size Plan (\$K)	Large-Size Plan (\$K)
1987	20	40	80
1988	30	80	130
1989	14	30	65
1990	10	14	20
1991	12	16	25
Total	86	180	320

is as follows:

<u>ITEMS</u>	<u>PRICE (\$K)</u>
He-Ne laser (~20mW)	6
CO ₂ laser (~40W)	39
Optical Tables (2)	6
Micropositioner, shutters, power meters, lenses, etc.	15
Replacement and repairs	10
Bar-code reader and encoder	10
Total	86

B. Intermediate-Size Plan

The main components in this plan involve essentially similar components as in the Low-Size Plan described above. The difference lies in the type of processes carried out in each of the two plans. The list for the components of this plan includes:

<u>ITEMS</u>	<u>PRICE (\$K)</u>
He-Ne laser (~30mW)	8
CO ₂ laser (~100-200W)	85
Optical Tables and Accessories	15
Optical Components	20
Laboratory Space (Air Conditioner)	6
Shelves and Storage	3
Replacement and Repairs	24
Bar Coder and Reader	9
Computer Terminals and Interfaces	10
Total	180

C. Large-Size Plan

This plan is an expanded version of the Intermediate-Size Plan. In addition to enlargement of features of the Intermediate Plan, it also envisions construction of a specially designed laboratory for the exclusive experimental work in the field of lasers and preparation of optical components. The list of the items for this plan includes:

<u>ITEMS</u>	<u>PRICE (\$K)</u>
He-Ne laser (~50mW)	15
CO ₂ laser system (~500W)	90
Accessories, Optical Tables, etc.	80
Other lasers (ion, semiconductive)	40

<u>ITEMS</u>	<u>PRICE (\$K)</u>
Bar Coder and Reader	10
Fiber Optics and Accessories	10
Special Laboratory (~ 2000 sq. feet)	35
Gas Storage and Handling — <i>Air Conditioned</i>)	7
Repairs and Replacements	13
Computer Terminals and Interfaces	20
	<hr/>
Total	320

In addition to the above three types of Capital-Equipment proposals, there is a fourth type that includes purchase of a complete laser machining and manufacturing system. Such systems range in price from \$150,000 and up. They are based on an intermediate-power (~500W) CO₂ laser and accessories for numerical control of the process and micro-positioning of the item to be worked on. There are several types of such turn-key systems. However, they are suitable for a more rapid development of the program than is anticipated at the present time.

APPLICATION FOR NEED STUDY

AUTHORITY: PL 98-524
COMPLETION: Voluntary (Consideration
for funding will be possible only if form
turned.)

APPLICATION FOR NEED STUDY
JULY 1, 1987 to JUNE 30, 1988

SUBMITTING EDUCATIONAL AGENCY	Name of College OAKLAND COMMUNITY COLLEGE	College Code 2804
	Project Contact Person William J. O'Mahoney	
	Title Ex.Dir. Economic Dev. & Occupational Dean	Telephone (313) 540-1511

GENERAL INSTRUCTIONS: Complete this project application and submit it with the Planning and Application Form by **APRIL 6, 1987.**

Specific definitions, guidelines, program components, and reporting requirements related to this application are found in Section 3 of the "Dean's Guide to Federally Reimbursed Community College Occupational Programs."

Submit a final report for this project by August 17, 1988.

PART I. PROGRAM IDENTIFICATION

College Program Title Laser-Optics Technician

Proposed new program YES NO

Improvement of an existing approved program YES NO

Program Name _____ Program Number (PN) _____

Classification or Instructional Programs (C.I.P.) Code 15.0304 (new or improved)

PART II. DEFINITIONS

Need Study: The project for which this funding is requested must adhere to the process and procedure as defined in the "Occupational Education Program Need Studies Handbook" as provided in Section 3 of the Dean's Guide.

PART III. APPLICATION ACTIVITY

Attach a description of specific activities and dates to be accomplished.

Activity: Need Study**PART IV. BUDGET FORMAT**

Provide a line item description for activities to be funded. These funds require a 50% non-federal (cash) match.

State Use Only	BUDGET					
	Function Code	Line Item Description	Salaries	Services	Other	Total
		Consultant Fees		900		900
		Supervision	900			900
		Printing & Mailing Costs			200	200
290		Total	900	900	200	(A) 2,000

Department of Education (Federal) Share

(B) 1,000Local (non-Federal) Share (Item A minus Item B)
(must equal at least 50% of Item A.)(C) 1,000**PART V. SIGNATURES**

I certify that the information submitted on this application is accurate and complete to the best of my knowledge.

Need Study Contact Person *James K Warner* (Signature)Occupational Education Contact Person *William J. O'Malley* (Signature)Date 3-23-87*x Jim Warner's signature***FINAL REPORT FORMAT****1. Assurance**Verify that all federal funds were expended and/or encumbered during the grant period JUNE 30, 1988.**2. Need Study**

The "Occupational Education Program Need Studies Handbook" (Chapter 5, page 27) indicates the contents of the report to be submitted to the Michigan Department of Education. (Dean's Guide, Section 3)

The final report is due at the state agency on or before August 17, 1988.

3. Financial

The Financial Funding Report, form DS-4492-A, is used to request funds for this project. The Final Expenditure Report, DS-4044, will be required and must contain the expenditure per the function codes on the approved budget. See Section 12 of the Dean's Guide for instructions.

NEEDS STUDY

LASER-OPTICS TECHNICIAN

1. Identify resource personnel to conduct the needs study - July 1987.
2. Develop and identify appropriate data gathering related to the program development - August 1987.
3. Conduct data gathering and compile results - September 1987.
4. Evaluate and analyze results of data gathering - October 1987.
5. Make decision regarding curriculum development activities related to program's feasibility by November 15, 1987.

NOTE: All needs assessment and program feasibility activities will be conducted in conjunction with the institutional model for needs assessment and feasibility, a copy of which is attached.

**SPECIAL ASSIGNMENT FOR KAY FORTIN,
LASER OPTICS NEEDS STUDY**

SPECIAL ASSIGNMENTS

Date: November 18, 1987

Action: _____ approved
(Date PAF issued _____)
_____ disapproved

Name: Katherine A. Fortin

Assigned Account Code: _____

Dept.: Bus-Health/Administrative Intern

Discipline: _____

Assignment: Conduct a needs survey to determine the feasibility and desirability of a Laser Optics Technology program at Oakland Community College.

(A full report is to be attached to Campus Dean's copy of this form.)

Outcome/Goals: _____

Nature of Compensation: _____ Alternative Assignment (e.g. 3 ICH or 7.5 clock hrs., etc.)

Special Contract

Other

Money for need study provided by Dept. of Education

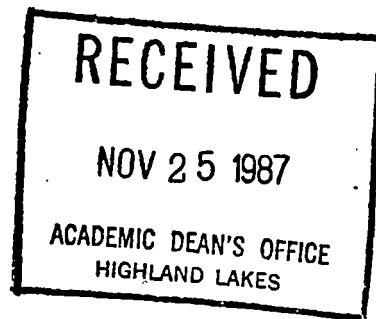
Cost of Assignment: \$ 900

Cost Center to be charged: 04-2217-870-002

Katherine A. Fortin 11/25/87
Faculty's signature date

J. J. Warner 11-24-87
Dean's signature date

M. Brodbeck 11/25/87
President's signature date



Follow up date: 6-23-88

Outcome/Goals:

Met
Not Met _____

Explain: _____

Katherine A. Fortin 6-23-88
Faculty's signature date

J. J. Warner 6-23-88
Dean's signature date

(Note: It is the responsibility of the Dean originating this form to send copies to the:

- Chancellor
- Campus President
- V.P. Academic & Student Affairs
- Director of Human Resources

at the beginning and completion of each assignment.)

*This form was approved by President's Council on 4/28/87 for a one year trial beginning July 1, 1987.

LASER SYSTEM TECHNICIAN, DUTY AND TASK LISTING

SEE CIPS: 150304
DOT 019.181-010 - LASER TECHNICIAN

THIS LISTING WAS DEVELOPED FOR THE VOCATIONAL-TECHNICAL EDUCATION
CONSORTIUM OF STATES BY PERSONS IN THE STATE OF PENNSYLVANIA.

DUTY AND TASK LISTING

A. MAINTAINING RECORDS

1. MAINTAIN LABORATORY NOTEBOOK
2. PREPARE OPERATIONAL LOG BOOK
3. PREPARE SHOP DRAWING(S)
4. PREPARE EQUIPMENT REQUISITION
5. PREPARE SERVICE REPORT
6. PREPARE EXPENSE REPORT
7. UPDATE TECHNICAL MANUAL

B. INSTALLING LASER SYSTEMS

1. INSTALL GASEOUS LASER SYSTEM
2. INSTALL SOLID STATE (YAG) LASER SYSTEM

C. MAINTAINING LASER SYSTEMS

1. INSPECT REFLECTING MIRRORS AND FOCUSING OPTICS
2. CLEAN OPTICS
3. VERIFY Q-SWITCH IN YAG LASER SYSTEM
4. VERIFY POLARIZER IN YAG LASER SYSTEM
5. TEST POWER/ENERGY OUTPUT AT SOURCE
6. VERIFY THERMAL SWITCH OPERATION
7. TEST RF POWER ON Q-SWITCH
8. CHANGE WATER FILTER
9. CHANGE DEIONIZER CARTRIDGE
10. ADJUST POWER SUPPLY OUTPUT
11. ALIGN COMPLETE BEAM DELIVERY PATH
12. ALIGN LASER CAVITY OPTICS
13. INSPECT COOLER FITTINGS
14. INSPECT AIR CIRCULATING FILTER(S)
15. CLEAN AIR CIRCULATING FILTER(S)
16. REPLACE AIR CIRCULATING FILTER(S)
17. MEASURE POWER/ENERGY OUTPUT AT WORK SURFACE
18. VERIFY SAFETY INTERLOCK SYSTEM OPERATION
19. VERIFY LENS FOCAL LENGTH
20. VERIFY REPETITION RATE

D. ANALYZING DOWN LASER SYSTEMS

1. IDENTIFY SYMPTOMS OF PROBLEM
2. TROUBLESHOOT TEMPERATURE CONTROL SYSTEM
3. TROUBLESHOOT BEAM GENERATION SYSTEM
4. TROUBLESHOOT EXCITATION SYSTEM
5. TROUBLESHOOT LOW VOLTAGE POWER SUPPLY
6. TROUBLESHOOT RF SYSTEM
7. TROUBLESHOOT VACUUM SYSTEM
8. TROUBLESHOOT GAS SUPPLY SYSTEM

E. REPAIRING TEMPERATURE CONTROL SYSTEM

1. REPLACE COOLER FITTING(S)
2. CLEAN COOLER FITTING(S)
3. RECHARGE COOLING SYSTEM
4. REPLACE TEMPERATURE SENSOR(S)
5. REPLACE DEFECTIVE WASTER PUMP
6. REPLACE FLOW SENSOR
7. REPAIR DEFECTIVE WIRING
8. REPLACE DEFECTIVE HOISING
9. REPLACE HEAT EXCHANGER
10. REPLACE RESERVOIR LEVEL SWITCH
11. REPLACE AGITATOR
12. REPLACE WATER SOLENOID(S)

F. REPAIRING BEAM GENERATION SYSTEM

RECEIVED

APR 13 1988

ACADEMIC DEAN'S OFFICE
HIGHLAND LAKES

1. REPLACE CRYSTAL ROD
2. REPLACE GASEOUS TUBE
3. REPLACE MIRROR(S)
4. REPLACE GOLD CAVITY
5. REPLACE ELECTRODES
6. REPLACE POLARIZER
7. REPLACE Q-SWITCH
8. REPAIR BEAM EXPANDER
9. REPLACE MIRROR MOUNT
10. REPLACE LASER HOUSING ASSEMBLY
11. REPLACE FLASH LAMP
12. REPLACE LAMP JACKET
13. COLLIMATE BEAM EXPANDER
14. VERIFY PEAK PULSE POWER
15. VERIFY FREQUENCY OF PULSE TRAIN

G. REPAIRING EXCITATION SYSTEM

1. REPLACE HIGH VOLTAGE
2. REPLACE HIGH VOLTAGE DIODES
3. REPLACE SCR (SILICON CONTROL RECTIFIER)
4. REPLACE DEFECTIVE BOARD(S)
5. REPAIR DEFECTIVE BOARD(S)
6. REPLACE HIGH VOLTAGE CABLE(S)
7. REPLACE DEFECTIVE RESISTOR(S)
8. REPLACE DEFECTIVE FUSE(S)
9. REPLACE THREE-PHASE CONTACTOR
10. REPLACE HIGH VOLTAGE DUMP CONTACTOR

H. REPAIRING LOW VOLTAGE POWER SUPPLY

1. REPLACE CAPACITOR(S)
2. REPLACE DIODE(S)
3. REPLACE LOW VOLTAGE POWER SUPPLY
4. REPLACE TRANSFORMER

I. REPAIRING RF SYSTEM

1. REPLACE RF CABLE CONNECTOR(S)
2. REPLACE RF DRIVER

J. REPAIRING VACUUM SYSTEM

1. REPLACE VACUUM PUMP
2. REPLACE VACUUM HOSE(S)
3. PURGE VACUUM SYSTEM
4. CHANGE VACUUM PUMP OIL

K. REPAIRING GAS SUPPLY SYSTEM

1. REPLACE GAS FLOW GAUGE(S)
2. REPLACE GAS SOLENOID(S)
3. REPAIR GAS LEAK(S)
4. REPLACE GAS REGULATOR(S) PURGE GAS REGULATOR

**LASER ELECTRO - OPTICS ASSOCIATE DEGREE PROGRAM,
SCHOOLCRAFT COLLEGE**

LASER ELECTRO-OPTICS (ASSOCIATE DEGREE)

Laser/Electro-Optics Technology is one of several careers in modern technology that are characterized by heavy involvement with electronics and computers, by a system-oriented emphasis, and by rapidly changing content, even though the basic elements of the scientific theory and principles underlying the elements of the system do not change.

Laser/Electro-Optics Technicians (LEOTs) are technical specialists who install, construct, operate, test, repair and maintain systems that incorporate electronics, optics, electro-optical devices, and/or laser systems. Laser/Electro-Optics Technicians are trained in the principles, procedures and techniques of electrical, electronic, mechanical, optical, fluid and thermal equipment -- all of the devices and systems of laser and electro-optics applications.

Employment skills acquired in the program include the following capabilities:

1. Practice laser safety.
 2. Understand circuit diagrams and blueprints.
 3. Troubleshoot industrial, medical, telecommunication, electrical and electronic equipment on a module/board level.
- Be able to:
- A) Remove and clean optical components.
 - B) Align the laser optical resonator for peak output.
 - C) Adjust focusing optics.
 - D) Operate the laser controller
 - E) Change flash lamps and/or discharge tubes for both solid state and/or gas lasers.
 - F) Interface with fiber optics components.
 4. Have a working knowledge of microcomputers
 5. Troubleshoot the following:
 - A) Argon-ion lasers.
 - B) Nd: YAG lasers- A-switching; mode-locking.
 - C) Nitrogen lasers.
 - D) Flowing jet dye lasers - cavity dumping.

FIRST YEAR

Fall Semester

PHYS 181 General Physics.....	4
*MATH.....	5
LEOT 101 Intro to Lasers	3
**ENG.....	3
	15

Winter Semester

PHYS 182 General Physics.....	4
LEOT 102 Laser Optics & COMPS I	4
ELECT 111 A.C. Circuits	5
*MATH.....	3
	16

Spring/Summer Session

ELECT 114 Intro to Microprocessors	3
ELECT 116 Diodes & Transistors.....	3
	6

SECOND YEAR

Fall Semester

LEOT 222 Laser Optics & Comps II	4
LEOT 231 Laser Sys & Appl I.....	3
**ENG.....	3
ELECT 126 Fabrication	3
ELECT 222 Digital Circuits.....	3
	16

Winter Semester

LEOT 232 Laser Sys & Appl II.....	3
or	
LEOT 241 Laser Measurements & Fiber Optics	3
ELECT 230 Industrial Controls	4
ELECT 209 Amplifiers	5
ELECTIVES or CO-OP	5
	17

*Program minimum Math requirement, MATH 119-Trigonometry or MATH 115- Technical Math II

**Program minimum English requirement, ENG 116-Technical Report Writing

Students will be tested in Math and English for proper placement.

NOTE: Courses numbered under 100 do not apply towards an associate degree from Schoolcraft College.

HUMANITIES

Associate Dean: Lawrence Ordowski, M.A.
Instructors: Adjunct Faculty

HUM 201 Art & Music in Western Civilization; Field Study (3 - 0) 3 Cr. Hrs. (SPRING ONLY)
Field Study; A humanistic study of music and art in concentrated form. Includes art forms and styles functional of historical periods as they relate to universal principles. This course is abroad.
COREQUISITE: GEOG 240.

HUM 210 The Art of Being Human (3 - 0) 3 Cr. Hrs. (TELECOURSE)
Surveys art, drama, music, literature, and philosophy. Each art form is examined from four perspectives: historical context, elements of the art, form/meaning, and criticism/evaluation.

HRWST 101 Great Jewish Ages and Ideas (3 - 0) 3 Cr. Hrs.
An introduction to Judaism. A survey of the fundamentals of Jewish faith and history with emphasis on the varieties of Jewish expression today. Particular attention will be paid to the most important ideas of Jewish thinking and to the unique Jewish celebrations of the life cycle and the calendar year. No prior knowledge of Judaism is necessary for enrollment.

LEARNING ASSISTANCE CENTER

Associate Dean: Lawrence Ordowski, M.A.
Coordinator Asst. Professor Sirkka Gudan, Ph.D.;
Adjunct Faculty

LAC 51 Listening and Notetaking (1 - 0) 1 Cr. Hrs.
This course will prepare students for successful notetaking of lectures. Emphasis will be placed on discriminate listening, preparing for lectures, notetaking of lectures and preparing for exams. Application of notetaking skills in student's current classes will be stressed.

LAC 55 Studying Textbooks (1 - 0) 1 Cr. Hr.
This course is designed to improve student's ability to comprehend and recall textbook material by developing critical thinking and organization skills. Techniques will be applied to materials and textbooks students are using in content area classes.

LEOT

Assistant Dean: Fernon P. Feenstra, Ed.S.
Instructors: Adjunct Faculty

LEOT 101 Introduction to Lasers (2 - 2) 3 Cr. Hrs.
A basic course designed for technicians and engineers who will build, modify, install, operate, troubleshoot and repair lasers and laser systems. This course presents the technical principles and equations that are needed to understand the operations of lasers and to modify their outputs. It is also designed as the first course in a two-year laser/electro-optics technology curriculum.
PREREQUISITE: PHYS 51 and MATH 119 highly recommended.

LEOT 102 Laser Optics and Comps I (2 - 4) 4 Cr. Hrs.
Laser Optics & COMPS I, applies graphical and mathematical techniques to the reflection/refraction of light at typical optical interfaces. Analyzes and uses optical components typically found in geometrical optical. Topics include ray tracing, imaging with lenses, mirrors, prisms, windows optical flats, etalons, beam expander, collimators, optical tables, optical supports, optical systems, and photographic components and supplies. Associated laboratory stresses hands-on experience with set-up, operation and analysis of typical optical systems.
PREREQUISITES: MATH 115 or MATH 119 and LEOT 101.

LEOT 222 Laser Optics and Components II (2 - 4) 4 Cr. Hrs.
Treats the wave nature of light manifested in interference, diffraction and polarization phenomena in optical systems. Analyzes and uses optical components that modify, control or detect light. Topics include light sources, wave nature of light, interference, diffraction, polarization, holography, beam splitters, filters, isolators, gratings, polarizers and nonlinear optical materials. Associated laboratory stresses hands-on experience in application/evaluation of wave optic devices in typical optical systems.
PREREQUISITES: LEOT 102, PHYSICS 182.

LEOT 231 Laser Systems and Applications I (2 - 2) 3 Cr. Hrs.
A comprehensive examination of ion lasers, molecular lasers and solid-state lasers, with particular attention given to argon ion CO₂ gaseous and Nd:YAG laser systems. Considers typical power sources for all lasers and flash lamps and power supplies for pulsed laser systems. Treats applications of the ion and CO₂ laser systems to welding, cutting and drilling. Laboratory experiments stress hands-on experience with operation, troubleshooting and evaluations of current laser systems and power sources.
PREREQUISITE: LEOT 102.

LEOT 232 Laser Systems and Applications II (2 - 2) 3 Cr. Hrs.
A comprehensive examination of solid-state and liquid-state lasers with particular attention to Nd:YAG, ruby and dye laser systems. Considers flash lamps and power supplies for pulsed laser systems. Treats mechanical and bleachable dyes, electro-optic modulators, Q-switching and mode locking. Examines application of solid and liquid-state laser systems in medicine, surgery, dentistry, communication, range-finding, alignment and tracking. Laboratory experiments stress hands-on experience with operation, evaluation and troubleshooting of typical solid/liquid laser systems - both CW and pulsed - and familiarization with optically fast pulse-shaping techniques.
PREREQUISITE: LEOT 231.

LEOT 241 Laser Measurement and Fiber Optics (2 - 2) 3 Cr. Hrs.
A comprehensive examination of interferometers, monochrometers, optical spectrum analysers, and holography interference patterns. The interfacing of fiber optics systems with laser systems.
PREREQUISITE: LEOT 231
PROJECTS INCLUDE:

1. Handling Fibers; Numerical Apertures.
2. Fiber Attenuation.
3. Single-Mode Fibers 1
4. Coupling Fibers to Semiconductor Sources
5. Connectors and Splices
6. Components for Fiber Communications
7. Single-Mode Interferometric Sensors

PROGRAM NEEDS CRITERIA

ATTACHMENT A

Occupation Laser Optics Technician

Curriculum Area Laser Optics Technology

Program Needs Criteria

This format is completed for the purpose of highlighting specific needs, potential strength, possible weaknesses and pitfalls of developing and implementing a new program. Completion of this form is predicated on an environmental scan that indicates a potential need for a new curricular emphasis.

1. What is the indication of the need for replacement employees in this occupation in the Metro Detroit area?
 - 0 - None
 - ① - Very Few
 - 2 - N/A
 - 3 - A Fair Number
 - 4 - Very High

2. Is this employment area expanding to the extent that additional employees are needed in the Metro area?
 - 0 - None
 - ① - Very Few
 - 2 - N/A
 - 3 - A Fair Number
 - 4 - Very High

3. What percent of the openings outlined in 1 & 2 above will be located in Oakland County?
 - 0 - 0%
 - 1 - 1 to 24%
 - ② - 25 to 49%
 - 3 - 50 to 74%
 - 4 - 75 to 100%

4. The national trend related to occupational outlook for this occupation can best be described as:
 - 0 - No Growth
 - ① - Slow Growth
 - 2 - Nonexistent
 - 3 - Moderate Growth
 - 4 - Rapid Growth

5. **Wage Incentive - Average starting hourly wage range in Oakland County is:**
- 0 - \$3.40 - \$4.50
 - 1 - \$4.51 - \$5.50
 - 2 - Commissions
 - 3 - \$5.51 - \$7.50
 - ④ - \$7.51 and over
6. **Occupational Desirability - Working conditions compared to other occupations requiring similar skill levels and/or amount of training.**
- 0 - Low desirability
 - 1 - Moderate desirability
 - ② - Comparable to other occupations of similar skill levels
 - 3 - Well above average
 - 4 - High desirability
7. **Advancement Opportunities - The existence of higher level jobs for those who gain experience or further training.**
- 0 - Very limited wage and position advancement
 - 1 - Low
 - 2 - Moderate
 - ③ - Good
 - 4 - Excellent
8. **Opportunities for Disadvantaged - The accommodation of the handicapped or disadvantaged in the training program and the occupation.**
- 0 - Cannot provide opportunities for such persons
 - ① - Limited opportunities
 - 2 - Moderately accommodating
 - 3 - Exceptionally favorable provisions
9. **Level of Training Required - The appropriateness of 1-2 years of college level training for the occupation.**
- 0 - High school or less is adequate for the job
 - 1 - Bachelor's degree required
 - ② - Post-secondary or significant on-the-job training needed
 - 3 - One to two years of college training required
10. **Adequacy of Available Training - Assess the level to which training is currently available in the area of the college district or closely adjacent geographic areas. Consider high school programs, other college programs, apprenticeships, and on-the-job training.**
- 0 - Supply of trained personnel is adequate from current sources
 - 1 - Available programs closely satisfy the need
 - 2 - There is some training available but below adequate levels to meet need
 - ③ - Very little need
 - 4 - No training currently available

11. Purpose for which the program is developed considering:

- a - Preservice for entry level employment
 - b - Retraining of the existing work force
 - c - Inservice training
 - d - Providing occupational advancement
-
- 0 - Training program has no occupational relationship
 - 1 - Program needed for inservice
 - 2 - Program needed for training prior to employment
 - 3 - Program meets both inservice & preservice needs
 - 4 - Program meets all needs outlined above

12. Job Specific vs. Generalized - The flexibility or generalized applicability of the training.

- 0 - Program will train for one specific job description in only one industry
- ① - Training is job-specific, but can be utilized by several industries
- 2 - Training can be easily expanded for job flexibility and mobility
- 3 - Program offers considerable occupational flexibility and mobility

13. Profession/Employer Acceptance - Level of support for the training among professionals, employers, unions, etc.

8 Yes

49 No

14. Social Utility - A measure of the program impact on the well-being of the general populace.

 Yes

 No

FEASIBILITY STUDY QUESTIONNAIRE

ATTACHMENT B

**Feasibility Study
Questionnaire**

	FACTOR	PROGRAM MATRIX WEIGHTING	TOTAL
1. Availability of faculty/administrative support	<u>1</u>	X 3	<u>3</u>
0 - qualified faculty not available			
1 - small number of qualified faculty or only partially qualified persons available			
2 - moderate availability and/or some possibility of re-training existing faculty			
3 - ample supply of qualified faculty readily available and/or good possibilities of re-training existing faculty			
		Part Time Instructor	
2. Availability of support staff (technicians, para-pros, clerks)	<u>1</u>	X 3	<u>3</u>
0 - qualified staff not available			
1 - small number of qualified staff or only partially qualified persons available			
2 - moderate availability and/or some possibility of re-training existing staff or transferring			
3 - ample supply of qualified staff readily available and/or good possibilities for re-training existing staff			
3. Availability of facilities	<u>2</u>	X 5	<u>10</u>
0 - Space and housing for program do not currently exist			
1 - Existing facilities and space must be remodeled to house program			
2 - Existing facilities and spaces can be used but are not conducive to the program			
3 - Existing facilities and space are entirely adequate			
4. Internal support	<u>2</u>	X 3	<u>6</u>
0 - College administration, curriculum committee, academic senate, Board of Trustees would not approve program			
1 - program would be approved but would receive little financial and personnel allocation			
2 - moderate support			
3 - high level of internal support, including employment of coordinator and/or faculty for pre-planning			

5. External support (from the work community as needed for co-op training, internships, on-the-job experiences, and materials and equipment for training)	<u>0</u>	X	3	<u>0</u>
0 - potential employing organizations are not committed				
1 - barely adequate support				
2 - adequate support				
3 - excellent support in all needed aspects				
6. Legal restrictions (includes restrictions from professional organizations, trade unions, and accrediting institutions; includes licensing restrictions, regulations/statutes)	<u>3</u>	X	3	<u>9</u>
0 - restrictions prohibit offering the program in the community college				
1 - restrictions exist but are not insurmountable				
2 - few restrictions				
3 - no unusual regulations exist				
7. Availability of external funding	<u>2</u>	X	2	<u>4</u>
0 - virtually no possibility for external funding				
1 - low possibility for external funding				
2 - good possibility for external funding				
3 - excellent prospect for external funding				
8. Direct instructional cost rating (not including grants or other revenue, nor overhead costs for maintenance of area services, student services, physical plant services, etc.)	<u>TBD</u>	X	0	<u> </u>
0 - more than \$2500 FTE				
1 - 1500 to 2400				
2 - 1000 to 1499				
3 - less than 999				
9. Capital/equipment amortizing	<u>TBD</u>	X	0	<u> </u>
0 - one year or less				
1 - two to three years				
2 - four to five years				
3 - six or more years				
10. Direct support services cost rating	<u>TBD</u>	X	0	<u> </u>
0 - more than \$_____ FTE				
1 -				
2 -				
3 -				

11. Classroom/laboratory facility will require additional expenditures which are (include modifications and care for facilities, new facilities)	<u>1</u>	X	4	<u>4</u>
0 - \$100,000 or over				
1 - 50,000 to 99,999				
2 - 25,000 to 49,999				
3 - under 25,000				
12. Initial capital equipment costs (once-only)	<u>1</u>	X	4	<u>4</u>
0 - \$100,000 or over				
1 - 50,000 to 99,999				
2 - 25,000 to 49,999				
3 - under 25,000				
13. Equipment/supply needs -- the annual average equipment and supplies per FTE needed to care for this program will require future expenditures which are	<u>TBD</u>	X	2	<u> </u>
0 - \$600 or over				
1 - 300 to 599				
2 - 50 to 299				
3 - under 50				
14. Program development costs (includes consultants, release time)	<u>3</u>	X	1	<u>3</u>
0 - \$10,000 or over				
1 - 7,500 to 9,999				
2 - 5,000 to 7,499				
3 - under 5,000				
15. Advertising, recruiting, promotion costs (three year average)	<u>3</u>	X	1	<u>3</u>
0 - \$10,000 or over				
1 - 7,500 to 9,999				
2 - 5,000 to 7,499				
3 - under 5,000				
16. Projected income per FTE (tuition, state reimbursement, grant funds, tax support, revenue-equivalent services)	<u>TBD</u>	X	4	<u> </u>
0 - \$ _____				
1 - _____				
2 - _____				
3 - _____				

17. Projected additional revenue per FTE (derived from service charges, student fees, retail sales, admissions, etc.; does not include tuition, state reimbursement, grant funds, or local tax support; may include value of revenue-equivalent services where no actual dollars are received)

- 0 - none
- 1 - under \$199
- 2 - 200 to 299
- 3 - more than 300

1 X 2 2

18. Break-even analysis

- 0 - six or more years
- 1 - four to five years
- 2 - two to three years
- 3 - one year or less

0 X 2 0

TOTAL SCORE _____

PLANNING MODEL

NEEDS ASSESSMENT

PROGRAM REVIEW

TARGET OF SURVEY

Survey Respondents - Region 1

COMPANY NAME	ADDRESS	CITY	STATE	ZIP AREA #	PHONE #
HEGENSCHEIDT CORP.	1070 LIVERNOIS AVE.	TROY	MI	48083 313	585-7704
HURLEY MEDICAL CENTER	#1 HURLEY PLAZA	FLINT	MI	48502 313	257-9058
INDUSTRIAL HOLOGRAPHICS, INC.	2247 STAR CT.	AUBURN	MI	48057 313	652-9257
INDUSTRIAL STRAINER CO.	695 AMELIA ST.	PLYMOUTH	MI	48170 313	427-7410
INTER-LAKES BASES, INC.	17480 MALYN	FRASER	MI	48026 313	294-8120
KAR-CAL CO.	12150 COYLE	DETROIT	MI	48227 313	272-0800
KELSEY-HAYES COMPANY	38481 HURON RIVER DRIVE	ROMULUS	MI	48174 313	941-2000 X2404
LEGEND INDUSTRIES	2220 SCOTT LAKE RD.	PONTIAC	MI	48054 313	674-0953
LEWIS METAL STAMPING & MFG. CO.	333 MIDLAND AVE	HIGHLAND PARK	MI	48203 313	867-7350
LOBB HUMIDIFIER CO.	3080	DAKLEY PARK RD.	WALLED LAKE	48088 313	624-6162
MEL STEEL FAB INC.	18240 RIALTO ST.	MELVINDALE	MI	48122 313	
MERCY-MEMORIAL HOSPITAL	718 N. MACOMB	MONROE	MI	48161 313	241-1700 X307
MERRILL MED. LABS, INC.	8425 TWELVE MILE	WARREN	MI	48093 313	573-4343
METRIC MEDICAL LABS	P.O. BOX 5127	SOUTHFIELD	MI	48086 313	353-1450
METROVISION OF OAKLAND CO.	37635 ENTERPRISE CT. BOX 9051	ROYAL OAK BERKLEY	MI	48072 313	553-7300
MICHIGAN SATELLITE SYSTEMS	6537 JACKSON RD.	ANN ARBOR	MI	48103 313	761-9011
MIDWEST MICROWAVE	3800 PACKARD	ANN ARBOR	MI	48104 313	971-1992
MULTI ELMAC	22700 HESLIP	NOVI	MI	48050 313	
NIAGARA MACHINE & TOOL WORKS	21711 WEST TEN MILE RD.	SOUTHFIELD	MI	48075 313	355-2155
ORTHODONTIST	17872 FARMINGTON	LIVONIA	MI	48152 313	261-4060
P.T. & EINC	24920 GIBSON	WARREN	MI	48089 313	758-7100
PARTON & PREBLE, INC.	23507 GROESBECK HWY.	WARREN	MI	48089 313	773-6000
PATTERSON LAKE PRODUCTS	P.O. BOX 200	PINCKNEY	MI	48169 313	878-3164
PERFECT OPTICS	2601 S. STATE	ANN ARBOR	MI	48104 313	662-6511
PRECISION SPINDLE	836 WOODWARD HEIGHTS BLVD.	DETROIT	MI	48220 313	544-0100
PRO. VILLAGE MED. LAB.	10953 FARMINGTON	LIVONIA	MI	48152 313	427-2660
PROMESS, INC.	P.O. BOX #748	BRIGHTON	MI	48116 313	229-9334
PROVIDENCE HOSPITAL	16001 W. NINE MILE RD.	SOUTHFIELD	MI	48075 313	424-3181
RAM METER INC.	1903 BARRETT	TROY	MI	48084 313	362-0990
RASSEY INDUSTRIES	15711 E. 12 MILE RD.	ROSEVILLE	MI	48006 313	779-2000
RAYCON CORP.	77 ENTERPRISE DR.	ANN ARBOR	MI	48103 313	769-2614
REDFORD COMMUNITY HOSPITAL	25210 GRAND RIVER	REDFORD	MI	48240 313	531-6200
REEF INDUSTRIES, INC.	50903 E. RUSSEL SCHMIDT BLVD.	MT. CLEMENS	MI	48082 313	949-2520
RIVER DISTRICT HOSPITAL	4100 S. RIVER RD.	ST. CLAIR	MI	48079 313	329-7111
SALINE HOSPITAL	400 W. RUSSELL	SALINE	MI	48176 313	429-1600
SHORES MFG. CO.	29800 M-97	ROSEVILLE	MI	48066 313	776-1500
SOUTHFIELD REHAB CENTER	22401 FOSTER WINTER DR.	SOUTHFIELD	MI	48075 313	423-1497
SPORT VIEW TELEVISION CORP.	9930 GREENFIELD	DETROIT	MI	48227 313	836-0120
ST. JOSEPH'S HOSPITAL	215 NORTH AVE.	MT. CLEMENS	MI	48043 313	466-9335
THE ARELL COMPANY	1985 W. BIG BEAVER RD.	TROY	MI	48084 313	649-3810
U.S. BROACH	20201 SHERWOOD	DETROIT	MI	48234 313	891-2211
VA MEDICAL CENTER		ANN ARBOR	MI	48105 313	769-7100
VALCOR ENGINEERING	8558 RONDA DR.	CANTON	MI	48187 313	453-2680
WARRENFIELD LAB	17630 W. WARREN	DETROIT	MI	48228 313	271-7171
WDIV-TV	550 LAFAYETTE BLVD.	DETROIT	MI	48231 313	222-0555
WELD-FAB, INC.	10831 CAPITAL	DAK PARK	MI	48237 313	542-1338
WELD-RITE	14835 TELEGRAPH	FLAT ROCK	MI	48134 313	782-4060
WSPR, INC	3146 E. JEFFERSON AVE.	DETROIT	MI	48207 313	259-8862
WHITEHALL BROADCASTING	4230 PACKARD RD.	ANN ARBOR	MI	48103 313	971-1600
WIND RADIO	5305 VINEYARD DR.	MONROE	MI	48161 313	241-5550
WIHT	3951 VARSITY	ANN ARBOR	MI	48104 313	973-7900
WLTJ FM RADIO	20300 CIVIC CENTER DR.	SOUTHFIELD	MI	48076 313	354-9300
WMPG	P.O. BOX 104	LAPEER	MI	48446 313	664-6211
WYANDOTTE GENERAL HOSPITAL	2333 BIDDLE AVE.	WYANDOTTE	MI	48192 313	284-2400

Survey Respondents - Region 1

COMPANY NAME	ADDRESS	CITY	STATE	ZIP AREA #	PHONE #
	7001 PURITON	DETROIT	MI	48238 313	862-4180
A-A ANCHOR BOLT INC	7390 SALEM RD.	NORTHVILLE	MI	48167 313	349-6565
A.VV CARBIDE FAB.	21223 MULLIN	WARREN	MI	48093 313	754-9870
AAA STEEL AND CRANE, INC.	2055 E. NINE MILE RD	WARREN	MI	48091 313	756-3700
ADVANCE MEDICAL & RESEARCH CENTER	1270 DORIS ROAD	AUBURN HSTS.	MI	48057 313	373-9120 X245
ADVANCE MEDICAL AND RESEARCH CENTER, INC.	1270 DORIS RD.	PONTIAC	MI	48057 313	373-9120
ADVANCE TEST EQUIPMENT CO.	3737 BEAUFRIE	DETROIT	MI	48207 313	925-1333
ASSOCIATED RADIOLOGISTS	P.O. BOX 457	BLOOMFIELD HILLS	MI	48013 313	332-6223
AVONDALE ELECTRO-MECHANICS	3088 ST. CLAIR DRIVE	AUBURN HTS.	MI	48057 313	852-6428
BALLENGER HIGHWAY MEDICAL LAB	6-1071 N. BALLENGER	FLINT	MI	48504 313	629-5932
BARBRON CORP.	14580 LESURE	DETROIT	MI	48227 313	273-0393
BARDEN CABLEVISION	26380 MICHIGAN AVE.	INXSTER	MI	48141 313	
BEDFORD CABLEVISION	8212 LEWIS AVE.	TEMPERANCE	MI	48182 313	847-0546
BI-COUNTY HOSPITAL	13355 EAST TEN MILE	WARREN	MI	48089 313	756-1000
BLUE CHIP SYSTEMS, INC.	31788 GROSEBECK HWY	FRASER	MI	48026 313	294-7090
BORG-WARNER AUTOMOTIVE, INC.	32059 SCHOOLCRAFT	LIVONIA	MI	48150 313	261-5322
BOTSFORD GENERAL HOSPITAL	28050 GRAND RIVER	FARMINGTON HILLS	MI	48024 313	471-8301
BRA-CON INDUSTRIES	12001 GLOBE RD.	LIVONIA	MI	48150 313	591-0300
BRANDES SALES CO., INC.	7674 E. M36, P.O. BOX 280	HAMBURG	MI	48139 313	213-2700
BURCH MACHINE PRODUCTS, INC.	23670 RUAM RD/	WARREN	MI	48091 313	757-3983
CADILLAC IRON, INC.	5965 WALL ST.	STERLING HEIGHTS	MI	48077 313	268-3600
CARATRON GEAR 7 MFG., INC.	14124 E. 10 MILE RD.	WARREN	MI	48089 313	778-8540
DERAMCO COMPANY	5777 E. TEN MILE ROAD	WARREN	MI	48090 313	757-7707
CHARHAM GEAR COMPANY	18370 FITZPATRICK AVE.	DETROIT	MI	48228 313	836-3140
CITATION CLINICAL LAB	23725 NORTHWESTERN HWY	SOUTHFIELD	MI	48075 313	355-9622
CLINTON VALLEY SPECIALTY LAB, INC.	4030 W. WALTON BLVD.	DRAYTON PLAINS	MI	48020 313	674-4157
CONTINENTAL CABLEVISION INC.	27432 GROESBECK HW.	ROSEVILLE	MI	48066 313	779-3421
CONTROL GAGING	5200 VENTURE DRIVE	ANN ARBOR	MI	48104 313	668-6750
CORDES TRADING INC.	1225 E. 11 MILE RD.	ROYAL OAK	MI	48067 313	
DEERFIELD FRAMERS TELEPHONE CO.	141 SALINE ST. P.O. BOX 68	DEERFIELD	MI	49238 313	279-1339
DELRAY ELECTRONICS CO.	8945 DEARBORN	DETROIT	MI	48209 313	841-1100
DETROIT RADIATOR CORP.	24501 HOOVER RD.	WARREN	MI	48089 313	759-2810
DR. HARRIS & BRIKHILL & ASSOC.	3815 PELHAM	LIVONIA	MI	313	561-1840
FATIGUE DYNAMICS, INC	P.O. BOX 2533	DEARBORN	MI	48123 313	273-8270
FM 98 WJLB	2050 PONDSCOT BLDG.	645 BRISWOLD	DETROIT	48226 313	965-2000
FORD MOTOR CO.	3200 E. ELM AVE.	MONROE	MI	48161 313	243-4780
	7700 MICHIGAN AVE.	SALINE	MI	48176 313	429-6594
FORT BLVD AUTOMOTIVE	3845 W. FORT ST.	DETROIT	MI	48216 313	554-3400
FROUDE ENGINEERING INC.	35525 SCHOOLCRAFT	LIVONIA	MI	48150 313	591-9252
GABOURY	3822 KIEFER AVE.	WARREN	MI	48091 313	754-1556
GARDEN WEST RADIOLOGY	33223 FORD ROAD	GARDEN CITY	MI	48135 313	261-1300
GREENE METAL PRODUCTS, INC.	40360 PRODUCTION DR.	MT. CLEMENS	MI	48045 313	465-6800
GRAP W. CABLE - DEARBORN	15200 MERCANTICE DR.	DEARBORN	MI	48121 313	336-6661
H.R. KRUEGER MACHINE TOOL, INC.	31506 GRANDRIVER	FARMINGTON	MI	48024 313	477-8400
HARRISON COMMUNITY HOSPITAL	26755 BALLARD	MT. CLEMENS	MI	48045 313	455-5501
HARRON CABLE TV	2750 ALGER RD.	PORTHURON	MI	48060 313	987-7844
HEALTH FACILITIES DIVISION - HEALTH ALLIANCE PLAN	28303 JOY RD.	WESTLAND	MI	48185 313	523-6685

Hospitalization, Medical & Surgical Plans

- Adams Thomas V Insurance Agency**
30251 J Carls Roseville 771-2022
- AMERICAN COMMUNITY MUTUAL INSURANCE CO**
P I Marti-General Agent
Hospitalization Insurance—Individual—Group—Temporary
25616 Jefferson St Clair Shores 771-7977
- BILL TURNBULL INSURANCE AGENCY**
6565 Highland Road Watrfd Twp 682-7870
- HUTCHISON'S INDEPENDENT INSURANCE AGENCY**
Individual—Group—Temporary
3392 Sashabaw Rd Dra 674-0464
- KING'S INDEPENDENT AGENCY CORP**
HOSPITALIZATION SPECIALIST
INDIVIDUAL - GROUP - TEMPORARY
6565 Highland Rd Watrfd Twp 666-4470
- LaFlamme Insurance Services**
We Give Senior Citizen Discounts
30700 Telegraph Rd Bingham Farms 540-7833
Mann James W 6922 Colony Dr Or Lk 363-3914
- PELTOLA RUDY INSURANCE AGENCY**
INDIVIDUAL • GROUP • TEMPORARY
DISABILITY
4996 Dixie Hwy Dra 674-4841
- VOLLRATH INSURANCE AGENCY**
HOSPITALIZATION SPECIALIST
INDIVIDUAL & GROUP
4700 Dixie Watrfd Twp 673-1219

Hospitals (Cont'd)

- Advertisers at this heading are required by law to be licensed. Check with proper state agency to verify license.
- CHILDREN'S HOSPITAL OF MICHIGAN**
3901 BEAUBIEN 48201
DETROIT MI. 48201
- PATIENT & GENERAL INFORMATION 745-5371
VISITING HOUR INFORMATION 745-5371
HOSPITAL INFORMATION A D DEPARTMENTS NOT LISTED BELOW 745-5437
ADMITTING 745-5255
DEVELOPMENT OFFICE 745-5373
EMERGENCY ROOM, 3901 BEAUBIEN 745-5206
EXECUTIVE OFFICES 745-5301
FINANCE 967-2100
HUMAN RESOURCES 745-5361
NURSING ADMINISTRATION 745-5381
ORTHOPEDIC CLINIC INFORMATION 745-5228
PATIENT BILLING INFORMATION 967-0800
POISON CONTROL 745-5711
PUBLIC RELATIONS 745-5826
RADIOLOGY X-RAY 745-5461
RONALD MCDONALD HOUSE, 3911 BEAUBIEN 745-5909
- CLINTON VALLEY CENTER**
140 Elizabeth Lk Rd Pon 338-7241
Recipient Rights Department
140 Elizabeth Lk Rd Pon 338-7727
- CRITTENTON HOSPITAL**
All telephone numbers can be dialed direct. Frequently called numbers are listed below.
- EMERGENCY 652-5311
Patient Information 652-5225
Patient Accounts & Credit Office 652-5247
Administration 652-5000
Admitting 652-5392
Community Health Education 652-5269
Community Resources 652-5345
Laboratory 652-5260
Medical Records 652-5221
Outpatient Laboratory-Great Oaks 652-5245
Outpatient X-ray - Great Oaks 652-5437
Patient Representative 652-5279
Personnel & Employment 652-5215
Physical Therapy 652-5315
Physician Referral 652-5418
Public Relations 652-5100
Purchasing 652-5321
Social Work 652-5373
Speech & Language Pathology 652-5304
X-ray 652-5325
Departments not listed above 652-5000
1101 W. University Drive Rochester
652-5000 48063
- Crittenton Hospital 1101 W University Dr Roch 652-5000
(See Advertisement Page 438)
Detroit Osteopathic Hospital 12523 3rd Ave Highland Park 252-4000
(See Advertisement Page 437)
- DETROIT RECEIVING HOSPITAL & UNIVERSITY HEALTH CENTER**
4201 St Antoine Detroit 745-3000
- FAIRLAWN CENTER**
Children • Adolescents
Psychiatric Services • Emergency Care
Dr. Ismail Senci - Director
150 Elizabeth Lk Rd Pon 338-0361
- GLEN EDEN HOSPITAL**
6902 Chicago Rd Warren 264-8875
(Continued on next page)



ST. JOSEPH MERCY HOSPITAL
900 WOODWARD AVENUE
PONTIAC, MI 48053

We treat you in a special way.

- PATIENT TELEPHONE NUMBERS AND VISITING HOURS ONLY (GENERAL VISTING HOURS 12:00-8:00 p.m.)** 858-6000
- EMERGENCY CENTER (MEDICAL EMERGENCIES ONLY) TDD (DEAF ONLY)** 858-3100
- POISON INFORMATION CENTER** 858-7373
- PEDIATRIC AFTER-HOURS CENTER** 858-3493
- GENERAL INFORMATION AND NON-LISTED PHONE NUMBERS ONLY** 858-3000
- Admissions, Inpatient/Outpatient 858-3030
Alcoholism Program 858-3177
Appointments-Outpatient 858-3124
Testing & Registration 858-3124
Nuclear Medicine 858-6259
Same Day Surgery-Endoscopy 858-3590
Minor Procedures 858-3252
Ophthalmology Service 858-3252
- BABY HOTLINE** 334-2229
TDD-OB/DELIVERY (DEAF ONLY) 858-3527
- Bill Inquiries 858-6127
Car Seat Rental (Infant/Toddler) 858-3155
Cardiac-Rehabilitation 858-3597
Chaplaincy 858-3715
Community Education Classes 858-3155
Drug Abuse Program 858-3177
Employment 858-3090
Fund Development 858-3161
Laboratories 858-3060
Library 858-3495
Lifeline Systems® 858-3035
Medical Records 858-3180
Mercy Services for Aging 474-0800
Nursing Services 858-3135
Outpatient Care Centers (Clinic) 858-3126
- Outpatient Clinical Services:**
- Medicine 858-3126
Obstetrics/Gynecology 858-3252
Pediatrics 858-3494
Surgery 858-3252
- Psychiatric Care/Harold E. Fox Center
Adult, Child, Day Hospital, Outpatient 858-3177
- Patient Representatives 858-3712
Public Relations 858-3160
Radiology (X-Ray) 858-3040
CT Scanning 858-3041
Special Procedures 858-3265
Ultrasound 858-3047
- Rehabilitation Services:**
- Audiology/Physical Therapy/ Speech Pathology 858-3161
Resource Development 858-3020
Social/Work 858-3114
Sports Medicine 858-3114
Volunteer Offices 858-3035
Auxiliary, Red Cross

Hospitals

Advertisers at this heading are required by law to be licensed. Check with proper state agency to verify license.

- BEAUMONT HOSPITAL-TROY**
COMPREHENSIVE INPATIENT AND OUTPATIENT SERVICES
- EMERGENCY: 24 HOUR SERVICE— 828-5111
GENERAL INFORMATION— 828-5100
COMMUNITY RELATIONS— 828-5049
PHYSICIAN REFERRAL SERVICE
Toll Free Dial "1" & Then 800-633-7377
- FAMILY PRACTICE CENTER— 828-5083
HAND CLINIC— 828-5066
OCCUPATIONAL HEALTH SERVICE 828-5250
- 44201 Dequindre Rd., Troy Just South of M-59 48068
- BOTSFORD GENERAL HOSPITAL**
SEE ADVERTISEMENT THIS CLASSIFICATION FOR COMPLETE HOSPITAL SERVICES & TELEPHONE NUMBERS
- 28050 Grand River Farmington Hills Between Inkster Rd & Middlebelt 471-8000
- Botsford General Hospital 28050 Grand River Farmington Hills 471-8000
(See Advertisement Page 436)
(Continued on next column)

- Who'd buy half an umbrella?**
Only complete coverage will give protection against rain. And so it is with these Yellow Pages. Complete coverage under all headings which relate to your business will give protection against loss of business.

Headings change or become outdated. Cross references will direct you to the proper heading. Look in the index in the front of this directory for a list of all headings and cross references.

(One Mile North of Square Lake Road)



Pontiac
General
Hospital

HOSPITAL INFORMATION

857-7200
EMERGENCY CENTER

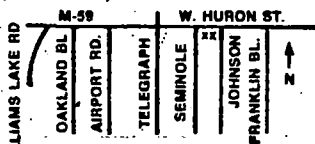
857-6720
SEMINOLE CENTER
Seminole at W. Huron

HOSPITAL LOCATION
461 W. Huron, Pontiac
Johnson at W. Huron

PROVIDING QUALITY COMPREHENSIVE
HEALTH CARE
MEDICAL & SURGICAL SPECIALTIES

- | | |
|-----------------------|-------------------|
| ANESTHESIOLOGY | PATHOLOGY |
| CARDIOLOGY | PEDIATRICS |
| DENTISTRY | PODIATRY |
| DERMATOLOGY | PROCTOLOGY |
| EAR, NOSE, THROAT | PSYCHIATRY |
| GENERAL PRACTICE | RADIATION THERAPY |
| HIGH RISK DELIVERY. | RADIOLOGY |
| INTERNAL MEDICINE | SURGERY |
| NEONATOLOGY | GENERAL |
| NEUROLOGY | ORAL |
| OBSTETRICS/GYNECOLOGY | ORTHOPEDIC |
| ONCOLOGY | PLASTIC |
| OPHTHALMOLOGY | THORACIC |
| OSTEOPATHIC MANUAL | UROLOGY |
| MEDICINE | |

- | | |
|---------------------------------------|-----------------|
| BABY CARE INFORMATION | 333-2273 |
| KENNY MICHIGAN PHYSICAL | 857-7361 |
| MEDICINE REHABILITATION FUND | 857-7200 |
| PHYSICIANS REFERRAL SERVICE | 857-7245 |
| AMBULATORY PATIENT SERVICES | 857-7432 |
| SEMINOLE CENTER | 857-7570 |
| FAMILY PRACTICE CENTER | 335-7680 |
| SEMINOLE CENTER | 338-1951 |
| MENTAL HEALTH CENTER | 335-8710 |
| SEMINOLE CENTER | 333-3373 |
| ALTERNATIVE TREATMENT PROGRAM | 333-2424 |
| ASSERTIVE COMMUNITY | 666-9000 |
| TREATMENT PROGRAM | |
| CONTINUING TREATMENT PROGRAM | |
| PONTIAC HEALTH CARE CENTER | |
| 132 Franklin Blvd | |
| PONTIAC HEALTH CARE DENTAL CENTER | |
| 132 Franklin Blvd | |
| WATERFORD AMBULATORY CARE CENTER | |
| 1305 N. Oakland Blvd, Waterford Twnp. | |
| (off M-59) | |



For additional listings
See Pontiac General
Hospital in the white pages.



botsford hospital
general

24 HOUR EMERGENCY SERVICE

471-8556

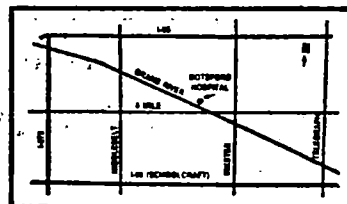
ALL DEPARTMENTS & PATIENT
NUMBERS CAN BE DIALED DIRECT

- PATIENT INFORMATION AND**
- | | |
|--------------------------------|----------|
| TELEPHONE NUMBERS | 471-8001 |
| ADMINISTRATION..... | 471-8660 |
| ADMITTING | 471-8500 |
| COMMUNITY HEALTH SERVICE..... | 471-8091 |
| COMMUNITY RELATIONS..... | 471-8630 |
| CONTINUING CARE-SOCIAL | |
| WORK..... | 471-8366 |
| LABORATORY..... | 471-8234 |
| MEDICAL DIRECTOR..... | 471-8222 |
| MEDICAL EDUCATION | 471-8224 |
| MEDICAL RECORDS | 471-8175 |
| PATIENT BILLING | |
| INFORMATION | 471-8070 |
| PERSONNEL-HUMAN RESOURCES..... | 471-8651 |
| PHYSICAL MEDICINE & | |
| REHABILITATION | 471-8648 |
| PURCHASING..... | 471-8077 |
| X-RAY RADIOLOGY | 471-8371 |
| GENERAL INFORMATION AND | |
| NON-LISTED TELEPHONE | |
| NUMBERS | 471-8000 |

CHEMICAL
DEPENDENCY
PROGRAM
471-8583

PHYSICIANS
REFERRAL
SERVICE
471-8630

VISITING HOURS DAILY & SUNDAY
11AM - 2PM & 4PM - 8PM



MAIN TELEPHONE #

471-8000

28050 GRAND RIVER
FARMINGTON HILLS

Hospitals (Cont'd)

Advertisers at this heading are required by law to be licensed. Check with proper state agency to verify license.

GRACE HOSPITAL-DIVISION OF HARPER-GRACE HOSPITALS
 18700 MEYERS ⁴⁸²³⁵
 General Information 966-3300
 Patient Information 966-3600
 Admitting Office 966-3051
 Business Office & Patient Accounts 966-3165
 Community Health Education 745-8983
 Emergency Room 966-3045
 For Physician Referral 966-3100
 Grace Family Practice Center 966-3500
 Impaired Hearing Telephone Information 966-3051
 Nurse Recruitment 966-3202
 Outpatient Physical Therapy - Lahser Medical Building 966-3555
 Patient Relations 966-3227
 Personnel 966-3101
 Senior Life Services 745-8707
 Volunteer Services 966-3299
 GRACE HOSPITAL 966-3300

Harper Hospital-Division Of Harper-Grace Hospitals 3990 John R Detroit ⁴⁸²³⁵ 494-5050 (See Advertisement Page 439)

HAVENWYCK HOSPITAL ⁴⁸⁰⁵⁷
 1525 University Dr Aub His 373-9200 (See Advertisement Page 439)

HEALTH FACILITIES DIVISION OF HEALTH ALLIANCE PLAN

METROPOLITAN WEST HOSPITAL
 28303 Joy Road, Westland 523-6800
 24 Hour Emergency Services 523-6868

MEDICAL CENTERS
 4401 Conner, Detroit ⁴⁸²¹⁵ 823-9800
 6550 Allen Road, Allen Park ⁴⁸¹¹⁹ 252-2000
 25779 Kelly Road, Roseville ⁴⁸²⁰⁴ 773-8787
 27177 Lahser Road, Southfield 358-0722
 16836 Newburgh, Livonia 464-2644
 29200 Schoolcraft, Livonia 523-1050
 Internal Medicine 523-2420
 1800 Tuxedo, Detroit ⁴⁸²²⁰ 252-1000
 Appointment Center 252-1300
 7701 Wyoming, Dearborn 935-9000

(Continued on next column)

If an appliance breaks down, deal only with a reputable repair service. Insist on an estimate before the work is done.

Hospitals (Cont'd)

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HENRY FORD HOSPITAL ⁴⁸²⁰²
 2799 W Grand Blvd Det 876-2600
WEST BLOOMFIELD CENTER
 24 Hour Walk In Services
 6777 W Maple Rd W Bl ⁴⁸⁰³³ 661-4100
STERLING HEIGHTS CENTER ⁴⁸⁰⁷⁷
 3058 Metro Parkway Sterling Hts 977-9300
PREFERRED MEDICAL CENTER
 Rochester
 515 Rochester Rd ⁴⁸⁰⁶³ 656-2820

Henry Ford Hospital 515 S Rochester Rd Roch Hls 656-2820

HERITAGE HOSPITAL
HOSPITAL BASED HOME CARE AGENCY
 WEST OF TELEGRAPH SOUTH OF WICK ROAD
 24775 Haig Teilor 295-5000

Huron Valley Hospital 1601 E Commerce Rd Com Twp ⁴⁸⁰²⁵ 360-3300 (See Advertisement Page 439)

LIFE CENTER OF AUBURN HILLS THE
 1360 Doris Rd Aub His ⁴⁸⁰⁵⁷ 373-2660 (See Advertisement Page 439)

MERCYWOOD HOSPITAL ⁴⁸¹⁰³
 4038 Jackson Rd Ann Arbor 663-8571

MICHIGAN OSTEOPATHIC MEDICAL CENTER INC
 SUBSIDIARY OF MICHIGAN HEALTH CARE CORPORATION
MICHIGAN OSTEOPATHIC MEDICAL CENTER ACUTE CARE HOSPITAL
 Main Campus 361-8000
 2760 Martin Luther King Detroit Physicians Referral Service (Free) 361-8282
MOMC - LAKESHORE UNIT 259-4141
 3245 E Jefferson Detroit
ADULT MENTAL HEALTH SERVICES
 5435 Woodward Ave Detroit 494-0400
 24 HOUR INPATIENT PSYCHIATRIC CARE & PARTIAL HOSPITALIZATION
CORPORATE OFFICES 874-9100
 New Center Building Suites 510 & 610
 7430 Second Ave Detroit ⁴⁸²⁰²
GENERAL OFFICES 494-0400
 5705 Woodward Ave Detroit ⁴⁸²⁰²

OAKLAND GENERAL HOSPITAL
 27351 Dequindre North Of 11 Mile Rd Madison Heights ⁴⁸⁰⁷¹ 967-7000
 Emergency 967-7670
 Admitting 967-7675
 Billing 967-7010

PONTIAC GENERAL HOSPITAL
 461 W Huron-At Johnson Pon 857-7200 (See Advertisement Page 436)
 (Continued on next page)

Facts That Figure . . .
 The shortest distance between two given points is a straight line.
 The short cut from buyer to seller is via your Yellow Pages advertisements.



DETROIT OSTEOPATHIC HOSPITAL

252-4000

COMPREHENSIVE HEALTH CARE
 ACUTE CARE
 SPECIALTY AND SUBSPECIALTY SERVICES

VISITING HOURS: 12 NOON-8 PM

DETROIT HEART INSTITUTE

252-4803

MENTAL HEALTH UNIT

252-4557

24 HOUR OUTPATIENT DEPARTMENT

252-4444

PATIENT INFORMATION

252-4100

12523 THIRD AVE, HIGHLAND PARK MICHIGAN 48203

4 OUT OF 5 LOOK

IN THE BOOK

Each year, 112 million people use the Yellow Pages to find things fast. That's 4 out of 5 adults who let their fingers do the walking.

AMERITECH



The Yellow Pages

800-4-940

GESTATION, INCUBATION AND LONGEVITY OF CERTAIN ANIMALS

Animal	Gestation and incubation, in days & (average)	Longevity, in years & (record exceptions)	Animal	Gestation and incubation, in days & (average)	Longevity, in years & (record exceptions)
Ass	340-385	18-20 (46)	Kangaroo	c. 39	10-12 (16)
Bear	180-240*	15-20 (34)	Lion	105-111	10 (29)
Cat	52-65	10-12 (21)	Mare	304-419 (336)	20-25 (50+)
Chicken	21	7-9 (14)	Monkey	149-179* (164)	12-15* (29)
Cow	c. 280	9-12 (25)	Mouse	19-31*	1-3 (4)
Deer	140-245*	10-15 (28)	Parakeet		
Dog	55-70 (63)	10-12 (24)	(Budgerigar)	17-20 (18)	8 (12+)
Duck	21-35* (28)	10 (15)	Pigeon	18	10-12 (29)
Elephant	515-760* (620)	30-40 (98)	Rabbit	27-36 (31)	6-8 (15)
Ewe	146-161 (151)	12 (16)	Rat	21-30 (22)	3 (5)
Goat	135-163 (150)	12 (17)	Sow	101-130 (115)	10 (22)
Groundhog	28-35	4-7	Squirrel	28-35	8-9 (15)
Guinea pig	63-71	8 (6)	Vixen (fox)	51-60	8-10 (14)
Mammoth	15-19	2	Whale	276-365*	
Nipponotamus	220-255	30 (49+)	Wolf	63	10-12 (16)

*Depending on kind.

Source: T. Donald Carter, American Museum of Natural History.

Hospitals (Cont'd)

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Pontiac Osteopathic Hospital 50 N Perry
Pon 338-5000
(See Advertisement This Page)

PONTIAC OSTEOPATHIC HOSPITAL & HEALTH CARE CENTER

PONTIAC OSTEOPATHIC HOSPITAL

24 Hour Emergency Center

50 N Perry St Pontiac 338-5000

PONTIAC COMMUNITY HEALTH CARE CENTER

385 N Lapeer Rd Oxford 628-3000

(Continued on next column)

PROVIDENCE FAMILY HEALTH CENTER
210 N Lafayette South Lyon 437-1744

PROVIDENCE HOSPITAL MILFORD CENTER
24 HOUR EMERGENCY CARE CENTER

24 HOUR LABORATORY
24 HOUR RADIOLOGY

ALLERGY • FAMILY PRACTICE
ORTHOPEDICS

MENTAL HEALTH SERVICES

OBSTETRICS/GYNECOLOGY

PHYSICAL MEDICINE

1155 Milford Rd Milford 685-0921
(At Commerce Rd)

(Continued on next column)

Night and day
Yellow Pages!

PROVIDENCE HOSPITAL SURGICAL CENTER OF SOUTHFIELD 29877 Telegraph Southfield 352-1890

PSYCHIATRIC CENTER OF MICHIGAN

COMPLETE PSYCHIATRIC SERVICES



- Fully Accredited
- Blue Cross Member
- Medicare • Medicaid

"FOR INFORMATION CALL"

PSYCHIATRIC CENTER OF MICHIGAN

Hospital 35031 23 Mile New Baltimore 725-5777

Alliliated Outpatient Clinics 41700 Hayes Mt Clemens 263-0400

22151 Moross Detroit 885-6400

(Continued on next column)

Find it fast -- use the index.

Hospitals (Cont'd)

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REHABILITATION INSTITUTE

261 Mack Detroit 494-505

St Joseph Mercy Hospital

See Ad For Complete Listing

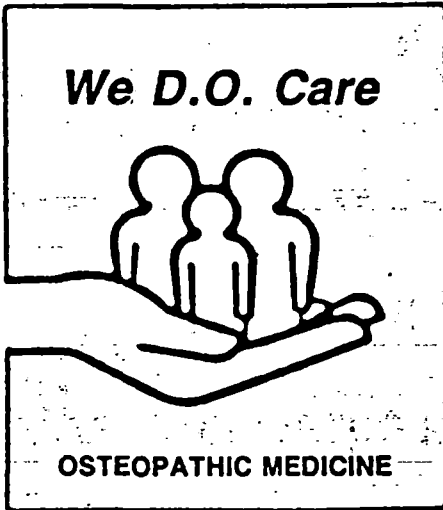
900 Woodward Av Pon 858-3000

(See Advertisement Page 435)

(Continued on next page)

Find it fast -- use the index for all headings and cross references.

Pontiac Osteopathic Hospital and Health Care Center



Pontiac Osteopathic Hospital
24 Hour Emergency Services

50 North Perry St.
Pontiac, MI 48058

338-5000

POH

Community Health Care Center
Family Practice/Urgent Care Center

7 AM - 12 Midnight

385 North Lapeer Rd. — Oxford

(313) 628-3000

CRITTENTON

The health system that's growing with you.



- 24 hour physician staffed emergency department
- new outpatient services center
- progressive maternity program
- diagnostic and therapeutic sports medicine center
- community health education programs

For more information, call 652-5000

1101 W. University Drive ● Rochester, Mich. 48063

Hospitals (Cont'd)

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Straith Memorial Hospital 23901 Lahser Rd Southfield 357-3360

UNIVERSITY HEALTH CENTER
4201 St Antoine Detroit 745-3600
West Oakland Ambulatory Care Center
1885 N Pontiac Tr Wd Lk 624-6635
(See Advertisement This Page)

WOODSIDE MEDICAL INC

- PSYCHIATRIC PROGRAM
- WOMENS ALCOHOL RECOVERY PROGRAM
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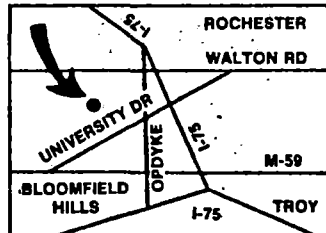


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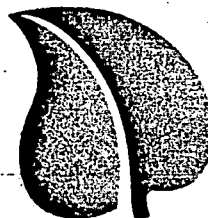
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● JOHN HOYLE LAKE ERIE REGION MANAGER WESTINGHOUSE ELEVATOR CO 2627 HAMILTON AVE CLEVELAND OH 44114	7514 000 001	SCOTT BOYD MANAGER COLLEGE RELATIONS THE TIMKEN CO 1835 DUEBER AVE SW CANTON OH 44706	7514 000 538	JIM BOERGER PERSONNEL DIRECTOR HOBART CORPORATION WORLD HEADQUARTERS AVE TROY OH 45374	7514 000 006
● DONALD R WELTER PERSONNEL STAFF GMC GUIDE LAMP DIVISION 2915 PENDLERON AVE ANDERSON IN 46011	7514 000 007	F D SAYLOR III PRESIDENT SAYLOR FRANK D & SONS INC 2388 COLE BIRMINGHAM MI 48008	7514 000 175	WARREN SHWAYDER EXECUTIVE VICE PRESIDENT SHWAYDER CO 2335 E LINCOLN BIRMINGHAM MI 48008	7514 000 176
● DONALD H BAILEY PRESIDENT SUBURBAN TOOL & MACHINE CO 2211 COLE ST BIRMINGHAM MI 48008	7514 000 177	P E RONCELLI VICE PRESIDENT BERMAR ASSOC INC 4630 W MAPLE BIRMINGHAM MI 48010	7514 000 172	JAY PETERSON OFFICE MANAGER GENERAL MILLS 30800 TELEGRAPH STE 2720 BIRMINGHAM MI 48010	7514 000 008
● MILTON HANDELMAN VICE PRESIDENT CORE IND INC ADMIN 430 N WOODWARD BIRMINGHAM MI 48011	7514 000 173	WILLIAM FEDERHART VICE PRESIDENT BANNER METALS 725 S ADAMS RD BIRMINGHAM MI 48011	7514 000 171	MR FORAND OWNER FORAND SALES CO 720 N WOODWARD BIRMINGHAM MI 48011	7514 000 128
● K AVEHR VICE PRESIDENT KUHLMAN CORP PO BOX 288 BIRMINGHAM MI 48012	7514 000 174	JACK TICHENOR GENERAL MGR ELLIS & FORD MFG CO 1100 COOLIDGE RD BIRMINGHAM MI 48012	7514 000 345	WILLIAM LLOYD VICE PRESIDENT DECOUPER INDS INC 800 DENISON CT BLOOMFIELD HLS M 48013	7514 000 180
● ROBERT H POVLITZ PRESIDENT MAGNUM INTL INC 784 INDL CT BLOOMFIELD HLS M 48013	7514 000 181	WILLIAM ZOBEL GENERAL MANAGER ZUCKER MYRON INC 708 W LONG LK BLOOMFIELD HLS M 48013	7514 000 182	S W BARANYZ EXECUTIVE VICE PRESIDENT BABCOCK WILCOX ADMIN OFFICE 2550 S TELEGRAPH STE 200 BIRMINGHAM MI 48013	7514 000 178
● G G DANIELS	7514	PERSONNEL DIRECTOR	7514	PERSONNEL MANAGER	7514

<ul style="list-style-type: none"> ● ROBERT H POVLITZ PRESIDENT MAGNUM INTL INC 784 INDL CT BLOOMFIELD HLS M 48013 ● G G DANIELS VICE PRESIDENT DANIELS MFG CORP 2266 FRANKLIN RD BLOOMFIELD HLS M 48013 ● G J VELLA GENERAL MGR DANIELS MFG CORP 2266 FRANKLIN BLOOMFIELD HLS M 48013 ● R A CLAUGHERTY PLANT MANAGER SUPERIOR WELDING-PRESS REP 24400 SHERWOOD CENTERLINE MI 48015 ● DIANE SEFFERTH OFFICE MANAGER EMPIRE ELECTRONICS INC 1004 14 MILE CLAWSON MI 48017 ● DAN DYLE PRESIDENT HAGELSTEIN MFG CO 1072 W 14 MILE CLAWSON MI 48017 ● LOUIS RAVIS EXECUTIVE VICE PRESIDENT SCHREIBER MFG CO 1400 W 14 MILE CLAWSON MI 48017 ● THOMAS O MUSZYNSKI VICE PRESIDENT PREMIUM DESIGN INC 120 S ROCHESTER RD CLAWSON MI 48017 	<ul style="list-style-type: none"> 174 ELLIS & FORD MFG CO 1100 COULIDGE RD BIRMINGHAM MI 48012 7514 WILLIAM ZOBEL 000 GENERAL MANAGER 181 ZUCKER MYRON INC 708 W LONG LK BLOOMFIELD HLS M 48013 7514 PERSONNEL DIRECTOR 000 DANIELS MFG CORP 179 2266 FRANKLIN RD BLOOMFIELD HLS M 48013 7514 MR CRAIG 000 PRESIDENT 347 APPLIED INDUSTRIES INC 23844 SHERWOOD CENTERLINE MI 48015 7514 RICHARD SULLIVAN 000 PRESIDENT 270 SULLIVAN MFG CORP 8693 CROSBY LK RD CLARKSTON MI 48016 7514 G MANOOGIAN 000 GENERAL MGR 126 DAVIS MFG/DIV MASCO CORP 930 N MAIN CLAWSON MI 48017 7514 MILTON NATHAN 000 VICE PRESIDENT 351 G & H MFG CO INC 606 S ROCHESTER CLAWSON MI 48017 7514 JAMES SURATT 000 PERSONNEL 349 MAYO WELDING & FABRICATING 638 S ROCHESTER RD CLAWSON MI 48017 7514 LOUIS RAVIS 000 EXEC VICE PRESIDENT 190 SCHREIBER MFG CO 1400 W 14 MILE RD CLAWSON MI 48017 	<ul style="list-style-type: none"> 345 DECOUPER INDS INC 800 DENISON CT BLOOMFIELD HLS M 48013 7514 S W BARANYZ 000 EXECUTIVE VICE PRESIDENT 182 BABCOCK WILCOX ADMIN OFFICE 2550 S TELEGRAPH STE 200 BIRMINGHAM MI 48013 7514 PERSONNEL MANAGER 000 SHAMROCK TRAILERS & AXLE MFG 143 6655 HALSTEAD RD W BLOOMFIELD MI 48013 7514 JEROME SINGER 000 PRESIDENT 009 AETNA INDS 24331 SHERWOOD CENTERLINE MI 48015 7514 M KLEINHARDT 000 VICE PRESIDENT 348 BIRMINGHAM BENDERS CO 1271 W MAPLE RD CLAWSON MI 48017 7514 RAY TRENTHAM 000 PRESIDENT 354 QUALITY GASRET & MFG CO 651 N ROCHESTER CLAWSON MI 48017 7514 JOE GRUEN 000 PRESIDENT 352 DETROIT PARTS MFG CO 1363 ANDERSON CLAWSON MI 48017 7514 JOSEF WINKLER 000 GENERAL MANAGER 188 PERFECT MOLD CO INC 1500 N CROOKS RD CLAWSON MI 48017 7514 MR SCHOCH 000 GENERAL MANAGER 191 C & G ELECTRONICS CO 	<ul style="list-style-type: none"> 000 180 7514 000 178 7514 000 493 7514 000 269 7514 000 183 7514 000 350 7514 000 353 7514 000 189 7514 000 184
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● LOUIS RAVIS EXECUTIVE VICE PRESIDENT SCHREIBER MFG CO 1400 W 14 MILE CLAWSON MI 48017	7514 000 349	● JAMES SURATT PERSONNEL MAYO WELDING & FABRICATING 638 S ROCHESTER RD CLAWSON MI 48017	7514 000 188	● JOSEF WINKLER GENERAL MANAGER PERFECT MOLD CO INC 1500 N CROOKS RD CLAWSON MI 48017	7514 000 189
● THOMAS D MUSZYNSKI VICE PRESIDENT PREMIUM DESIGN INC 120 S ROCHESTER RD CLAWSON MI 48017	7514 000 190	● LOUIS RAVIS EXEC VICE PRESIDENT SCHREIBER MFG CO 1400 W 14 MILE RD CLAWSON MI 48017	7514 000 191	● MR SCHOCH GENERAL MANAGER C & G ELECTRONICS CO 1363 ANDERSON ST CLAWSON MI 48017	7514 000 184
● MILTON NATHAN VICE PRESIDENT G & H MFG CO INC 606 S ROCHESTER RD CLAWSON MI 48017	7514 000 185	● DAVID M TENNISWOOD GENERAL MANAGER GREMCO ELECTRIC DIV 1080 N CROOKS RD CLAWSON MI 48017	7514 000 186	● JOHN R UREEL PRESIDENT KEN WOOD IND INC 875 N ROCHESTER RD CLAWSON MI 48017	7514 000 187
● CORY K RICHARDS ACCOUNTING MANAGER ANDERSON & ASSOCIATES 24333 ENDOPLEX FARMINGTON MI 48018	7514 000 010	● GUNTHER SCHONFELDER OWNER KARDA REFLEXA MFG CO 25811 POWER RD FARMINGTON HLS M 48018	7514 000 370	● R RICHARDSON VICE PRESIDENT JERVIS B WEBB 1 WEBB DR FARMINGTON HLS M 48018	7514 000 199
● ARTHUR JOHNS MANAGER TRANE CO 24317 INDOPLEY FARMINGTON MI 48018	7514 000 207	● E HALL PERSONNEL MIDWEST MILLWORK INC 2956 FREMBES DR DRAYTON PLNS MI 48020	7514 000 192	● J McDONALD OWNER ELECTRO SPECIALTIES 18105 9 MILE RD E DETROIT MI 48021	7514 000 271
● PATRICIA RICHMOND PERSONNEL DIRECTOR FRED SANDERS COMPANY 100 OAKMAN BOULEVARD DETROIT MI 48023	7514 000 011	● G M GILKEY PRESIDENT GULF & WESTERN MFG CO 24114 RESEARCH DR FARMINGTON HLS M 48024	7514 000 369	● RUSSELL FOX VICE PRESIDENT INDEX MFG CO 31150 W 8 MILE FARMINGTON MI 48024	7514 000 404
● THOMAS LINDBERT VICE PRESIDENT L & H WOOD MFG CO 31200 W 8 MILE FARMINGTON MI 48024	7514 000 405	● A C YOST VICE PRESIDENT MECHANICAL MFG INC 32777 CHESLEY DR FARMINGTON MI 48024	7514 000 406	● L KERNS OWNER CY-FAB MFG & ENGRG 32733 FOLSOM FARMINGTON HLS M 48024	7514 000 368
● CHARLES F HILL PERSONNEL WATER SAVER SYSTEMS INC 37525 GRAND RIVER FARMINGTON MI 48024	7514 000 195	● G M GILKEU PRESIDENT GULF & WESTERN MFG CO 24114 RESEARCH DR FARMINGTON HLS M 48024	7514 000 196	● ROBERT SECCOMBE GENERAL MANAGER INGERSOLL RAND CO 23400 HALSTEAD FARMINGTON HLS M 48024	7514 000 197
● TONY DEMARCO	7514	● J A DUNN JR	7514	● FRANK DRAYTON	7514

● MANAGER
WHITLOCK INC
23231 INDUSTRIAL PARK DR
FARMINGTON HLS M 48024

● DOROTHY SUCHER
VICE PRESIDENT
SUCHER TOOL & MFG CO
29566 W 9 MILE
FARMINGTON MI 48024

● B JESHORE
GENERAL MANAGER
U S MFG CORP
17755 MASONIC BLVD
FRASER MI 48026

● L D BLATT
EXECUTIVE VICE PRESIDENT
I S I MFG INC
31915 GROESBECK
FRASER MI 48026

● RICHARD GWYNN
PERSONNEL MANAGER
CROSS FRASER
17801 E 14 MILE RD
FRASER MI 48026

● A NIELSEN
OWNER
SHELLBACK MFG CO
1320 E ELIZ PO BOX 121
HAZEL PK MI 48030

● ROBERT MC RAE
OWNER
JEFFIREY-ALAN MFG&ENGRG CORP
926 E 10 MILE
FERDALE MI 48030

● ALBERT R LEWELLEN
PRESIDENT
COMPUTER FACILITIES CO INC
1925 DUCK RD
HIGHLAND MI 48031

● EDWARD BABIGA

7514 OPERATIONS MANAGER
000 ADVANCED CONTROL SYSTEMS
012 24069 RESEARCH DR
FARMINGTON MI 48024

7514 HERBERT NAGEL
000 VICE PRESIDENT
408 WOLVERINE FLEXOGRAPHIC MFG
20774 CHESLEY DR
FARMINGTON MI 48024

7514 DONALD JOHNSON
000 VICE PRESIDENT
275 UNIVERSAL PROTOTYPE
17085 MASONIC PO BOX 8459
FRASER MI 48026

7514 FRED SLACK
000 GENERAL MANAGER
273 MOLLOY MFG MASCO CORP
18450 15 MILE RD
FRASER MI 48026

7514 KENNETH A REEVES
000 PRESIDENT
014 REEVES ELECTRIC COMPANY INC
21707 DEQUINDRE
HAZEL PK MI 48030

7514 EDWARD ANDREWS
000 OWNER
366 TURRET TOOLING MFG
530 W 9 MILE RD PO BOX 186
HAZEL PK MI 48030

7514 PAUL DRENGK
000 OWNER
363 MACE MFG CO
836 E 10 MILE
HAZEL PARK MI 48030

7514 R W BEARD
000 VICE PRESIDENT
203 HI-MILL MFG CO
1704 HIGHLAND RD
HIGHLAND MI 48031

7514 A N VOLTA

7514 G W MC NEAL
000 PRESIDENT
013 PRECISE TOOL & MFG
33431 GRAND RIVER
FARMINGTON MI 48024

7514 THOMAS VERTIN
000 PRESIDENT
409 VISIONEERING INC
31985 GROESBECK
FRASER MI 48026

7514 JOHN J CLARK
000 PERSONNEL MANAGER
276 CROSS CO CROSS FRASER DIV
17801 14 MILE RD
FRASER MI 48026

7514 LORI GLAZIER
000 SUPERVISOR OF EMPLOYMENT
274 THE CROSS COMPANY
17801 E 14 MILE
FRASER MI 48026

7514 PETER MALES
000 PRESIDENT
016 OMEGA MFG CO INC
23361 DEQUINDRE
HAZEL PARK MI 48030

7514 PERSONNEL MANAGER
000 HANSON PAINTING & MFG CO
367 1776 E 9 MILE
HAZEL PARK MI 48030

7514 ROBERT PRINCE
000 VICE PRESIDENT
364 NUMATICS INC
1450 N MILFORD RD
HIGHLAND MI 48031

7514 CINDY SALD
000 DIRECTOR OF PERSONNEL
362 MPM WORLD WIDE CORP
4359 ORCHARD LK RD
W BLOOMFIELD MI 48033

7514 J SMOLEK

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● EDWARD BABICA
 OWNER
 BLOOMFIELD MFG
 3007 SUMMEKS
 KEEGO HARBOR MI 48033

● R H SPENGLER III
 VICE PRESIDENT
 ANNEX PATTERN CO
 21550 TELEGRAPH
 SOUTHFIELD MI 48034

● AL ELY
 MANAGER
 LINDER ELY HARDY ASSOCIATES
 24454 CAPITAL
 OAK PARK MI 48034

● GEORGE STATEN
 OWNER
 LYONS TOOL & MFG CO
 23349 TELEGRAPH
 SOUTHFIELD MI 48034

● ROBERT SPENGLER
 PRESIDENT
 ADAMS AUTOMATION & MFG INC
 21500 TELEGRAPH RD
 SOUTHFIELD MI 48034

● C A NALEPA
 GENERAL MANAGER
 MONARCH TOOL & GAUGE CO
 23450 TELEGRAPH
 SOUTHFIELD MI 48034

● WES BLAYLOCK
 VICE PRESIDENT
 MAXITROL CO
 23555 TELEGRAPH PO BOX 2230
 SOUTHFIELD MI 48037

● RN SORENSEN
 EATON CORPORATION
 PO BOX 766
 SOUTHFIELD MI 48037

● WILHELM MORGAN
 PRESIDENT

7514 A N VOLTA
 000 VICE PRESIDENT
 358 LEAR SIEGLER INC
 21555 TELEGRAPH
 SOUTHFIELD MI 48034

7514 ROBERT BARLEY
 000 VICE PRESIDENT
 227 B & G AUTO MATION INC
 24111 TELEGRAPH
 SOUTHFIELD MI 48034

7514 MAUREEN HERRON
 000 PERSONNEL DIRECTOR
 116 MICHIGAN LECTROLS CORP
 24301 TELEGRAPH
 SOUTHFIELD MI 48034

7514 JOHANNA COTHERY
 000 OWNER
 456 REID MFG CO
 22223 TELEGRAPH RD
 SOUTHFIELD MI 48034

7514 DAVID BROWN
 000 VICE PRESIDENT
 450 AMERICAN SWISS MFG CO
 23125 TELEGRAPH
 SOUTHFIELD MI 48034

7514 WILLIAM M STRAITH
 000 PRESIDENT
 234 SYNDEUCO INC
 24175 TELEGRAPH
 SOUTHFIELD MI 48034

7514 D TOAL
 000 GENERAL MANAGER
 233 ITT THOMPSON INDS
 PO BOX 2035
 SOUTHFIELD MI 48037

7514 PERSONNEL MANAGER
 000 GULF & WESTERN MFG CO
 019 26261 EVERGREEN RD
 SOUTHFIELD MI 48037

7514 PAUL M BEARD
 VICE PRESIDENT

7514 J SMOLEK
 000 VICE PRESIDENT
 232 AIR MATIC PRODUCTS CO INC
 22218 TELEGRAPH
 SOUTHFIELD MI 48034

7514 BEATRICE VAN NEST
 000 PERSONNEL DIRECTOR
 228 ALLIED ELECTRIC SUPPLY CO
 23820 TELEGRAPH
 SOUTHFIELD MI 48034

7514 ROBERT SIERS
 000 SERVICE MANAGER
 134 PITNEY-BONES INCORPORATED
 24590 LAHSER
 SOUTHFIELD MI 48034

7514 G R SIMANCEK
 000 VICE PRESIDENT
 457 SATELLITE ENGRG & MFG
 21380 TELEGRAPH
 SOUTHFIELD MI 48034

7514 C E LYON
 000 PRESIDENT
 451 LYON MFG INC
 23661 TELEGRAPH RD
 SOUTHFIELD MI 48034

7514 JOHN KIRSCH
 000 VICE PRESIDENT
 239 P & P MFG CO INC
 1149 RHODES
 LK ORION MI 48035

7514 NANCY PYPSKI
 000 GENERAL MANAGER
 230 INGERSOLL RAND CO
 22122 TELEGRAPH PO BOX 209
 SOUTHFIELD MI 48037

7514 CHARLES F PAXTON
 000 PERSONNEL
 454 WELTRONIC COL RIANSBURG
 19500 W B MILE RD
 SOUTHFIELD MI 48037

7514 KAREN KOSKI
 VICE PRESIDENT

7514
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 226

7514
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 155

7514
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 458

7514
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 357

7514
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● RN SORENSEN EATON CORPORATION PO BOX 766 ● SOUTHFIELD MI 48037	7514 000 019	PERSONNEL MANAGER GULF & WESTERN MFG CO 26261 EVERGREEN RD SOUTHFIELD MI 48037	7514 000 454	CHARLES F PAXTON PERSONNEL WELTRONIC COL RIANSBURG 19500 W 8 MILE RD SOUTHFIELD MI 48037	7514 000 242
● WILLIAM MORGAN PRESIDENT MORGAN ELECTRIC INC PO BOX 2185 ● SOUTHFIELD MI 48037	7514 000 235	PAUL M BEARD VICE PRESIDENT WALWAY CO 19270 W 8 MILE PO BOX 98 SOUTHFIELD MI 48037	7514 000 241	KAREN KOSKI VICE PRESIDENT KOSKI MFG CO 401 E ELMWOOD LEONARD MI 48038	7514 000 356
● RUSSELL V MELOCHE VICE PRESIDENT BAYLOCK MFG CORP 180 ELMWOOD ● LEONARD MI 48038	7514 000 355	MONICA RYNEARSON PERSONNEL INTERVIEWER GM PROVING GROUNDS HICKORY RIDGE MILFORD MI 48042	7514 000 020	DALE M CARROLL PERSONNEL DEPARTMENT CHEV MOTOR DIV ENGINEERING ONE GENERAL MOTORS RD MILFORD MI 48042	7514 000 021
● G KURILUK GENERAL MANAGER MACHINERY ENTERPRISES 41135 IRWIN PO BOX 8848 ● MT CLEMENS MI 48043	7514 000 278	JERRY JERMANUS PERSONNEL MANAGER MERCURY PLASTICS CO INC 34501 HARPER PO BOX B249 MT CLEMENS MI 48043	7514 000 279	ROBERT MAHOFFEY V P PERSONNEL SERVICES SAINT JOSEPH HOSPITAL 20 PARKVIEW MT CLEMENS MI 48043	7514 000 022
● ARLENE M SPENCER SUP EMPLOYEE RELATIONS AUTOMOTIVE PRODUCTS ALLIED 353 CASS AVE ● MT CLEMENS MI 48043	7514 000 023	TOM MULLINS VICE PRESIDENT ALLOR MFG INC 46350 GRAND RIVER NOVI MI 48050	7514 000 383	AL STANCZYK GENERAL MANAGER STAR MFG CO 45241 GRAND RIVER NOVI MI 48050	7514 000 381
● NICHOLAS CASKO GENERAL MGR INTEGRAL ENGRG & MFG CORP 42400 11 MILE ● NOVI MI 48050	7514 000 382	BILL BOLER DISTRICT SERVICE MANAGER DIGITAL EQUIPMENT CORP 21333 HAGGERTY RD NOVI MI 48050	7514 000 024	JOHN LAW PRESIDENT OXFORD ENGRG & MFG 201 W OAKWOOD RD OXFORD MI 48051	7514 000 424
● E R FLYNN GENERAL MANAGER MANVILLE MFG CORP 342 ROCKWELL AVE ● PONTIAC MI 48053	7514 000 429	BARBARA WHITEHEAD OFFICE MANAGER KAST HEATING & COOLING CO 580 S TELEGRAPH RD PONTIAC MI 48053	7514 000 158	ESTHER SCHULTZ PERSONNEL DIRECTOR JOE COOMES DISTRIBUTORS 600 W HURON PONTIAC MI 48053	7514 000 146
● ROBERT LONG VICE PRESIDENT GENERAL ELECTRONICS MFG CORP 2569 DIXIE HWY ● PONTIAC MI 48055	7514 000 427	ROBERT HARRIS PRESIDENT HARRIS MFG 2248 CULVER PONTIAC MI 48055	7514 000 428	D VACELL OWNER DAILEY MFG INC 2569 DIXIE HWY PONTIAC MI 48055	7514 000 426
● DAVID S HACY PERSONNEL	7514	GARY PARLOVE	7514	PERSONNEL	7514

● DAVID S MACY PERSONNEL PROGRESSIVE MACHINERY CO 915 OAKLAND AVE PO BOX 150 PONTIAC MI 48055	7514 000 209	GARY PARLOVE GENERAL MANAGER STELLAR TOOL & MACHINE CO 4200 S LAPEER RD PONTIAC MI 48055	7514 000 211	PERSONNEL CYBER WELD INC 73 W WALTON BLVD PONTIAC MI 48055	7514 000 206
● ROBERT LONG VICE PRESIDENT GENERAL ELECTRONICS MFG 2569 DIXIE HWY PONTIAC MI 48055	7514 000 208	GARRER GROGAN SR PRESIDENT SECURITY ELECTRIC CORP PO BOX 896 PONTIAC MI 48056	7514 000 210	ED STENGER VICE PRESIDENT T D SHEA INC 4800 LAPEER RD PONTIAC MI 48057	7514 000 430
● MURRAY COON PRESIDENT AUBURN HGTS MFG 2481 LEACH RD PO BOX 4430 PONTIAC MI 48057	7514 000 425	ARTHUR KELLER PLANT MGR SUPERIOR METAL PRDTS MFG 3180 AUBURN RD AUBURN HGTS MI 48057	7514 000 343	RAY VELTHUYSEN VICE PRESIDENT ACCURATE GAUGE MFG 2243 STAR COURT AUBURN HGTS MI 48057	7514 000 344
● ROBERT MARKUS VICE PRESIDENT THOMAS DIE & STAMPING INC 2170 WALTON BLVD PONTIAC MI 48057	7514 000 212	ARTHUR KELLER PLANT MANAGER SUPERIOR METAL PRODUCTS MFG 3180 AUBURN RD AUBURN HGTS MI 48057	7514 000 165	DENNIS TURPIN PRESIDENT ADAPTROL INC 4160 S LAPEER RD PONTIAC MI 48057	7514 000 205
● ASTRID CLARK PERSONNEL DIRECTOR ELECTRIC LIGHT AND POWER 1030 FEATHERSTONE PONTIAC MI 48057	7514 000 160	ROBERT SCHOENFELDT VICE PRESIDENT ALPHA ELECTRIC REFRIGERATION 2193 AVON INDL DR AUBURN HGTS MI 48057	7514 000 162	HERBERT GROAT PRESIDENT GRAPHITE MACHINING INC 3936 AUBURN RD AUBURN HGTS MI 48057	7514 000 163
● JOHN CHASTAIN PRESIDENT MICHIGAN CARBIDE CO INC 2223 AVON INDL DR AUBURN HGTS MI 48057	7514 000 164	ROBERT SLEVA PERSONNEL DIRECTOR NORTH ELECTRIC SUPPLY CO INC 1290 N OPDYKE RD PONTIAC MI 48057	7514 000 159	DAN CALL PERSONNEL DIRECTOR DAN CALL ELECTRIC 2945 DEVONDALE AUBURN HGTS MI 48057	7514 000 156
● MARY JANE BUCHAMAN PERSONNEL DIRECTOR HEIGHTS HEATING AND COOLING 2131 PONTIAC RD PONTIAC MI 48057	7514 000 157	SCOTT TALCOTT PRESIDENT DELTA-TUNE 149 N PERRY PONTIAC MI 48058	7514 000 025	BRAD KING TRAINING OFFICER PONTIAC POLICE DEPT 110 EAST PIKE ST PONTIAC MI 48058	7514 000 026
● RALPH R FIKE PRESIDENT AVON GEAR CO 410 S STREET ROCHESTER MI 48062	7514 000 215	KLAUS K HARTIG PERSONNEL FRASER FABRICATING & WELDING 1696 STAR BATT DR ROCHESTER MI 48063	7514 000 217	PERSONNEL DIRECTOR MADISON GENERATOR 1727 AUBURN RD ROCHESTER MI 48063	7514 000 218
● J GRANT	7514	CHARLES A KREMSER	7514	DENNIS J HALL	7514

● J GRANT PLANT MANAGER METALPLAST INC 321 SOUTH ROCHESTER MI 48063	7514 000 219	CHARLES A KREMSER VICE PRESIDENT WINTER BROS CO DIV 6841 N ROCHESTER RD ROCHESTER MI 48063	7514 000 220	DENNIS L HALL CHAIRMAN EXECUTIVE BRENT TOOL & DIE CO 1694 STAR BATT DR ROCHESTER MI 48063	7514 000 216
● FRED PRINCE VICE PRESIDENT ALLEN COOLER & VENTILATOR 704 WOODWARD ROCHESTER MI 48063	7514 000 213	L A OGLE ADMINISTRATIVE ASST AUBURN METALFAB INC 210 CAMPBELL PO BOX A ROCHESTER MI 48063	7514 000 214	TED DAVENPORT PERSONNEL MANAGER LECTRON PRODUCTS INC 1400 S LIVERNOIS ROCHESTER MI 48063	7514 000 031
● GERALD LA MOTTE STAFFING MANAGER COMPUTER PERIPHERALS INC 1480 N ROCHESTER RD ROCHESTER MI 48063	7514 000 027	JOHN E MCNAB ASSISTANT DIRECTOR OAKLAND UNIVERSITY 141 N FOUNDATION HALL ROCHESTER MI 48063	7514 000 028	JOHN E MORRELL COMPTROLLER ROCHESTER MFG CO 300 SOUTH ST BOX 189 ROCHESTER MI 48063	7514 000 029
● EMPLOYEE RELATIONS DEPT DETROIT BROACH & MACHINE 950 S ROCHESTER RD ROCHESTER MI 48063	7514 000 030	M GENDICH PRESIDENT METALMITE MFG 194 ELIZABETH ROCHESTER MI 48063	7514 000 432	LAWRENCE METING PRESIDENT ROCHESTER MFG CO 300 SOUTH ST ROCHESTER MI 48063	7514 000 433
● JAMES CLEMENS VICE PRESIDENT ITT HIGBLE MFG CO FOURTH & WALTERS STS ROCHESTER MI 48063	7514 000 431	NORMAN ULMER PRESIDENT KEY WELDER CORP 15686 STURGEON ROSEVILLE MI 48066	7514 000 282	G T LYON PRESIDENT L & L MFG CO 33200 FREEWAY PO BOX 8420 ROSEVILLE MI 48066	7514 000 283
● R Y BACKI PRESIDENT MAY MFG INC 32239 LITTLE MACK ROSEVILLE MI 48066	7514 000 284	KARL REMPE PLANT MANAGER SHORES MFG CO 29800 GROESBECK ROSEVILLE MI 48066	7514 000 285	G DUNN OWNER DUNN ENGRG-EAST 15214 COMMON ROSEVILLE MI 48066	7514 000 280
● RICHARD KAHN PRESIDENT ELECTRO WAY CO 16482 13 MILE RD ROSEVILLE MI 48066	7514 000 281	BERN MARSACK PERSONNEL DIRECTOR MADISON ELECTRONICS DIVISION 28042 GROSSBECK ROSEVILLE MI 48066	7514 000 133	BERN MARSACK PERSONNEL DIRECTOR MADISON ELECTRONICS DIVISION 28042 GROSSBECK ROSEVILLE MI 48066	7514 000 147
● BOB LUTCH MANAGER R S ELECTRONICS 27882 GRATIOT ROSEVILLE MI 48066	7514 000 150	HENRY BOROWY PRESIDENT WILLIAMS MFG CO 29825 CALAHAN ROSEVILLE MI 48066	7514 000 292	E DILKES PRESIDENT TREND TOOL & MFG CO 15363 E 12 MILE RD ROSEVILLE MI 48066	7514 000 290
● WILLIAM WESTERMAN GENERAL MANAGER	7514 000	D SANDERS OWNER	7514 000	JOHN SOLEY PRESIDENT	7514 000

● BOB LUTCH
MANAGER
R S ELECTRONICS
● 27882 GRATIOT
ROSEVILLE MI 48066

● WILLIAM WESTERMAN
GENERAL MANAGER
WESTGOOD MFG CO
● 15211 11 MILE
ROSEVILLE MI 48066

● CLAUDE DESCOTEUX
PRESIDENT
STATE MFG INC
● 15555 12 MILE RD
ROSEVILLE MI 48066

● T HALL
PRESIDENT
T & G MFG CO INC
● 319 E PARENT
ROYAL OAK MI 48067

● GEORGE SCHULZ
PRESIDENT
SHULSON MFG CO
● 1830 BELLAIRE
ROYAL OAK MI 48067

● R MILLER
VICE PRESIDENT
DE ULIEG MACHINE CO
● FAIR ST
ROYAL OAK MI 48068

● PAUL NAGY
VICE PRESIDENT
EXCELWEL MFG CO INC
● 31690 STEPHENSON HWY
MADISON HGTS MI 48071

● ELEANOR WAGNER
PERSONNEL MANAGER
MC GUANE INDS INC/F & E MFG
● 32031 TOWNLEY
MADISON HGTS MI 48071

● R N SMITH
VICE PRESIDENT

7514 HENRY BOROWY
000 PRESIDENT
150 WILLIAMS MFG CO
29825 CALAHAN
ROSEVILLE MI 48066

7514 D SANDERS
000 OWNER
291 SNYDER MFG CO
29770 PARKWAY
ROSEVILLE MI 48066

7514 ROBERT VERSICHELE
000 VICE PRESIDENT
288 TIMCO MFG CO INC
27544 GROESBECK
ROSEVILLE MI 48066

7514 PERSONNEL DIRECTOR
000 GREENLEAF MFG CO
447 4519 DELEMERE
ROYAL OAK MI 48067

7514 DENNIS CARLSON JR
000 VICE PRESIDENT
446 CARLSON MFG INC
827 E FOURTH
ROYAL OAK MI 48067

7514 HAROLD LOAR
000 PRESIDENT
223 LOAR MFG CO
PO BOX 116
ROYAL OAK MI 48068

7514 M RICHARDSON
000 GENERAL MANAGER
390 ESTAN MFG CO
32053 HOWARD ST
MADISON HGTS MI 48071

7514 SYLVESTER KRUDA
000 VICE PRESIDENT
396 MACON MFG CO INC
1412 E 11 MILE
MADISON HGTS MI 48071

7514 ERNEST SYLVESTRE
000 PRESIDENT

7514 E DILKES
000 PRESIDENT
292 TREND TOOL & MFG CO
15363 E 12 MILE RD
ROSEVILLE MI 48066

7514 JOHN SOLEY
000 PRESIDENT
286 SOLEY MFG CO
30155 GROESBECK
ROSEVILLE MI 48066

7514 DENNIS EVANS
000 VICE PRESIDENT
289 PERFECTION ELEX PRODUCTS
1530 ROCHESTER
ROYAL OAK MI 48067

7514 LORRAINE WELSH
000 VICE PRESIDENT
436 HORVATH TOOL & MFG INC
300 E FOURTH ST
ROYAL OAK MI 48067

7514 PAUL HOKE
000 EXEC VICE PRESIDENT
434 DOOR-MAN MFC CO
505 E 10 MILE RD
ROYAL OAK MI 48067

7514 WILLIAM CANNING
000 PRESIDENT
441 HENZE STAMPING & MFG CO
37650 STEPHENSON HWY
MADISON HGTS MI 48071

7514 MICHAEL LUSKO
000 PRESIDENT
389 CONTINENTAL MFG CO
25330 JOHN R
MADISON HGTS MI 48071

7514 C J MC CAIN
000 VICE PRESIDENT
395 HYDRO-LINE MFG CO
32330 HOWARD
MADISON HGTS MI 48071

7514 SY MORROW

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<ul style="list-style-type: none"> ● PAUL NAGY VICE PRESIDENT EXCELWEL MFG CO INC 31690 STEPHENSON HWY MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 390 	<ul style="list-style-type: none"> ● M RICHARDSON GENERAL MANAGER ESTAN MFG CO 32053 HOWARD ST MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 389 	<ul style="list-style-type: none"> ● MICHAEL LUSKO PRESIDENT CONTINENTAL MFG CO 25330 JOHN R MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 388
<ul style="list-style-type: none"> ● ELEANOR WAGNER PERSONNEL MANAGER MC GUANE INDS INC/F & E MFG 32031 TOWNLEY MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 396 	<ul style="list-style-type: none"> ● SYLVESTER KRUDA VICE PRESIDENT MACON MFG CO INC 1412 E 11 MILE MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 395 	<ul style="list-style-type: none"> ● C J MC CAIN VICE PRESIDENT HYDRO-LINE MFG CO 32330 HOWARD MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 393
<ul style="list-style-type: none"> ● R N SMITH VICE PRESIDENT HIGHLAND MFG INC 1450 W 13 MILE MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 392 	<ul style="list-style-type: none"> ● ERNEST SYLVESTRE PRESIDENT TRIAD MFG CO 32020 EDWARDS MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 400 	<ul style="list-style-type: none"> ● SY MORROW OWNER STANDARD ASBESTOS MFG CO 1460 LINCOLN MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 399
<ul style="list-style-type: none"> ● RODNEY D PAULICK PRESIDENT ROYAL DESIGN & MFG INC 32401 STEPHENSON HWY MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 398 	<ul style="list-style-type: none"> ● FREDERICK YOUNG VICE PRESIDENT NEUMANN ENGRG & MFG CO 32700 INDL AVE MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 397 	<ul style="list-style-type: none"> ● PERSONNEL MANAGER PERFECTION PATTERN & MFG CO 30031 STEPHENSON MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 410
<ul style="list-style-type: none"> ● W CISLO VICE PRESIDENT ZIMMERMAN D W MFG 29555 STEPHENSON HWY MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 403 	<ul style="list-style-type: none"> ● AL VALENTINE PRESIDENT UNIVERSAL DIE & MFG 1421 E 10 MILE MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 402 	<ul style="list-style-type: none"> ● DONALD OSBORN VICE PRESIDENT ULTIMATE PRECISION INC/MFG 29370 STEPHENSON HWY MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 401
<ul style="list-style-type: none"> ● SUE ADAMCZYK PERSONNEL DIRECTOR EXCEL CIRCUITS INC 32096 HOWARD ST MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 127 	<ul style="list-style-type: none"> ● FRED SCHARDEIN PERSONNEL DIRECTOR ALLEN-BRADLEY CO 32660 STEPHENSON HWY MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 110 	<ul style="list-style-type: none"> ● JACK CHUMINATTO GENERAL MANAGER CAVALIER MFG CO 839 E 10 MILE RD MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 387
<ul style="list-style-type: none"> ● W BOEISTLER VICE PRESIDENT AJAX SPRING & MFG CO 700 AJAX DR MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 386 	<ul style="list-style-type: none"> ● FRED KAISER MANAGER WARREN RADIO CO 32707 JOHN R MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 152 	<ul style="list-style-type: none"> ● KATHY JOST PERSONNEL DIRECTOR GALCO INDUSTRIAL ELECTRONICS 26010 PINEHURST MADISON HGTS MI 48071 	<ul style="list-style-type: none"> 7514 000 130
<ul style="list-style-type: none"> ● J E STRONG VICE PRESIDENT SALES MANAGER CHARLES F WARRICK CO 1964 W 11 MILE RD BERKLEY MI 48072 	<ul style="list-style-type: none"> 7514 000 170 	<ul style="list-style-type: none"> ● JAMES FLANNIGAN PRESIDENT RITE INDL MODELS INC 3642 W 11 MILE RD BERKLEY MI 48072 	<ul style="list-style-type: none"> 7514 000 169 	<ul style="list-style-type: none"> ● JOHN J RHOADES JR CHIEF EXEC OFFICER RHOADES MACHINE WORKS INC 2036 W 11 MILE RD BERKLEY MI 48072 	<ul style="list-style-type: none"> 7514 000 168
<ul style="list-style-type: none"> ● PERSONNEL DIRECTOR MIDLAND ENGINEERING 	<ul style="list-style-type: none"> 7514 	<ul style="list-style-type: none"> ● DAVID CARPENTER 	<ul style="list-style-type: none"> 7514 	<ul style="list-style-type: none"> ● PERSONNEL MANAGER 	<ul style="list-style-type: none"> 7514

● J E STRONG VICE PRESIDENT SALES MANAGER CHARLES F WARRICK CO 1964 W 11 MILE RD BERKLEY MI 48072	7514 000 170	JAMES FLANNIGAN PRESIDENT RITE INDL MODELS INC 3642 W 11 MILE RD BERKLEY MI 48072	7514 000 169	JOHN J RHOADES JR CHIEF EXEC OFFICER RHOADES MACHINE WORLES INC 2036 W 11 MILE RD BERKLEY MI 48072	7514 000 168
● PERSONNEL DIRECTOR MIDLAND ENGINEERING & MFG CO 2222 11 MILE RD BERKLEY MI 48072	7514 000 167	DAVID CARPENTER GENERAL MANAGER RIC KRAFT MFG CO 3620 BETSY ROSS ROYAL OAK MI 48072	7514 000 445	PERSONNEL MANAGER METAL MASTERS MFG CO 4600 N WOODWARD ROYAL OAK MI 48072	7514 000 442
● PERSONNEL MANAGER MIDLAND ENGRG & MFG CO 2222 11 MILE BERKLEY MI 48072	7514 000 414	R BOYD VICE PRESIDENT INTER-CITY MFG CO 2070 W 11 MILE BERKLEY MI 48072	7514 000 346	J LYONS PRESIDENT ACME TUBE BENDING CO 3180 11 MILE RD BERKLEY MI 48072	7514 000 166
● CONTROLLER CHARLES F WARRICK 1964 W 11 MILE BERKLEY MI 48072	7514 000 032	PERSONNEL MANAGER INNERPARTS AUTOMOTIVE MFG CO 4840 DELEMERE ROYAL OAK MI 48073	7514 000 438	SAM MURPHY PERSONNEL EMTRON CORP 4608 FERNLEE ROYAL OAK MI 48073	7514 000 224
● PERSONNEL B & D THREAD GRINDING CO 4614 FERNLEE ROYAL OAK MI 48073	7514 000 222	FLOYD CARLSON VICE PRESIDENT SALES DAVE RAY & ASSOCIATES 4949 DELEMERE ROYAL OAK MI 48073	7514 000 033	R W WILDS VICE PRESIDENT OLSEN MFG CO 4353 DELLERE ROYAL OAK MI 48073	7514 000 444
● NOBI ITAMI VICE PRESIDENT NEWTON MFG CO 4249 DELEMERE ROYAL OAK MI 48073	7514 000 443	RONALD FOURNIER GENERAL MANAGER KUT-RITE MFG CO 4227 DELEMERE BLVD ROYAL OAK MI 48073	7514 000 440	JIM JONES OWNER JAY KAY TOOL & MFG 4520 FERNLEE ROYAL OAK MI 48073	7514 000 439
● T MC MAHON VICE PRESIDENT STERLING SCALE CO 20950 BOENING SOUTHFIELD MI 48075	7514 000 238	MALCOM ENGLEBY GENERAL MANAGER SOUTHFIELD MACHINE PROTS 19400 W 8 MILE RD SOUTHFIELD MI 48075	7514 000 237	JIM PETERSON GENERAL MANAGER PROGRESSIVE TOOL & INDS CO 21175 TELEGRAPH SOUTHFIELD MI 48075	7514 000 236
● DAVE MCCANDLESS PERSONNEL DIRECTOR CHAPMAN TECHNICAL ASSOCIATES 24681 NORTHWESTERN STE 103 SOUTHFIELD MI 48075	7514 000 123	K P SOGOIAN CHIEF EXECUTIVE OFFICER SOGOIAN MFG CO 21820 W 8 MILE RD SOUTHFIELD MI 48075	7514 000 459	ABE BAIDAS VICE PRESIDENT GENERAL TRAILER MFG INC 19000 W 8 MILE RD SOUTHFIELD MI 48075	7514 000 453
● ALFRED KUEHNE VICE PRESIDENT	7514 000	RICHARD R JAMES PRESIDENT	7514	ROBERT YOUNG PERSONNEL DIRECTOR	7514

● DAVE MCCANDLESS
PERSONNEL DIRECTOR
CHAPMAN TECHNICAL ASSOCIATES
24681 NORTHWESTERN STE 103
SOUTHFIELD MI 48075

● ALFRED KUEHNE
VICE PRESIDENT
FOREMOST MFG CO
21000 W 8 MILE RD
SOUTHFIELD MI 48075

● DON FRASER
MANAGER
UNITED TECHNOLOGIES
24567 NORTHWESTERN
SOUTHFIELD MI 48075

● RUSSELL EASTWOOD
PERSONNEL DIRECTOR
AMP INCORPORATED
30555 SOUTHFIELD RD
SOUTHFIELD MI 48076

● SUPERVISOR
HENKELS & MCCOY
17368 W 12 MILE
SOUTHFIELD MI 48076

● MR SMITKO
PERSONNEL DIRECTOR
CENTRALAB INC
28600 SOUTHFIELD
LATHRUP VILLAGE 48076

● GARY RENKES
PERSONNEL PLACEMENT ADMR
CHRYSLER STERLING STAMPING
35777 VAN DYKE AVE
STERLING HGTS MI 48077

● DEAN R MCHINN
VICE PRESIDENT
EAGLE MFG CORP
6145 WALL ST
STERLING HGTS MI 48077

● R G GRAHAM
GENERAL MANAGER

7514 K P SOGQIAN
000 CHIEF EXECUTIVE OFFICER
123 SOGQIAN MFG CO
21820 W 8 MILE RD
SOUTHFIELD MI 48075

7514 RICHARD R JANES
000 PRESIDENT
452 TROJAN ENERGY TROY DESIGN
17300 W 10 MILE
SOUTHFIELD MI 48075

7514 JERRY BOMHAM
000 J&M ET CETERA
036 21751 W 9 MILE STE 141
SOUTHFIELD MI 48075

7514 RUDY BARRINGTON
000 MANAGER
119 IDEAL INDUSTRIES
29551 GREENFIELD
SOUTHFIELD MI 48076

7514 PERSONNEL
000 COLUMBIA IRON & METAL CO
038 26500 NORTHWESTERN HWY
SOUTHFIELD MI 48076

7514 MIKE VAUGH
000 PERSONNEL DIRECTOR
122 APPLETON ELECTRIC CO
29551 GREENFIELD
SOUTHFIELD MI 48076

7514 RON SAKUTA
000 VICE PRESIDENT
039 SAUTTER MFG CO
6531 16 MILE
STERLING HGTS MI 48077

7514 DAVE KAPRAL
000 PRESIDENT
299 SOLAR COLLECTOR SALES CO
35601 MCUND
STERLING HGTS MI 48077

7514 ELLIE MEEK
000 VICE PRESIDENT

7514 ABE BAIKAS
000 VICE PRESIDENT
459 GENERAL TRAILER MFG INC
19000 W 8 MILE RD
SOUTHFIELD MI 48075

7514 ROBERT YOUNG
000 PERSONNEL DIRECTOR
240 HI-RAM INC
24001 SOUTHFIELD RD
SOUTHFIELD MI 48075

7514 GREGORY R TROMBLEY
000 ENGINEER
035 RAM BROADCASTING OF MICH
24423 SOUTHFIELD RD
SOUTHFIELD MI 48075

7514 MIKE VANUGH
000 PERSONNEL DIRECTOR
115 APPLETON ELECTRIC CO
29551 GREENFIELD RD
SOUTHFIELD MI 48076

7514 JOE STOCHER
000 OWNER
229 COMPONENT ASSOCIATES
17135 W 10 MILE
SOUTHFIELD MI 48076

7514 STEVE R NOHOWELL
000 DISTRICT MANAGER
121 RADIO SHACK-TANDY CORP
PO BOX 227
LATHRUP VILLAGE 48076

7514 GARY GUMURA
000 GENERAL MANAGER
340 OHM C S MFG CO
6640 STERLING DR S
STERLING HGTS MI 48077

7514 BEN M ZAMARRON
000 PERSONNEL DIRECTOR
040 CITY OF STERLING HGT
40555 UTICA RD
STERLING HGTS MI 48078

7514 JOHN GRUBER
000 GENERAL MANAGER

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<ul style="list-style-type: none"> DEAN R MCMINN VICE PRESIDENT EAGLE MFG CORP 6145 WALL ST STERLING HGTS MI 48077 	<ul style="list-style-type: none"> 7514 000 299 	<ul style="list-style-type: none"> DAVE KAPRAL PRESIDENT SOLAR COLLECTOR SALES CO 35601 MOUND STERLING HGTS MI 48077 	<ul style="list-style-type: none"> 7514 000 040 	<ul style="list-style-type: none"> BEN M ZAMARRON PERSONNEL DIRECTOR CITY OF STERLING HGT 40555 UTICA RD STERLING HGTS MI 48078 	<ul style="list-style-type: none"> 7514 000 041
<ul style="list-style-type: none"> R G GRAHAM GENERAL MANAGER WEBER ELECTRIC MFG 22950 W INDL DR ST CLAIR SHORES 48080 	<ul style="list-style-type: none"> 7514 000 298 	<ul style="list-style-type: none"> ELLIE MEEK VICE PRESIDENT FOREST MACHINE MFG 22624 HARPER ST CLAIR SHORES 48080 	<ul style="list-style-type: none"> 7514 000 296 	<ul style="list-style-type: none"> JOHN GRUBER GENERAL MANAGER DE WITT TOOL & MFG CO 20315 9 MILE ST CLAIR SHORES 48080 	<ul style="list-style-type: none"> 7514 000 294
<ul style="list-style-type: none"> GEORGE M SCHENDEL PRESIDENT ROYCE ELECTRIC CO INC 22935 INDUSTRIAL DR E FRASER MI 48080 	<ul style="list-style-type: none"> 7514 000 042 	<ul style="list-style-type: none"> EVERTT SCHULZ VICE PRESIDENT EASON ENGRG MFG CO 26523 LITTLE MACK ST CLAIR SHORES 48081 	<ul style="list-style-type: none"> 7514 000 295 	<ul style="list-style-type: none"> D DONALD VICE PRESIDENT BOURNE MFG CO 25875 JEFFERSON ST CLAIR SHORES 48081 	<ul style="list-style-type: none"> 7514 000 293
<ul style="list-style-type: none"> ALEX E SHANOSKI PRESIDENT QUALITY SYSTEMS CO 29860 HARPER ST CLAIR SHORES 48082 	<ul style="list-style-type: none"> 7514 000 043 	<ul style="list-style-type: none"> JAMES GIBNEY VICE PRESIDENT ROMAR MFG CO INC 23050 IND DR E PO BOX 337 ST CLAIR SHORES 48083 	<ul style="list-style-type: none"> 7514 000 297 	<ul style="list-style-type: none"> DEBBIE OSELETT OFFICE MANAGER WM CHRISTENSEN & CO 391 MINNESOTA TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 046
<ul style="list-style-type: none"> CATHY BROWNSING BR ADMINISTRATIVE MANAGER ADDRESSOGRAPH OF AM INTER 1057 E 14 MILE RD TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 045 	<ul style="list-style-type: none"> CAROLYN C PALMER PERSONNEL MANAGER ELLIS NAEYAERT GENHEIMER 3290 W BIG BEAVER RD TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 044 	<ul style="list-style-type: none"> SUZANNE FARRELL PERSONNEL DIRECTOR PEGASUS DIVISION OF KOEHRING 2890 JOHN R TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 050
<ul style="list-style-type: none"> JOHN A MAXFIELD PERSONNEL ADMINISTRATOR ROCKWELL INTL AUTOMOTIVE 2135 W MAPLE RD TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 049 	<ul style="list-style-type: none"> EMILY A DUNN PERSONNEL ADMINISTRATOR BENDIX ENGINE CONTROL 900 W MAPLE TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 048 	<ul style="list-style-type: none"> JOHN RIERA DIRECTOR BETA INTERNATIONAL INC 444 WEST MAPLE RD TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 047
<ul style="list-style-type: none"> GLORIA HEUSEL PERSONNEL DIRECTOR SIGNALS & SYSTEMS INC 333 PARK TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 139 	<ul style="list-style-type: none"> EDWARD QUAIL PERSONNEL DIRECTOR Q AND H METAL PRODUCTS 2135 HEIDE TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 117 	<ul style="list-style-type: none"> BILL BREEZE OPERATIONS SPECIALIST CHI 755 W BIG BEAVER TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 053
<ul style="list-style-type: none"> LINDA HEAVENRIDGE RETAIL SALES MANAGER RAINBOW COMPUTERS 819 E BIG BEAVER TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 051 	<ul style="list-style-type: none"> P A HERN GENERAL MANAGER ALHERN MARTIN INDL FURNANCE 2155 AUSTIN TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 244 	<ul style="list-style-type: none"> R ROENKE ADMINISTRATIVE MANAGER AM INTERNATIONAL INC 1057 E 14 MILE RD TROY MI 48084 	<ul style="list-style-type: none"> 7514 000 243
<ul style="list-style-type: none"> KATHY MORDELL OFFICE MANAGER 	<ul style="list-style-type: none"> 7514 000 	<ul style="list-style-type: none"> TERRY BROWN PERSONNEL DIRECTOR 	<ul style="list-style-type: none"> 7514 000 	<ul style="list-style-type: none"> DON BERNIER PRESIDENT 	<ul style="list-style-type: none"> 7514 000

● LINDA HEAVENRIDGE
RETAIL SALES MANAGER
RAINBOW COMPUTERS
819 E BIG BEAVER
TROY MI 48084

● KATHY MORDELL
OFFICE MANAGER
NORTHERN WIRE AND CABLE
307 ROBBINS DR
TROY MI 48084

● C H BUSCH JR
VICE PRESIDENT
BUSCH INDUSTRIES INC
1950 STEPHENSON HWY
TROY MI 48084

● ANDREW NOVALLO
ADMINISTRATIVE ASST
KOEHRING PEGASUS DIV
2890 JOHN R RD
TROY MI 48084

● JOSEPH SAKUTA
VICE PRESIDENT
FOURWAY TOOL & DIE INC
239 INDUSCO CT
SOUTHFIELD MI 48084

● T DAVENPORT
PERSONNEL MANAGER
LECTRON PRODUCTS INC
1810 STEPHENSON HWY
TROY MI 48084

● DONALD DEWEY
GENERAL MANAGER
NAGLE IND
1196 SOUTER
TROY MI 48084

● A S HART
PERSONNEL
SIGNALS & SYSTEMS INC
333 PARK ST
TROY MI 48084

● RICHARD MARBREY

7514 P A HERN
000 GENERAL MANAGER
051 ALHERN MARTIN INDL FURNANCE
2155 AUSTIN
TROY MI 48084

7514 TERRY BROWN
000 PERSONNEL DIRECTOR
148 TECHNICAL ASSEMBLY SER CORP
1904 THUNDERBIRD
TROY MI 48084

7514 PAUL S MADILL
000 EXECUTIVE VICE PRESIDENT
247 BERNAL ROTARY SYSTEMS INC
2565 INDL RON
TROY MI 48084

7514 PERSONNEL
000 JOHNSON CONTROLS
252 375 ROBBINS
TROY MI 48084

7514 V LORERO
000 PERSONNEL
249 LORERO ENGR CO INC
2050 STEPHENSON HWY
TROY MI 48084

7514 LEON D JACKSON
000 PERSONNEL
254 LOJ ELECTRONICS INC
1064 NAUGHTON
TROY MI 48084

7514 JOSEPH HUBERT
000 PRESIDENT
259 MODELS & TOOLS INC
1880 E MAPLE
TROY MI 48084

7514 PAUL JACKSON
000 PRESIDENT
264 REXELL INDS INC
1886 LARCHWOOD
TROY MI 48084

7514 C S WAGGONER

7514 R ROENKE
000 ADMINISTRATIVE MANAGER
244 AM INTERNATIONAL INC
1057 E 14 MILE RD
TROY MI 48084

7514 DON BERNIER
000 PRESIDENT
140 COMPUNETICS INC
2500 ROCHESTER
TROY MI 48084

7514 WILLIAM W WOLFE
000 VICE PRESIDENT
246 ARROW TOOL & REAMER CO
711 STEPHENSON HWY
TROY MI 48084

7514 TOM CLEGG
000 GENERAL MANAGER
251 J & I PATTERN CO
1790 LIVERNOIS
TROY MI 48084

7514 C P SPENCER
000 PRESIDENT
256 LIBERTY ENGINEERING
33259 DEQUINDRE
TROY MI 48084

7514 HARRY KIRSH
000 VICE PRESIDENT
253 NOVI DIE & ENGERY CO
1485 TEMPLE CITY DR
TROY MI 48084

7514 GORDON MIDDLEL
000 PRESIDENT
258 MIDDLEL TOOL & MACHINE CO
456 OLIVER ST
TROY MI 48084

7514 A S JACOB
000 VICE PRESIDENT
263 RAM METER INC
1903 BARRETT
TROY MI 48084

7514 E B HUTHWAITE

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7514
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7514
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260

7514
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262

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● A S HART
PERSONNEL
SIGNALS & SYSTEMS INC
333 PARK ST
TROY MI 48084

● RICHARD HARBREY
GENERAL MANAGER
PARKER HANNIFIN
651 ROBBINS DR PO BOX 3500
TROY MI 48084

● R L JOHNSON
VICE PRESIDENT
TUBE PROD DIV ESTAN MFG
250 PARK
TROY MI 48084

● PERSONNEL MANAGER
CAR PAK MFG CO INC
1401 AXTEL
TROY MI 48084

● A C FRIED
VICE PRESIDENT
FEATHER-LITE MFG CO
1210 E MAPLE
TROY MI 48084

● MICHAEL GESCH
VICE PRESIDENT
DOLGORUKOV MFG CO INC
755 W BIG BEAVER RD
TROY MI 48084

● PERSONNEL MANAGER
GENERAL AUTOMATION MFG INC
1200 E MAPLE RD
TROY MI 48084

● PERSONNEL MANAGER
MADISON HGTS MFG INC
975 BADDER ST
TROY MI 48084

● PERSONNEL MANAGER

7514 PAUL JACKSON
000 PRESIDENT
264 REXELL INDS INC
1886 LARCHWOOD
TROY MI 48084

7514 C S WAGGONER
000 EXECUTIVE OFFICE
261 WAGGONER CORP
1400 ROCHESTER RD
TROY MI 48084

7514 S MALTESE
000 GENERAL MANAGER
266 TIME ENERGY DIV GROS-ITE IND
1522 E BIG BEAVER
TROY MI 48084

7514 EDWARD EMMONS
000 VICE PRESIDENT
464 BORITE MFG CORP
1888 THUNDERBIRD
TROY MI 48084

7514 PERSONNEL MANAGER
000 FAIRLANE MFG CO
470 528 ROBBINS
TROY MI 48084

7514 PERSONNEL MANAGER
000 LANE TOOL AND MFG CORP
466 1830 BRINSTON
TROY MI 48084

7514 DEAL FITZPATRICK
000 VICE PRESIDENT
472 FITZPATRICK MFG CO
1122 NAUGHTON
TROY MI 48084

7514 PERSONNEL MANAGER
000 LITTLE MFG CO
477 256 MINNESOTA ST
TROY MI 48084

7514 PERSONNEL MANAGER

7514 A S JACOB
000 VICE PRESIDENT
263 RAM METER INC
1903 BARRETT
TROY MI 48084

7514 W B HUTHWAITE
000 GENERAL MANAGER
268 VSI CORP VSI AUTOMATION
165 PARK
TROY MI 48084

7514 TOM SHERWOOD
000 GENERAL MANAGER
265 CENTRAL STATES HARDWARE MFG
450 PARK
TROY MI 48084

7514 A MALONE
000 PRESIDENT
462 ALL STATE TOOL & MFG
315 INDUSCO
TROY MI 48084

7514 M RICHARDSON
000 GENERAL MANAGER
469 ESTAN MFG CO
250 PARK ST
TROY MI 48084

7514 K LAPINSKI
000 VICE PRESIDENT
474 HANSON PAINTING & MFG CO INC
1695 ROCHESTER RD
TROY MI 48084

7514 PERSONNEL MANAGER
000 MASTERCRAFT LEATHER MFG CO
471 570 EXECUTIVE DR
TROY MI 48084

7514 PERSONNEL MANAGER
000 LEDERS MFG INC
476 629 ELMWOOD
TROY MI 48084

7514 JOHN FOGARTY

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● PERSONNEL MANAGER MADISON HGTS MFG INC 975 BADDER ST TROY MI 48084	7514 000 477	PERSONNEL MANAGER LITTLE MFG CO 256 MINNESOTA ST TROY MI 48084	7514 000 476	PERSONNEL MANAGER LEDERS MFG INC 629 ELMWOOD TROY MI 48084	7514 000 475
● PERSONNEL MANAGER RISON MFG 985 ELMSFORD TROY MI 48084	7514 000 483	PERSONNEL MANAGER R/O MFG CORP 342 MINNESOTA TROY MI 48084	7514 000 482	JOHN FOGARTY VICE PRESIDENT NUDAY CO/SUB DONLEE MFG INC 2291 ELLIOT AVE TROY MI 48084	7514 000 480
● ROBERT CLAPHAM VICE PRESIDENT MCGREGOR MFG CORP 2785 W MAPLE RD TROY MI 48084	7514 000 479	R L JOHNSON VICE PRESIDENT TUBE PROCESSING DIV/ESTAN MG 250 PARK ST TROY MI 48084	7514 000 488	PERSONNEL MANAGER TROYAL MFG CORP 1155 BADDER TROY MI 48084	7514 000 487
● GERALD SMITH VICE PRESIDENT TROY MFG CORP 358 ROBINS DR TROY MI 48084	7514 000 485	JOHN DOWNEY VICE PRESIDENT TRIPLE TOOL & MFG CO 1445 ALLEN DR TROY MI 48084	7514 000 484	STEVEN E REAM PERSONNEL CONTROL RITE INC 40730 MOUND STERLING HGTS MI 48087	7514 000 052
● T BURROUGHS PERSONNEL DIRECTOR AMBUR ELECTRONICS INC 1344 S COMMERCE RD WALLED LK MI 48088	7514 000 142	LOIS CLAUSE MANAGER OF EMPLOYMENT EX-CELL-O CORPORATION PO BOX 700 WALLED LK MI 48088	7514 000 054	PERSONNEL MANAGER TC MFG INC 8250 GOLDIE WALLED LK MI 48088	7514 000 491
● PERSONNEL MANAGER HUGHES MFG INC 1011 DECKER RD WALLED LK MI 48088	7514 000 490	LEE SEISS GENERAL MANAGER EBINGER MFG CO INC LADD & MAPLE WALLED LK MI 48088	7514 000 489	MR SEISS PERSONNEL DIRECTOR EBINGER MANUFACTURERS CO INC 1010 W MAPLE RD WALLED LK MI 48088	7514 000 154
● RON HUMMEL PRESIDENT RIESE TOOL & MFG CO 8453 E 8 MILE WARREN MI 48089	7514 000 310	L F COSTELLO GENERAL MANAGER RING PATTERN & MFG 12901 STEPHENS WARREN MI 48089	7514 000 309	R GAY PERSONNEL MANAGER SOSS MFG CO/CORE INDS INC 21777 HOOVER RD WARREN MI 48089	7514 000 307
● STANLEY PITTS OWNER STURDY PRODUCTS MFG CO 23300 AMBER WARREN MI 48089	7514 000 306	JACK METZGER PRESIDENT J & L MFG CO 23334 SCHOENHERR WARREN MI 48089	7514 000 322	MATT GROSAL OWNER JERRY TOOL & MFG CO 21493 GROESBECK WARREN MI 48089	7514 000 320
● W MISCH	7514	R FRANZEN	7514	JAMES KELLY	7514

● STANLEY PITTS OWNER STURDY PRODUCTS MFG CO 23300 AMBER WARREN MI 48089	7514 000 306	JACK METZGER PRESIDENT J & L MFG CO 23334 SCHOENHERR WARREN MI 48089	7514 000 322	MATT GROSAL OWNER JERRY TOOL & MFG CO 21493 GROESBECK WARREN MI 48089	7514 000 320
● W MISCH PRESIDENT M & W MFG CO 13701 9 MILE WARREN MI 48089	7514 000 316	R FRANZEN GENERAL MANAGER MOTOR CITY MFG INC 21221 HOOVER WARREN MI 48089	7514 000 314	JAMES KELLY GENERAL MANAGER FAIRCLOTH MFG INC 25161 EASY WARREN MI 48089	7514 000 330
● D W HINES OWNER HINES MFG CO 21887 SCHOENHERR WARREN MI 48089	7514 000 326	HAROLD JARVIS PERSONNEL MANAGER HOFLEY MFG CO 22534 GROESBECK WARREN MI 48089	7514 000 325	RUDOLF ESCHBACH PRESIDENT IROQUOIS DIE & MFG 24430 HOOVER WARREN MI 48089	7514 000 324
● JOSEPH SZACON OWNER AMBER MFG CO 23300 AMBER WARREN MI 48089	7514 000 339	ROBERT BLAKE PRESIDENT CARBIDE SAW MFG 13417 8 MILE WARREN MI 48089	7514 000 335	C PIOTROWSKI VICE PRESIDENT CONDOR MFG INC 11800 E 9 MILE RD WARREN MI 48089	7514 000 334
● L G BURGESS PRESIDENT EQUIPMENT MFG INC 21550 HOOVER WARREN MI 48089	7514 000 332	MIKE TATTAN PERSONNEL DIRECTOR OMICRON ELECTRONICS 8236 STEPHENS WARREN MI 48089	7514 000 137	DAVID G BRONDER GENERAL MANAGER THERMOPLASTICS INC 26488 GROSEBECK HWY WARREN MI 48089	7514 000 057
● BRIDGET POLOWNIAK EMPLOYEE RELATIONS SPEC THE UOYLITE COMPANY 21441 HOOVER RD WARREN MI 48089	7514 000 056	RON RUSSELL EMPLOYMENT MANAGER CADILLAC GAGE COMPANY 25760 GROSEBECK HWY WARREN MI 48089	7514 000 055	JOHN LEMANSKI VICE PRESIDENT TRI-WAY MFG CO 14040 HOVEY WARREN MI 48089	7514 000 304
● HERMAN GOLNICK OWNER TWIN MFG CO 23635 HOOVER WARREN MI 48089	7514 000 303	GERALD KEDZIERSKI PRESIDENT UNIVERSAL MFG CORP 12357 E 8 MILE RD WARREN MI 48089	7514 000 302	FRANK KOSINSKI OWNER WARREN TUBE & MFG 14220 10 MILE WARREN MI 48089	7514 000 301
● MR HYDAK PERSONNEL JONES & LAUGHLIN STEEL CORP 21400 HOUND RD WARREN MI 48090	7514 000 058	BRUCE T HANCOCK PERSONNEL SUPERVISOR CHEVROLET CENTRAL OFFICE 30007 VAN DYKE AVE WARREN MI 48090	7514 000 059	BOB RIVARD PERSONNEL REP GENERAL MOTORS TECHNICAL ENG STAFF NORTH BUILDING WARREN MI 48090	7514 000 060
● LOTTIE KOMSKI PARTNER	7514 000	H MAHENFRIED PERSONNEL MANAGER	7514 000	PERSONNEL MANAGER	7514 000

● MR HYDAK
PERSONNEL
JONES & LAUGHLIN STEEL CORP
21400 MOUND RD
WARREN MI 48090

● LOTTIE KOMSKI
PARTNER
KONSKI TOOL MFG CO
13391 E 9 MILE
WARREN MI 48090

● RICHARD SKRINNER
GENERAL MANAGER
BETA MFG CORP
2333 JOHN B
WARREN MI 48091

● IVIM CORIC
VICE PRESIDENT
C & P MFG INC
22214 SCHOEHERR
WARREN MI 48091

● MICHAEL SAKOTA
HILLMAN MFG CO
3161 E 9 MILE
WARREN MI 48091

● WILLIAM RUSINOW
PRESIDENT
R & D MFG CO
22808 SHERWOOD
WARREN MI 48091

● MARRINA PRYJMA
PERSONNEL DIRECTOR
D AND M ELECTRONIC SALES
30833 HOOVER
WARREN MI 48092

● R J KORRECK
PRESIDENT
KORRECK MFG CO INC
32900 DEQUINDRE
WARREN MI 48092

● R J SCHLITZER

7514 BRUCE T MANCOCK
000 PERSONNEL SUPERVISOR
058 CHEVROLET CENTRAL OFFICE
30007 VAN DYKE AVE
WARREN MI 48090

7514 H WAHNFRIED
000 GENERAL MANAGER
318 TANK TRUCK MFG INC
25150 DEQUINDRE
WARREN MI 48091

7514 JAMES MCKOWN
000 PRESIDENT
337 FETTES MFG CO
3839 10 MILE RD
WARREN MI 48091

7514 JIM MOODY
000 GENERAL MANAGER
336 JALDY MFG CO
2250 MORRISSEY
WARREN MI 48091

7514 WERNER SCHNEIDER
000 OWNER
327 KEIL MFG CO
22506 SHERWOOD
WARREN MI 48091

7514 J P DE LORME
000 VICE PRESIDENT
311 PIONEER ENGR & MFG CO
2500 E 9 MILE
WARREN MI 48091

7514 THOMAS NOVAK
000 PRESIDENT
125 DIGILOG CORPORATION
2840 E 14 MILE RD
WARREN MI 48092

7514 DAVID HUEY
000 OWNER
317 D & C MFG CO
27330 GLOEDE
WARREN MI 48093

7514 MICHAEL WOLF

7514 BOB RIVARD
000 PERSONNEL REP
059 GENERAL MOTORS TECHNICAL
ENG STAFF NORTH BUILDING
WARREN MI 48090

7514 PERSONNEL MANAGER
000 ZOPPI ACCORDIAN MFG CO
305 3123 E 8 MILE
WARREN MI 48091

7514 ANN G EVANS
000 VICE PRESIDENT
329 EVANS MFG INC
4049 OTIS
WARREN MI 48091

7514 A B CRAWFORD
000 PRESIDENT
321 J C MFG CO INC
23900 RYAN
WARREN MI 48091

7514 R BEACH
000 VICE PRESIDENT
319 MILCO MFG CO
2147 E 10 MILE
WARREN MI 48091

7514 RAY ROWELL
000 VICE PRESIDENT
312 PIERCE MFG INC
22228 DEQUINDRE
WARREN MI 48091

7514 JOE AUITO
000 VICE PRESIDENT
061 BAYPORT MFG CO
27365 MOUND
WARREN MI 48092

7514 ROBERT GARTNER
000 PRESIDENT
333 GAR-KO MFG CO
27050 GLOEDE
WARREN MI 48093

7514 JIM TOMAZAK

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● R J KORRECK PRESIDENT KORRECK MFG CO INC 32900 DEQUINDRE WARREN MI 48092	7514 000 317	DAVID HUEY OWNER D & C MFG CO 27330 GLOEDE WARREN MI 48093	7514 000 333	ROBERT GARTNER PRESIDENT GAR-KO MFG CO 27050 GLOEDE WARREN MI 48093	7514 000 328
● R J SCHLITTER OWNER SLITTERS TOOL MFG CO 27450 GLOEDE WARREN MI 48093	7514 000 308	MICHAEL WOLF PRESIDENT HAMILL MFG CO 61166 VAN DYKE WASHINGTON MI 48094	7514 000 341	JIM TOMEZAK VICE PRESIDENT BLOME MFG CO 56150 VAN DYKE WASHINGTON MI 48094	7514 000 342
● LLOYD CRATCH PERSONNEL DIRECTOR ELEC-TRON SALES 4094 LEMONT WATERFORD TWP MI 48095	7514 000 112	PERSONNEL MANAGER SPORTCRAFT MFG & VANS 4160 FOLEY ST WATERFORD MI 48095	7514 000 492	H W PATTON MANAGER ACROMAG INC 30765 WIXOM RD WIXOM MI 48096	7514 000 062
● BRANKO SIVANICH VICE PRESIDENT TROY TOOL & MFG CO 6191 JOHN R RD TROY MI 48098	7514 000 486	PERSONNEL MANAGER PERFECT MFG INC 1170 SOUTER BLVD TROY MI 48099	7514 000 481	KYLE KERBANY PRESIDENT AGGRESSIVE MFG CO 1737 THUNDERBIRD TROY MI 48099	7514 000 460
● K B GREEN VICE PRESIDENT BUSH MFG CO INC 900 ROCHESTER PO BOX 1157 TROY MI 48099	7514 000 463	PERSONNEL MANAGER EVENS THOMPSON MFG CO INC 611 E ELMWOOD TROY MI 48099	7514 000 468	CHARLIE CUTLER PERSONNEL DIRECTOR SARNS INDUSTRIES 6200 JACKSON ANN ARBOR MI 48103	7514 000 601
● MIKE SCARED PERSONNEL DIRECTOR GELMAN INDUSTRIES 600 S WAGNER ANN ARBOR MI 48103	7514 000 600	THERESA HATCH PERSONNEL DIRECTOR ANN ARBOR TERMINALS INC 6175 JACKSON RD ANN ARBOR MI 48103	7514 000 605	KRIS HEINZMAN VICE PRESIDENT FIN ADMIN WINTERHALTER & ASSOC INC 313 N FIRST ST ANN ARBOR MI 48103	7514 000 603
● CINDY BENEDEICT PERSONNEL DIRECTOR RAYCON 77 ENTERPRISE ANN ARBOR MI 48103	7514 000 607	KENT STEWART PERSONNEL DIRECTOR PROCESS MANAGEMENT INC 2035 HAGBACK RD ANN ARBOR MI 48104	7514 000 604	LILLIAN RUSSELL PERSONNEL DIRECTOR APPLIED DYNAMICS INTL INC 3800 STONE SCHOOL RD ANN ARBOR MI 48104	7514 000 606
● BARRY BAKER MANAGER THE DEVILBLISS CO 837 AIRPORT BLVD ANN ARBOR MI 48104	7514 000 063	JIM SHAVER PERSONNEL DIRECTOR MEDICAL DATA SYSTEMS 2311 GREEN RD ANN ARBOR MI 48105	7514 000 609	KAREN EDKIN PERSONNEL DIRECTOR IRWIN INTERNATIONAL INDUSTRY 2000 GREEN RD ANN ARBOR MI 48105	7514 000 608
● ROBERT ROONEY PERSONNEL DIRECTOR	7514	ASSOCIATE DEAN	7514	PERSONNEL MANAGER	7514

ANN ARBOR MI 48103

● BARRY BAKER MANAGER THE DEVILBLISS CO 837 AIRPORT BLVD ANN ARBOR MI 48104	7514 000 863	JIM SHAVER PERSONNEL DIRECTOR MEDICAL DATA SYSTEMS 2311 GREEN RD ANN ARBOR MI 48105	7514 000 609	KAREN EDKIN PERSONNEL DIRECTOR IRWIN INTERNATIONAL INDUSTRY 2000 GREEN RD ANN ARBOR MI 48105	7514 000 608
● ROBERT ROONEY PERSONNEL REPRESENTATIVE MEDICAL DATA SYSTEMS 2311 GREEN RD ANN ARBOR MI 48105	7514 000 064	ASSOCIATE DEAN WASHTENAW COMMUNITY COLLEGE 4800 E HURON RIVER DR ANN ARBOR MI 48106	7514 000 065	PERSONNEL MANAGER HORST MFG CO 12675 HAGGERTY RD BELLEVILLE MI 48111	7514 000 494
● CARL DUQUET PERSONNEL FAIRLANE MECHANICAL CORP 15350 N COMMERCE DR DEARBORN MI 48120	7514 000 066	RAY BARR PRESIDENT RIVERSIDE MFG INC CORP INC 4800 OAKMAN BLVD DEARBORN MI 48121	7514 000 507	JOE MERRIT SUPERVISOR SALES REP FORD MOTOR CO BODY & ELECT PO BOX 2053 DEARBORN MI 48121	7514 000 067
● ED RITZ SUPERVISOR SALES REP FORD MOTOR CO BODY & ELECT PO BOX 2053 DEARBORN MI 48121	7514 000 068	JERRY MILLER RECRUITER FORD CAR ENGINEERING PO BOX 2053 DEARBORN MI 48121	7514 000 069	ROBERT GROOM GENERAL MANAGER REILLY PLATING CO 17760 CLARANN PO BOX 3213 MELVINDALE MI 48122	7514 000 591
● MARGARET CAMPBELL VICE PRESIDENT KEAN MFG CORP 2500 S GULLER PO BOX 2038 DEARBORN MI 48123	7514 000 504	RE ERICSON VICE PRESIDENT FIRWOOD MFG CO INC 23915 KEAN PO BOX 2407 DEARBORN MI 48123	7514 000 502	PERSONNEL MANAGER AMERICAN AIRCRAFT PARTS MFG 25331 TROWBRIDGE DEARBORN MI 48124	7514 000 499
● THOMAS PUSTELL EXEC VICE PRESIDENT P & M TOOL & MFG CO 13121 PROSPECT DEARBORN MI 48126	7514 000 506	MICHAEL GOBISH VICE PRESIDENT NATIONAL MFG CO 4200 MILLER RD DEARBORN MI 48126	7514 000 505	PERSONNEL MANAGER JAN OVERHEAD DOOR MFG CO 14351 W WARREN DEARBORN MI 48126	7514 000 503
● GERALD MCGILL VICE PRESIDENT EPPINGER LOU J MFG CO INC 6340 SCHAEFER DEARBORN MI 48126	7514 000 500	ALEX PETKUS VICE PRESIDENT EXECUTIVE INTERIORS MFG INC 5220 OAKMAN BLVD DEARBORN MI 48126	7514 000 501	PERSONNEL MANAGER ACE WEB TOOL & MFG INC 4400 STECKER DEARBORN MI 48126	7514 000 498
● OLOF ELLSTROM VICE PRESIDENT DEARBORN GAGE CO 32330 FORD RD PO BOX 95 GARDEN CITY MI 48135	7514 000 585	MRS K KUHN VICE PRESIDENT TRONIC WARE CO 32841 PARK LN SHOP 2 GARDEN CITY MI 48135	7514 000 586	EDDIE HARMAN PERSONNEL NC SERVO TECHNOLOGIES 32841 PARK LN GARDEN CITY MI 48135	7514 000 070

7514 JAMES ANDREWS

7514 B J ROJENSKI

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● OLOF ELLSTROM VICE PRESIDENT DEARBORN GAGE CO 32330 FORD RD PO BOX 95 GARDEN CITY MI 48135	7514 000 585	MRS K KUHN VICE PRESIDENT TRONIC WARE CO 32841 PARK LN SHOP 2 GARDEN CITY MI 48135	7514 000 586	EODIE HARMAN PERSONNEL NC SERVO TECHNOLOGIES 32841 PARK LN GARDEN CITY MI 48135	7514 000 070
● POMINIC PERSICHINI PRESIDENT AIR GAGE CO 12752 STARK RD LIVONIA MI 48150	7514 000 587	JAMES ANDREWS GENERAL MANAGER T R N ELECTRONIC MACHINING 31100 INDL RD LIVONIA MI 48150	7514 000 589	B J ROJENSKI VICE PRESIDENT DAYKIN ELECTRIC CORP 11721 LEVAN RD LIVONIA MI 48150	7514 000 588
● D EIDNES VICE PRESIDENT TESTEK INC 12271 GLOBE LIVONIA MI 48150	7514 000 590	JACK TUCKER GENERAL MANAGER HAMILTON AVNET ELECTRONICS 32485 SCHOOLCRAFT LIVONIA MI 48150	7514 000 145	HAZEL OADES PERSONNEL MANAGER R S ELECTRONICS 34443 SCHOOLCRAFT LIVONIA MI 48150	7514 000 149
● FRED DANTZLER PERSONNEL DIRECTOR FUSION ELECTRONICS 34403 GLENDALE LIVONIA MI 48150	7514 000 129	DEBBIE JO COX PERSONNEL DIRECTOR HAMILTON-AVNET ELECTRONICS 32487 SCHOOLCRAFT LIVONIA MI 48150	7514 000 131	GLORIA MARTIN SUPERVISOR RECRUITING FORD MOTOR CO TRANSMISSION 29500 PLYMOUTH RD LIVONIA MI 48150	7514 000 071
● PAUL D DE ROCHE INDUSTRIAL RELATIONS REP FORD MOTOR TRANS & CHASSIS 36200 PLYMOUTH RD LIVONIA MI 48150	7514 000 072	BERRY FOREMAN PERSONNEL ADVANCE ELECTRIC 27500 GRAND RIVER LIVONIA MI 48152	7514 000 073	RONALD NISHON PERSONNEL MANAGER MILFORD FABRICATING COMPANY 19200 GLENDALE DETROIT MI 48154	7514 000 074
● WILLIAM R AUBRY GENERAL MANAGER MONROE CABLEVISION INC 12 E FIRST PO BOX 808 MONROE MI 48161	7514 000 075	JOHN ALLEN PRESIDENT HILLTOP MFG CO 56849 GRAND RIVER NEW HUDSON MI 48165	7514 000 384	JOHN ANGER GENERAL MANAGER ANGER MFG CO 777 E BASELINE NORTHVILLE MI 48167	7514 000 385
● JAMES MCGETTIGAN GENERAL MANAGER WESTERN ELECTRIC CO INC 909 N SHELDON RD PLYMOUTH MI 48170	7514 000 592	JOHN STENCIL MANAGER BURROUGHS CORPORATION 41100 PLYMOUTH RD PLYMOUTH MI 48170	7514 000 076	R M S ZARY OPERATIONS MANAGER FEDERAL MOGUL CORP 8111 MIDDLEBELT RD ROCHESTER MI 48174	7514 000 221
● DAVID SQUIRES PERSONNEL DIRECTOR SENSORS INC 6812 S STATE SALINE MI 48176	7514 000 602	R YENSON GENERAL MANAGER ASHERS MFG CO INC 12400 DOANE RD SOUTH LYON MI 48178	7514 000 448	DUANE EDWARDS PRESIDENT DANICE MFG CO 201 HILL ST SOUTH LYON MI 48178	7514 000 449

● JAMES MCGETTIGAN GENERAL MANAGER WESTERN ELECTRIC CO INC 909 N SHELDON RD PLYMOUTH MI 48170	7514 000 592	JOHN STENCIL MANAGER BURROUGHS CORPORATION 41100 PLYMOUTH RD PLYMOUTH MI 48170	7514 000 076	R M S ZARY OPERATIONS MANAGER FEDERAL MOGUL CORP 8111 MIDDLEBELT RD ROCHESTER MI 48174	7514 000 221
● DAVID SQUIRES PERSONNEL DIRECTOR SENSORS INC 6812 S STATE SALINE MI 48176	7514 000 602	R YENSON GENERAL MANAGER ASHERS MFG CO INC 12400 DOANE RD SOUTH LYON MI 48178	7514 000 448	DUANE EDWARDS PRESIDENT DANICE MFG CO 201 HILL ST SOUTH LYON MI 48178	7514 000 449
● FRED MILITZ GENERAL MANAGER INTERLOCK TERMINAL CORP 1750 MARIE WESTLAND MI 48185	7514 000 597	JACK BEAUCHAMP CH EXEC OFC ELECTRO TECH INC 1313 NEWBURNHGH RD WESTLAND MI 48185	7514 000 596	R L BEAUCHAMP PRESIDENT CIRCUITS & DEVICES CO 36222 GLENWOOD WESTLAND MI 48185	7514 000 595
● MIKE MIJAL PERSONNEL DIRECTOR WESTLAND ELECTRONICS 37387 FORD RD WESTLAND MI 48185	7514 000 153	MIKE MIJAI PERSONNEL DIRECTOR WESTLAND ELECTRONICS 37387 FORD RD WESTLAND MI 48185	7514 000 141	PERSONNEL MANAGER PACER MFG CO 8600 RONDA DR CANTON MI 48187	7514 000 497
● DAVID J MOELLERING GENERAL MANAGER MOELLER MFG CO INC 47725 E MICHIGAN CANTON MI 48188	7514 000 496	PERSONNEL MANAGER CYB TOOL & DIE MFG INC 42056 MICHIGAN AVE CANTON MI 48188	7514 000 495	C L CALDWELL BASF WYANDOTTE 1609 BIDDLE WYANDOTTE MI 48192	7514 000 002
● JOHN WATROBA VICE PRESIDENT TRITON ENGRG & MFG CO 1000 TRITON ST PO BOX 199 WYANDOTTE MI 48192	7514 000 599	MARIO CONFLITTI VICE PRESIDENT PARK INDS INC 4661 13TH ST WYANDOTTE MI 48192	7514 000 598	BARRY BAYER BRANCH MANAGER R S ELECTRONICS 3450 BIDDLE WYANDOTTE MI 48192	7514 000 151
● G KRUGER GENERAL MANAGER CARBIDEX CROP 1 CARBIDEX RD PO BOX C SOUTHGATE MI 48195	7514 000 594	BRUCE SHULL EMPLOYMENT MANAGER CHRYSLER CORP ENG-PURCH 12800 OAKLAND AVE HIGHLAND PK MI 48201	7514 000 077	W KALEM PRESIDENT KALEM MFG CO 28 E COLUMBIA AVE DETROIT MI 48201	7514 000 551
● JOHN R KING MAUL MFG CO PRESIDENT DETROIT MI 48201	7514 000 564	NORMAN SHULEVITZ PRESIDENT DETROIT OVERALL MFG CO 411 PIQUETTE DETROIT MI 48202	7514 000 521	ALAN BARRY VICE PRESIDENT BRASS CRAFT MFG CO ADMIN OFC 700 FISHER BLDG DETROIT MI 48202	7514 000 516
● JOHN NELSON	7514	MICHAEL T ZAMERICKI	7514	JOHN LOVINO	7514

● JOHN R KING MAUL MFG CO PRESIDENT DETROIT MI 48201	7514 000 564	NORMAN SHULEVITZ PRESIDENT DETROIT OVERALL MFG CO 411 PIQUETTE DETROIT MI 48202	7514 000 521	ALAN BARRY VICE PRESIDENT BRASS CRAFT MFG CO ADMIN OFC 700 FISHER BLDG DETROIT MI 48202	7514 000 516
● JOHN NELSON VICE PRESIDENT BARTLETT MFG CO 3003 E GRAND BLVD DETROIT MI 48202	7514 000 512	MICHAEL T ZAMBRICKI EMPLOYMENT DIRECTOR HENRY FORD HOSPITAL EMPLOY 2808 W GRAND BLVD DETROIT MI 48202	7514 000 078	JOHN LOVIO GENERAL MANAGER LAPEER MFG CO 420 FISHER BLDG DETROIT MI 48202	7514 000 558
● LEON BAUM OWNER BAUM MFG CO 16428 12TH ST DETROIT MI 48203	7514 000 513	PAM CURRY PERSONNEL ANALYST DETROIT OSTEOPATHIC HOSPITAL 12523 THIRD AVE HIGHLAND PK MI 48203	7514 000 079	J A GREEN PRESIDENT MILTON MFG CO 301 E GRIXDALE DETROIT MI 48203	7514 000 571
● RICHARD BROCKLEBANK VICE PRESIDENT CHAUSSE MFG CO INC 8100 JOY RD DETROIT MI 48204	7514 000 519	LORRAINE WELSH VICE PRESIDENT NORVATH TOOL AND MFG INC 10210 PLYMOUTH RD DETROIT MI 48204	7514 000 544	ROBERT MCGRAW GENERAL MANAGER DETROIT HINGE MFG CO 11300 E 8 MILE RD DETROIT MI 48205	7514 000 520
● DONALD BALDWIN PERSONNEL DIRECTOR 2000 SECOND AVE DETROIT MI 48205	7514 000 161	W PIZZUTI VICE PRESIDENT -INLAND TOOL AND MFG INC 20263 HOOVER DETROIT MI 48205	7514 000 550	ERIC ARNDT VICE PRESIDENT KUBISCH SAUSAGE MFG CO 12727 E MCNICHOLS DETROIT MI 48205	7514 000 559
● S D FERRANTE VICE PRESIDENT FERRANTE MFG CO 6626 GRATIOT DETROIT MI 48207	7514 000 529	H V NELSON VICE PRESIDENT FERRO MFG CO 1367 FRANKLIN DETROIT MI 48207	7514 000 530	EDWARD TOLLAFIELD VICE PRESIDENT DONGAN ELECTRIC MFG CO 2987 FRANKLIN ST DETROIT MI 48207	7514 000 522
● R KUHLWEIN GENERAL MANAGER CAPITOL MFG CO DV HALSCO 250 DUBOIS DETROIT MI 48207	7514 000 518	GERALD PESCI GENERAL MANAGER GENERAL PLATING INC 6547 ST PAUL DETROIT MI 48207	7514 000 536	H G FAUKENER VICE PRESIDENT HUCK MFG CO 2500 BELLEVUE DETROIT MI 48207	7514 000 546
● B MCVEIGH VICE PRESIDENT LILLIBRIDGE MFG INC 6911 E LAFAYETTE DETROIT MI 48207	7514 000 560	LEON MCKISSACK JR PRESIDENT MID CITY MFG INC 1095 BEAUFAIT ST DETROIT MI 48207	7514 000 570	P M CONWAY VICE PRESIDENT NATIONAL BRONZE MFG 3558 GARFIELD DETROIT MI 48207	7514 000 573
● C ROKITA	7514	R ANDERSON	7514	M T KAYE	7514

● R KUHLWEIN
GENERAL MANAGER
CAPITOL MFG CO DV HALSCO
250 DUBOIS
DETROIT MI 48207

7514 GERALD PESCI
000 GENERAL MANAGER
518 GENERAL PLATING INC
6547 ST PAUL
DETROIT MI 48207

7514 H G FAUKNER
000 VICE PRESIDENT
536 HUCK MFG CO
2500 BELLEVUE
DETROIT MI 48207

7514
000
546

● B MCVEIGH
VICE PRESIDENT
LILLIBRIDGE MFG INC
6911 E LAFAYETTE
DETROIT MI 48207

7514 LEON MCKISSACK JR
000 PRESIDENT
560 MID CITY MFG INC
1095 BEAUFAIT ST
DETROIT MI 48207

7514 P M CONWAY
000 VICE PRESIDENT
570 NATIONAL BRONZE MFG
3558 GARFIELD
DETROIT MI 48207

7514
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573

● C ROKITA
PRESIDENT
MILL BROS MFG CO
3418 MCDOUGALL
DETROIT MI 48207

7514 R ANDERSON
000 PRESIDENT
584 HOSKIN MFG CO/ARMADA CORP
4445 LAWTON
DETROIT MI 48208

7514 M T KAYE
000 PRESIDENT
545 KAYE TOOL & MFG CO
5257 TRUMBULL
DETROIT MI 48208

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● STUART RODGER
EXEC VICE PRESIDENT
FORMAX MFG CORP
3171 BELLEVUE AVE
DETROIT MI 48209

7514 ROSE MC KINNEY
000 EMPLOYEE RELATION
533 PEERLESS CEMENT CO
9333 DEARBORN ST
DETROIT MI 48209

7514 TOM CLAYTON
000 ADMINISTRATOR PERSONNEL
080 FISHER BODY DIVISION GMC
6307 FORT ST
DETROIT MI 48209

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● C H HIGGINS
JR PRESIDENT
H AND H TUBE AND MFG CO
263 N FORMAN
DETROIT MI 48209

7514 ROBERT H BAKERWELL
000 GENERAL MANAGER
543 LELAND DETROIT MFG CO
5945 MARTIN/PO BOX 10039
DETROIT MI 48210

7514 K LIPSHAW
000 PRESIDENT
559 LIPSHAW MFG CORP
7446 CENTRAL
DETROIT MI 48210

7514
000
561

● H B GALE
CH EXEC OFC
MICHIGAN BRUSH MFG CO INC
7411 CENTRAL AVE
DETROIT MI 48210

7514 D D FELSKE
000 GENERAL MANAGER
568 GENERAL FLEXIBLE PWR PRESS
6430 FARNSWORTH AVE
DETROIT MI 48211

7514 DON FRASER
000 MANAGER
535 UNITED TECHNOLOGIES
10650 GALAXIE
ROYAL OAK MI 48211

7514
000
082

● CARL HUTCHINSON
PRESIDENT
HUTCH MFG CO/BLOG PRDTS MFG
3690 DUNN RD
DETROIT MI 48211

7514 L MAHONEY
000 GENERAL MANAGER
547 AUTOMATIC TOOL & CAM MFG CO
7203 E DAVISON
DETROIT MI 48212

7514 FEN WATKINS
000 OWNER
511 INDUSTRIAL PLASTICS & MFG CO
6808 E DAVISON
DETROIT MI 48212

7514
000
549

● C SHATTUCK
OWNER
INDUSTRIAL MFG & TOOL CO
6860 E DAVISON
DETROIT MI 48212

7514 JOE KROT
000 VICE PRESIDENT
548 KOSKINEN MFG CO
5090 EDWIN
DETROIT MI 48212

7514 D P HEARNS
000 VICE PRESIDENT
554 NATIONA LEVEL MFG CO
7207 E MCNICHOLS
DETROIT MI 48212

7514
000
574

● CHARLES FITZSIMONS
PRESIDENT

7514 E TITO

7514 JOE MAZZARA

7514

● C SHATTUCK
OWNER
INDUSTRIAL MFG & TOOL CO
6860 E DAVISON
DETROIT MI 48212

7514
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548 JOE KROT
VICE PRESIDENT
KOSKINEN MFG CO
5090 EDWIN
DETROIT MI 48212

7514
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554 D P HEARNS
VICE PRESIDENT
NATIONA LEVEL MFG CO
7207 E MCNICHOLS
DETROIT MI 48212

7514
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574

● CHARLES FITZSIMONS
PRESIDENT
ELECTROLESS PLATING CO
2531 CONNER RD
DETROIT MI 48213

7514
000
526 E TITO
PRESIDENT
BELMONT MFG CO
6671 FRENCH
DETROIT MI 48213

7514
000
514 JOE MAZZARA
GENERAL MANAGER
MAZZARA CHEESE MFG
11220 HARPER
DETROIT MI 48213

7514
000
565

● DONALD GRIFFIN
VICE PRESIDENT
MICHIGAN PRECISION MFG CORP
8790 GRINNEL
DETROIT MI 48213

7514
000
569 PERSONNEL MANAGER
CAL CHEMICAL & MFG
1003 BALDWIN
DETROIT MI 48214

7514
000
517 PAUL LAMBERT
GENERAL MANAGER
READY POWER CO
11231 FREUD ST
DETROIT MI 48214

7514
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581

● R B HOSTETTER
VICE PRESIDENT
DRIVE ALL MFG CO
3400 CONNER
DETROIT MI 48215

7514
000
523 J D NOLAN
SALARY ADMINISTRATOR
CHRYSLER CORP JEFFERSON
12200 E JEFFERSON AVE
DETROIT MI 48215

7514
000
083 C DOLE BEATTIE
ASST GENERAL MANAGER
METALLIC MFG CO INC
2800 17TH ST
DETROIT MI 48216

7514
000
567

● E J RADER
SUPERVISOR
MARATHON OIL COMPANY
1300 S FORT ST
DETROIT MI 48217

7514
000
084 JERRY DYER
GENERAL MANAGER
RAUBAR MFG CO
12840 TRACTOR
DETROIT MI 48217

7514
000
580 CONTRACTS ADMINISTRATOR
SYSTEMS TECHNOLOGY CORP
18845 W MCNICHOLS
DETROIT MI 48219

7514
000
085

● EDWARD SCHULTZ
PRESIDENT
S & S MFG CO
1481 WURDSWORTH
FERNDAL MI 48220

7514
000
380 PERSONNEL MANAGER
SIRUS MFG CO
2305 GOODRICH
FERNDAL MI 48220

7514
000
412 C L BRICKER
OWNER
LANDIS MFG CO
2035 HILTON
FERNDAL MI 48220

7514
000
376

● R J SCHMITT
VICE PRESIDENT
PROGRESSIVE METAL MFG CO
1300 CHAMNING
FERNDAL MI 48220

7514
000
377 B SANDERS
GENERAL MANAGER
REDMAN MFG
1921 HILTON
FERNDAL MI 48220

7514
000
378 KATHLEEN LEY
VICE PRESIDENT
RIVERDALE MFG
2355 WALCOTT AVE
FERNDAL MI 48220

7514
000
379

● T ZINK
VICE PRESIDENT
CONN MFG CO
1300 WOODWARD HTS BLVD
FERNDAL MI 48220

7514
000
372 FRED COXEN
VICE PRESIDENT
EXCELDA MFG CO INC
181 W MARSHALL
FERNDAL MI 48220

7514
000
373 RONALD SCAFONE
GENERAL MANAGER
FLYNN MFG CO
1561 E 8 MILE RD
FERNDAL MI 48220

7514
000
374

● R J SCHMITT
VICE PRESIDENT
PROGRESSIVE METAL MFG CO
1300 CHANNING
FERNDAL MI 48220

● T ZINK
VICE PRESIDENT
CONN MFG CO
1300 WOODWARD HTS BLVD
FERNDAL MI 48220

● W W TUCKER
VICE PRESIDENT
GROVES MFG CO
1341 WANDA
FERNDAL MI 48220

● FRED BELTZ
VICE PRESIDENT
SEELCO INDS INC
10560 GALAXIE
FERNDAL MI 48220

● KATHY GRANT
OFFICE MANAGER
HILLTRONICS INC
380 HILTON
FERNDAL MI 48220

● MADE HCGEE
FOREMAN
AA GAGE DIVISION US IND
350 FAIR ST
FERNDAL MI 48220

● ARDES WAIT
PERSONNEL
SNELLING & SNELLING
5020 NORTHWEST DR
E LANSING MI 48223

● J E HERROLD
EXEC VICE PRESIDENT
PIVOT MFG CO
12685 STOUT AVE
DROIT MI 48223

7514 B SANDEKS
000 GENERAL MANAGER
377 REDMAN MFG
1921 HILTON
FERNDAL MI 48220

7514 FRED COXEN
000 VICE PRESIDENT
372 EXCELDA MFG CO INC
181 W MARSHALL
FERNDAL MI 48220

7514 JOHN L KROHA
000 PERSONNEL
375 FLEXON INC
2877 HILTON
FERNDAL MI 48220

7514 DON CARLSON
000 VICE PRESIDENT
202 ACME MFG CO
1400 E 9 MILE RD
FERNDAL MI 48220

7514 MR MILLS
000 PERSONNEL DIRECTOR
132 MIDWAY ELECTRONIC SUPPLY
990 W 8 MILE RD
FERNDAL MI 48220

7514 LEN NAKISHER
000 VICE PRESIDENT
086 KURTIS MFG & DISTR INC
20433 LIVERNOIS
DETROIT MI 48221

7514 JERRY GIBBONS
000 VICE PRESIDENT
088 JC GIBBONS MFG CO INC
12715 BRAILLE
DETROIT MI 48223

7514 F KUCZAJDA
000 PRESIDENT
578 FAYRICK MFG INC
1701 DAVID WHITNEY BLDG
DETROIT MI 48226

7514 KATHLEEN LEY
000 VICE PRESIDENT
378 RIVERDALE MFG
2355 WALCOTT AVE
FERNDAL MI 48220

7514 RONALD SCAFONE
000 GENERAL MANAGER
373 FLYNN MFG CO
1501 E 8 MILE RD
FERNDAL MI 48220

7514 C E WILKINSON
000 VICE PRESIDENT
200 MIDWEST REFRIGERATION CO
460 HILTON
FERNDAL MI 48220

7514 SANDY
000 PERSONNEL DIRECTOR
371 PARLIN INDUSTRIES
2305 GOODRICH
FERNDAL MI 48220

7514 RICHARD MILLIRON
000 PERSONNEL
135 GURADIAN ELECTRIC COMPANY
831 E LEWISTON
FERNDAL MI 48220

7514 H T LATHROP
000 VICE PRESIDENT
556 ELECTRONIC CONTROL CORP
15341 DALE
DETROIT MI 48223

7514 JOHN STRABEL
000 PRESIDENT
541 KUX MFG CO
12675 BURT RD
DETROIT MI 48223

7514 D FRENKEL
000 VICE PRESIDENT
528 ADVANCE GLOVE MFG
901 W LAFAYETTE
DETROIT MI 48226

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● ARDES WAIT PERSONNEL SNELLING & SNELLING 5020 NORTHWEST DR E LANSING MI 48223	7514 000 088	JERRY GIBBONS VICE PRESIDENT JC GIBBONS MFG CO INC 12715 BRILLE DETROIT MI 48223	7514 000 541	JOHN STRABEL PRESIDENT KUX MFG CO 12675 BURT RD DETROIT MI 48223	7514 000 557
● J E HERROLD EXEC VICE PRESIDENT PIVOT MFG CO 12685 STOUT AVE DTROIT MI 48223	7514 000 578	F KUCAJDA PRESIDENT FAYRICK MFG INC 1701 DAVID WHITNEY BLDG DETROIT MI 48226	7514 000 528	D FRENKEL VICE PRESIDENT ADVANCE GLOVE MFG 901 W LAFAYETTE DETROIT MI 48226	7514 000 508
● MR WOJCIK PERSONNEL DIRECTOR ELECTRONIC PARTS CO 20237 JOHN R DETROIT MI 48226	7514 000 144	CAPTAIN JOHN E FEDYNA OFFICER SELECTION TEAM UNITED STATES MARINE CORP 426 CLINTON ST RM515 DETROIT MI 48226	7514 000 091	JOSE RENDON EMPLOYEE RELATIONS DETROIT EDISON 2000 SECOND AVE DETROIT MI 48226	7514 000 092
● ALICE COOPER AREA MANAGER PEACE CORPS 477 MICHIGAN AVE M74 DETROIT MI 48226	7514 000 093	LARRY MOHF EMPLOYMENT ADMINISTRATOR DETROIT EDISON COLLEGE DIV 2000 SECOND AVE DETROIT MI 48226	7514 000 089	TOM WARTH DIRECTOR OFFICE MANAGEMENT MICHIGAN BELL TELEPHONE CO 444 MICHIGAN AVE RMM50 DETROIT MI 48226	7514 000 090
● M CONNIFF GENERAL MANAGER KAUL GLOVE & MFG CO 1441 BROOKLYN DETROIT MI 48226	7514 000 552	S SCHUMER OWNER MAID RITE GARMENT MFG CO 1301 LAFAYETTE DETROIT MI 48226	7514 000 562	D I BABITCH GENERAL MANAGER MOTIF MFG CO INC 1553 WOODWARD NO 1750 DETROIT MI 48226	7514 000 572
● V J DUCAS GENERAL MANAGER DWIGHT RUBBER & MFG CO 12190 COXLE AVE DETROIT MI 48227	7514 000 524	P L GOLDMAN GENERAL MANAGER GOLDMAN MFG CO INC 13697 ELMIRA DETROIT MI 48227	7514 000 542	M BLAIR PRESIDENT BLAIR MFG CO 18360 FITZPATRICK DETROIT MI 48228	7514 000 515
● BILL HEATHER GENERAL MANAGER AMERICAN MFG INC PO BOX 4441 DETROIT MI 48228	7514 000 510	PRESIDENT NOMAD MFG CO 18320 FITZPATRICK DETROIT MI 48228	7514 000 575	GARY GEORGE PERSONNEL ANAYLST BON SECOURS HOSPITAL 468 CADIEUX GROSSE POINTE MI 48230	7514 000 094
● J R STONESIFER GENERAL MANAGER GENERAL ELECTRIC CO 11177 E 8 MILE PO BOX B 237 DETROIT MI 48232	7514 000 534	DICK HENDRY PERSONNEL REP AMERICAN MOTORS 14250 PLYMOUTH RD DETROIT MI 48232	7514 000 095	B M BALDWIN PERSONNEL DIRECTOR CADILLAC MOTOR CAR DIV GMC 2860 CLARK ST DETROIT MI 48232	7514 000 096
● J ANTOS VICE PRESIDENT	7514 000	D GLEASON VICE PRESIDENT	7514 000	GREG MANCHESTER VICE P. ENI	7514 000

● BILL HEATHER
GENERAL MANAGER
AMERICAN MFG INC
PO BOX 4441
DETROIT MI 48228

7514 PRESIDENT
000 NOMAD MFG CO
510 18320 FITZPATRICK
DETROIT MI 48228

7514 GARY GEORGE
000 PERSONNEL ANALYST
575 BON SECOURS HOSPITAL
468 CADIEUX
GROSSE POINTE MI 48230

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● J R STONESIFER
GENERAL MANAGER
GENERAL ELECTRIC CO
11177 E 8 MILE PO BOX B 237
DETROIT MI 48232

7514 DICK HENDRY
000 PERSONNEL REP
534 AMERICAN MOTORS
14250 PLYMOUTH RD
DETROIT MI 48232

7514 B M BALDWIN
000 PERSONNEL DIRECTOR
095 CADILLAC MOTOR CAR DIV GMC
2860 CLARK ST
DETROIT MI 48232

7514
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096

● J ANTOS
VICE PRESIDENT
FITZSIMONS MFG CO
3775 E OUTER DR
DETROIT MI 48234

7514 D GLEASON
000 VICE PRESIDENT
531 FLEX MFG INC
18115 SHERWOOD
DETROIT MI 48234

7514 GREG MANCHESTER
000 VICE PRESIDENT
532 ELECTRO MECHANICAL PRDTS
20210 SHERWOOD
DETROIT MI 48234

7514
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525

● R ANGERENICZ
PRESIDENT
AERO TONE MFG & SALES
20181 CONANT
DETROIT MI 48234

7514 SANDRA E KING
000 ASSISTANT MANAGER
509 HOLY CROSS HOSPITAL
4777 E OUTER DR
DETROIT MI 48234

7514 PAUL C SCHULTHEISS
000 MANAGER OF ENGINEERING
097 STANLEY VEMCO DIV
5740 E NEVADA
DETROIT MI 48234

7514
000
098

● G B REAUME
GENERAL MANAGER
MEIER SCREW PRDTS & MFG CO
19361 SHERWOOD
DETROIT MI 48234

7514 JAMES KRAUSE
000 PRESIDENT
566 O T M CORP OAKLAND TOOL MFG
19329 SHERWOOD
DETROIT MI 48234

7514 EDWARD RASSEY
000 OWNERS
576 RASSEY MFG
19138 DEQUINDRE
DETROIT MI 48234

7514
000
579

● J LAWLESS
VICE PRESIDENT
STANLEY VEMCO
5740 E NEVADA
DETROIT MI 48234

7514 TIMOTHY RANDOLPH
000 VICE PRESIDENT
583 RANDOLPH TOOL AND MFG
14661 11 MILE RD
OAK PARK MI 48237

7514 DENNIS SHERMAN
000 VICE PRESIDENT
423 MICHIGAN GLOVE MFG CO
13325 CAPITAL ST
OAK PARK MI 48237

7514
000
421

● R ROTH
PRESIDENT
PREMA MFG CO INC
12851 CAPITAL
OAK PARK MI 48237

7514 T CLYMER
000 VICE PRESIDENT
422 CLYMER MFG CO INC
14241 W 11 MILE RD
OAK PARK MI 48237

7514 FELIX JAROSLAWSKI
000 OWNER
417 F & D MFG INC
8705 CAPITAL
OAK PARK MI 48237

7514
000
418

● EDWARD WAHL
EXEC VICE PRESIDENT
G & W TOOL MFG CO
21770 WYOMING
OAK PARK MI 48237

7514 REX R BROWNIE
000 GENERAL MANAGER
419 INTERNATIONAL HARDWARE
21641 MEYERS
OAK PARK MI 48237

7514 W W WOODRUFF
000 GENERAL MANAGER
420 ARROW MFG CO
21650 COOLIDGE
OAK PARK MI 48237

7514
000
415

● EDWARD ELGERT
VICE PRESIDENT

7514 TONY NAWROCKI

7514 IRENE MELCHERT

7514

● R ROTH PRESIDENT PREMA MFG CO INC 12851 CAPITAL OAK PARK MI 48237	7514 000 422	T CLYMER VICE PRESIDENT CLYMER MFG CO INC 14241 W 11 MILE RD OAK PARK MI 48237	7514 000 417	FELIX JAROSLAWSKI OWNER F & D MFG INC 8705 CAPITAL OAK PARK MI 48237	7514 000 418
● EDWARD WAHL EXEC VICE PRESIDENT G & W TOOL MFG CO 21770 WYOMING OAK PARK MI 48237	7514 000 419	REX R BROWNIE GENERAL MANAGER INTERNATIONAL HARDWARE 21641 MEYERS OAK PARK MI 48237	7514 000 420	W W WOODRUFF GENERAL MANAGER ARRON MFG CO 21650 COOLIDGE OAK PARK MI 48237	7514 000 415
● EDWARD ELGERT VICE PRESIDENT CAPITAL DIE AND MFG CO 10150 CAPITAL OAK PARK MI 48237	7514 000 416	TONY NAWROCKI PERSONNEL DIRECTOR NEWARK DETROIT ELECTRONICS 20700 HUBBELL OAK PARK MI 48237	7514 000 136	IRENE MELCHERT PERSONNEL DIRECTOR PLASTIQUES MOLDED PRODUCTS 12751 CAPITAL OAK PARK MI 48237	7514 000 118
● MRS LINDSEY PERSONNEL DIRECTOR ALKAN ELECTRONICS INTERNTNL 13201 CAPITAL OAK PARK MI 48237	7514 000 120	JEFF GREEN RECRUITING COORDINATOR CADILLAC ELECTRIC SUPPLY CO 20700 HUBBELL OAK PARK MI 48237	7514 000 099	LAURA KALUSZKA PERSONNEL DIRECTOR ELECTRICAL MATERIALS INC 12757 CAPITAL OAK PARK MI 48237	7514 000 113
● VICTORIA MARTIN SUPERVISOR DETROIT DIESEL ALLISON DIV 13400 W OUTER DR DETROIT MI 48239	7514 000 100	LARRY PELTIER GENERAL MANAGER PHOENIX MFG INC 12131 WORMER DETROIT MI 48239	7514 000 577	OWNERS STAHL MFG CO 1228 WOODBINE DETROIT MI 48239	7514 000 582
● ROBERT BOYLE GENERAL MANAGER C M P INDS INC 26341 W 8 MILE REDFORD MI 48240	7514 000 593	R VICTOR PRESIDENT MARCAT MFG CO 3896 LONYO DETROIT MI 48270	7514 000 563	IRENE DAMON PLACEMENT SPECIALIST CHRYSLER CORP ENGR DIV 12800 OAKLAND AVE HIGHLAND PK MI 48288	7514 000 101
● SHARON COX VICE PRESIDENT A F C O MFG CORP 428 GOGSHALL HOLLY MI 48442	7514 000 359	VANCE CLUCHANA PRESIDENT ATLANTIC SPECIALTY MFG INC 11333 S DIXIE HWY HOLLY MI 48442	7514 000 360	BEN RAGLAND VICE PRESIDENT MC DANIEL TANK MFG 714 N SAGINAW HOLLY MI 48442	7514 000 361
● AL REAVES EMPLOYMENT SUPERVISOR AC SPARK PLUG DIVISION GM 1300 N DOLT FLINT MI 48556	7514 000 102	FRANK ENGLAND CHIEF RESIDENT ENG SP 6P US CORPS ENG RESG DCPA REG4 FEDERAL CENTER BATTLE CREEK MI 49016	7514 000 103	RONA M MC INDOE CHIEF ENGINEER DANA CORP TECHNICAL CENTER 8000 YANKEE RD OTTAWA LK MI 49267	7514 000 104
● OPERATING MANAGER PUFFS HOME CENTER INC	7514 000	SUZANNE JENSON COLLEGE RELATIONS ADMIN	7514 000	RICHARD GLOGOVSKY ASSISTANT DIRECTOR	7514 000

● SHARON COX
VICE PRESIDENT
A F C O MFG CORP
428 GOGSHALL
HOLLY MI 48442

● AL REAVES
EMPLOYMENT SUPERVISOR
AC SPARK PLUG DIVISION GM
1300 N DOLT
FLINT MI 48556

● OPERATING MANAGER
PUFFS HOME CENTER INC
PO BOX 807
PETOSKEY MI 49770

● GARY NEWMAN
SUPV EMPLOYEE RELATIONS
STANDARD OIL COMPANY
PO BOX 400
NAPERVILLE IL 60566

● Tony Demarco
Vice President
Nicom Inds Inc.
20780 Hugo Avenue
Farmington Hills, MI 46024

END OF REPORT

7514 VANCE CLUCHANA
000 PRESIDENT
359 ATLANTIC SPECIALTY MFG INC
11333 S DIXIE HWY
HOLLY MI 48442

7514 FRANK ENGLAND
000 CHIEF RESIDENT ENG SP GP
102 US CORPS ENG RESG DCPA REG4
FEDERAL CENTER
BATTLE CREEK MI 49016

7514 SUZANNE JENSON
000 COLLEGE RELATIONS ADMIN
105 NORTHROP DEFENSE SYSTEMS DIV
600 HICKS
ROLLING MEADOWS 60008

7514 FRED J MEYER
000 VICE PRESIDENT
107 ROCK ISLAND LINES
332 MICHIGAN AVE
CHICAGO IL 60604

L A Swan Jr.
General Manager
Krueger H R Machine Tool
31506 Grand River P.O. Box 310
Farmington, MI 48024

7514 BEN RAGLAND
000 VICE PRESIDENT
360 MC DANIEL TANK MFG
714 N SAGINAW
HOLLY MI 48442

7514 RONA M MC INDOE
000 CHIEF ENGINEER
103 DANA CORP TECHNICAL CENTER
8000 YANKEE RD
OTTAWA LK MI 49267

7514 RICHARD GLOGOVSKY
000 ASSISTANT DIRECTOR
539 LAKE COUNTY VOCATIONAL CTR
19525 W WASHINGTON ST
GRAYSLAKE IL 60030

7514 ROBERT J HANSEN
000 EMPLOYMENT SUPERVISOR
108 JET PROPULSION LABORATORY
4800 OAK GROVE DR
PASADENA CA 91103

Frank Drayton
President
Triton Products Div.
P. O. Box 511
Farmington, MI 48024

7514
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361

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ASSESSMENT OF NEEDS ASSESSMENTS
FEASIBILITY STUDY

	QAT	LOT	ECMT	VET
1. FACULTY AVAILABLE	M	M	M	M
2. SUPPORT STAFF AVAILABLE	M	M	M	M
3. FACILITIES AVAILABLE	M	M	M	M
4. INTERNAL SUPPORT	P	M	M	M
5. EXTERNAL SUPPORT	P	M	M	M
6. LEGAL RESTRICTIONS	M	M	M	M
7. EXTERNAL FUNDING	M	M	M	M
8. COST/FTE	M	M (M)	M	M
9. CAPITAL AMORTIZATION	I	M (M)	M	M
10. SUPPORT \$/FTE	M	M (M)	M	M
11. FACILITIES COSTS	M	M	M	M
12. CAPITAL INVESTMENT	P	E	E	M
13. SUPPLY COSTS	M	M (M)	M	M
14. PROGRAM DEVELOPMENT COSTS	M	M	M	M
15. PROMOTIONAL COSTS	M	M	M	M
16. INCOME/FTE	M	M (M)	M	M
17. ADDITIONAL REV/FTE	M	M	M	M
18. BREAK-EVEN	M	M	M	M

E=EXPLICIT
P=PARTIAL
I=IMPLICIT
M=MISSING

ASSESSMENT OF NEEDS ASSESSMENTS
PROGRAM NEEDS CRITERIA

	QAT	LOT	ECMT	VET
1. REPLACEMENT EMPLOYEES	M	I	E	E
2. ADDITIONAL EMPLOYEES	E	E	E	E
3. % OPENINGS OAK. COUNTY	P	M	M	P
4. NATIONAL GROWTH TREND	P	P	E	P
5. AVG. STRATING HR. WAGE	E	P	E	E
6. OCCUPATIONAL DESIRABILITY	I	E	I	P
7. ADVANCEMENT OPPORTUNITIES	I	E	P	P
8. OPPORTUNITIES FOR DISADVANTAGED	M	E	M	E
9. LEVEL OF TRAINING REQUIRED	E	I	I	E
10. ADEQUACY OF AVAILABLE TRAINING	I	E	M	P
11. PROGRAM PURPOSE	M	M (M)	E	E
12. SPECIFIC VS. GENERALIZED	I	E	P	P
13. PROF/EMP ACCEPTANCE	E	E	I	I
14. SOCIAL UTILITY	I	M (M)	I	I

E=EXPLICIT
P=PARTIAL
I=IMPLICIT
M=MISSING