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ABSTRACT

Project CAREER is a federally funded program to develop computerized behavioral objectives which will have relevance for career education in the 15 Office of Education occupational clusters for a multi-faceted approach in teaching marketable skills. The computerized data bank will be made available to all Massachusetts school systems. One element of this project is Project CAREER/Handicapped, which is assembling data based on the six major groups identified as handicapped: mentally retarded, blind, emotionally disturbed, hearing impaired, physically impaired, and speech impaired. In examining the approximately 17,000 behavioral objectives validated by Project CAREER, Project CAREER/Handicapped ascertained that every skill could be taught to handicapped students. Use of the data bank is illustrated by the behavioral objective and lesson plan for a particular skill, that of changing oil and oil filter, which represents the occupational cluster identified as transportation and the occupational area demonstrated as automotive, with the occupation using the skill as service station attendant. When handicapped students are regarded as productive persons capable of learning and applying marketable skills, rather than as individual with special needs, the label or grouping of "handicapped" loses its significance and should be eliminated from the educational system. A related document is available as ED 070 824. (MF)

The Commonwealth
of Massachusetts
Department of Education

PROJECT CAREER HANDICAPPED

PRESENTATION OF THE PROJECT CAREER PROCESS

APRIL 27, 1973

Division of Occupational Education

Project CAREER Process As it Relates Particularly to Project CAREER/Handicapped

Council of Exceptional Children's

51st Annual Convention

Dallas Convention Center

Dallas, Texas

April 27, 1973

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Project CAREER

for the Handicapped

I. Introductory Comments

On behalf of the Director of Project CAREER, Vincent P. Lamo, and the entire administrative staff of Project CAREER, I am pleased to present you the principles and mechanics of Project CAREER/Handicapped. Before you can understand though the latter Project, it is necessary for you to comprehend the mission and activities of Project CAREER.

Project CAREER is a three year, 7/1/71 - 6/30/74, federally funded program whose major task is to develop, in a computerized basis, behavioral objectives, in 75-100 occupational areas based on the fifteen USOE occupational clusters, which will have relevance from K-14. The construction and validation of the behavioral objectives has been designed to represent a multi-faceted approach in teaching marketable skills to students. A sample of a completed behavioral objective is noted in Appendix A.

Within the state of Massachusetts, the Division of Occupational Education and its Associate Commissioner, Dr. Charles H. Buzzell functions as the prime architect of Project CAREER. In essence, the entire computerized data bank will be made available to the Commonwealth School Systems, through the Regional Supervisory Staff of the Division of Occupational Education. Dr. Charles H. Buzzell, Project Officer of Project CAREER, designed the Project in a way that the Project's products will be reproduced in a form (computer tape) that will be most feasible for any school system to relate to and benefit from the research and development data.

The Project is divided into three elements, Project CAREER/Development, Project CAREER/Guidance, and Project CAREER/Handicapped. The Guidance and Handicapped Components provide the base project with more options to prove the viability of the Process. Specifically, the parent project, Project CAREER/Development, is the heart and substance of the entire operation, for the behavioral objectives have been generated and will expand in numbers due to the effective design of the Project CAREER Process mechanics. In Appendix B you can note the extent of the facets which characterize the Project CAREER Process. The flow chart reflects the thoroughness and viability of the Project CAREER behavioral objectives.

The Project and all its elements are being piloted in three different educational settings in Massachusetts. These environments are: Springfield Public Schools, Springfield, Massachusetts, urban setting; Milford Public Schools, Milford, Massachusetts, comprehensive setting; Blue Hills Regional Technical High School District and its feeder (sending) School Systems. The rationale for the selection of these settings indicates that upon the completion of the projected period 6/30/74, every type of school system would be able to identify with the methodology and product.

The Project's first year 7/1/71 - 6/30/72, was primarily organized in terms of developing the pilot LEA staffing patterns and the personnel systems of the base project - Project CAREER/Development. The second year 7/1/72 - 6/30/73, was focused mainly on production and storage of the behavioral objective. The third and final year of the project, 7/1/73 - 6/30/74, will represent selected implementation efforts within the three local educational agencies.

II. Relevance of Project CAREER/Handicapped to the Project CAREER Process

As you know, the task of delineating those marketable skills which can be achieved by handicapped students has always been clouded by the assumption that skill development practices are foreign to the potential of handicapped individuals.

The basic philosophy of Project CAREER/Handicapped is that contingent upon the articulation of which skills can in fact be taught to handicapped students, such students can actually become a productive employee, and their handicapped conditions become a memory of the past.

In the examination of the existing data being assembled by Project CAREER, approximately 17,000 behavioral objectives, Project CAREER/Handicapped ascertained that every skill could be taught to one of the groups identified as handicapped. The Project is assembling its data based upon the following six major groups: mentally retarded, blind, emotionally disturbed, hearing impaired, physically impaired, and speech impaired.

The primary reason for the latter discovery is that when one examines marketable skills in microcosm, the specific tasks, resources, and pre-requisite learnings, do not appear to be a formidable obstacle. The Project CAREER approach provides several "validated" (by industrial representatives) options by which the local instructor could teach the specific skill.

Project CAREER/Handicapped has devised a series of 17 different levels of handicapped groups, and within each item identified as a Project CAREER behavioral objective, judgements are made as to determine the feasibility of handicapped students achieving that particular skill. The judgements are made by six teams of renown Special Needs Consultants, who receive assistance in the interpretation of occupational language by industrial representatives.

In conclusion, the base Project provides Project CAREER/Handicapped with the validated behavioral objectives and the adaptation as noted above appears on every single computerized behavioral objective.

III. Usefulness of the Project CAREER Data

Project CAREER/Handicapped is currently in the process of designing simulated experiences within each of the three LEAs to implement the "attainable" skills judged feasible for the handicapped. The settings presently exist in an elementary and junior high environment. There are active plans to conduct broad based implementation activities within three senior high levels of the above three school systems. The skill development focus of Career Development would quickly acknowledge the utility and practicality of the Project CAREER data bank.

IV. Live Demonstration of the Project CAREER Data

Upon completion of this paper, Ms. Patricia Leonard will formally acquaint you with the versatility of the Project CAREER data as to its relevance for the educable mentally retarded.

The particular skill in question is referred to as:

Identification No. 004277

"Changing oil and oil filter."

Ms. Leonard will introduce and highlight the exploratory sequence of teaching this particular skill.

The Project CAREER data bank is being developed as noted above with technical skills which represent the 15 USOE clusters. The specific cluster in question is identified as transportation and the particular occupational area being discussed is automotive. A particular occupation within the family

of automotive skills that is relevant for this lesson is service station attendant. The skill known as I.D. #004277 - changing oil and oil filter is particularly important to the marketability of a service station attendant's competency.

Within the school systems associated with Project CAREER, the above skill is being discussed in career awareness terms at the elementary school, it is further being reviewed at the junior high level in career exploration procedures, and by next year, the students will have actual opportunities to perform the skill in a format prescribed by career development procedures.

The staffing system within the elementary and junior high systems is as follows:

Occupational Resource Specialist

A person who communicates to school administration, industry, home, civic organization.

Master Teacher

Special education teacher who develops the daily "delivery" systems.

Academic Teacher

Communicates to all academic departments the need to assist the master teacher in the design and implementation of the lesson plan format.

Vocational Teacher

Communicates to all vocational departments the need to assist the Master Teacher in the design and implementation of the lesson plan format.

Ms. Leonard will therefore function as a Master Teacher who has had considerable assistance from all her team members. Within Appendix C is a complete lesson plan designed for I.D. #004277. Ms. Leonard with the able aid of the students from the Dallas Public School System, will demonstrate the skill in exploration terms. For your further consideration, the lesson plan format also suggests activities for a career awareness and career development procedure.

V. Concluding Comments

This paper represents an extremely brief description of a dynamic and revolutionary process of identifying the positive strengths of handicapped students. The demonstration process will provide you with a clear

understanding of the usefulness and innovative aspects of such a data bank. It should be noted again, based upon the delineation and successful application of marketable skills, the term handicapped loses its meaning. Project CAREER/Handicapped is actively planning and implementing Project CAREER's data bank in a manner that would enable and assure handicapped students the opportunity to be regarded first and foremost as productive persons rather than continue to be referred to as special needs or handicapped individuals. In essence upon successful mastery of occupational skills the label or categorical grouping loses its value and should be eliminated from the educational system.

Appendix A

Project CAREER 7-Part Behavioral Objective

SUB-GROUP - 170302 ID NO. 004277

[illegible] CAR REQUIRING OIL AND FILTER CHANGE - OIL [illegible] FILTER - LIFT -

[illegible] CHANGE [illegible] OIL FILTER

EXTENT [illegible] AT [illegible] - NO LEAKS - CAR CLEAN

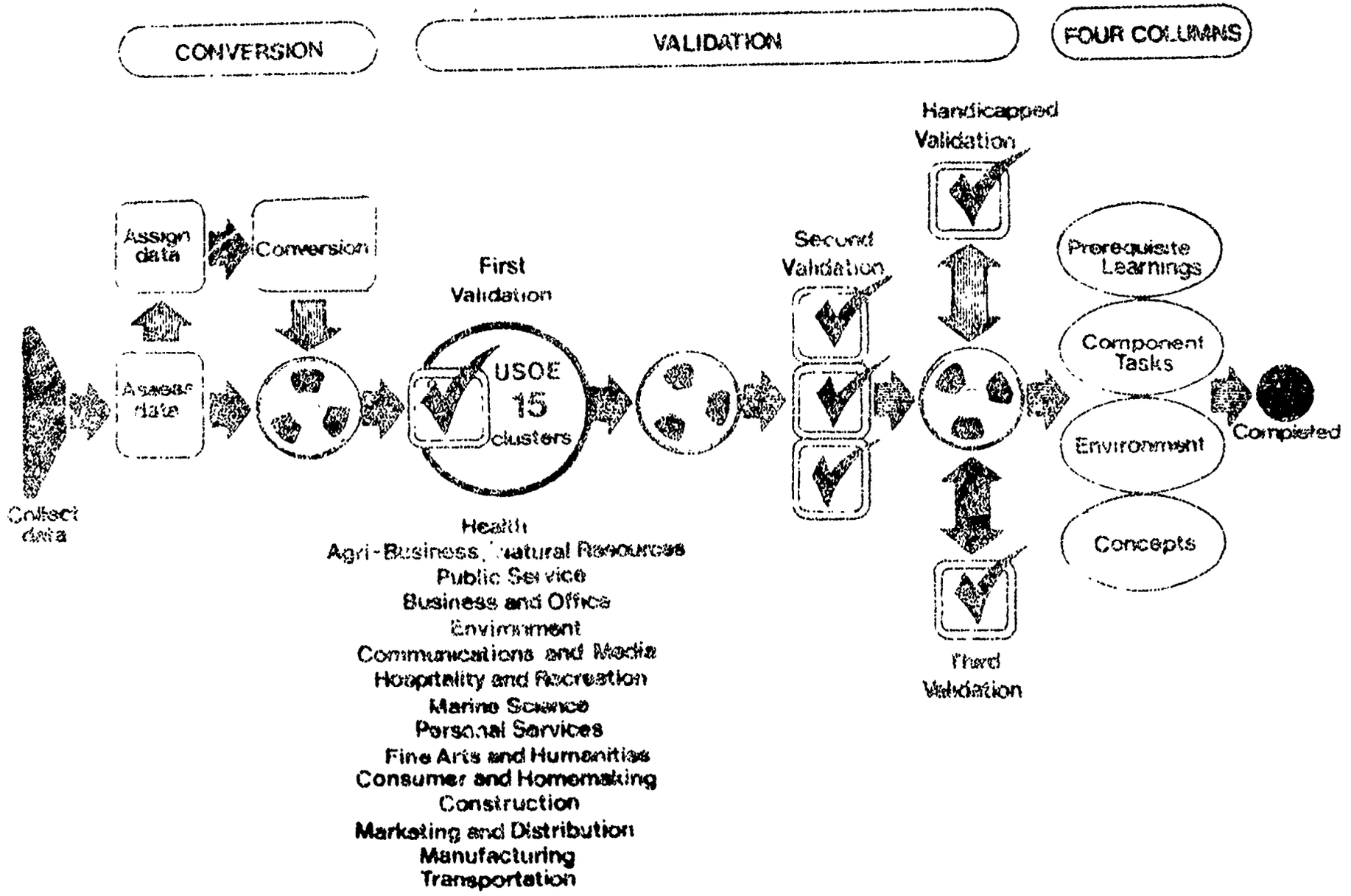
THE CHECKED CATEGORIES (X) HAVE THE ABILITY TO ATTAIN THE ABOVE [illegible]

[illegible] * MENT. RETD. * BLIND * SPEECH IMPAIRED * PHYSICALLY IMPAIRED * EMOT. DIST. *

PREREQUISITE LEARNINGS	COMPONENT TASKS	EQUIPMENT	CONCEPTS
[illegible] TO MEASURE	[illegible]	LIFT	TORQUE
[illegible] LIFTING	[illegible] DRAIN	OIL	[illegible]
	LOCATE AND REMOVE	FILTER	[illegible]
USE OF MANUALS	DRAIN PLUG	HAND TOOLS	
USE OF HAND TOOLS	LOCATE AND REMOVE	RAGS	
	FILTER	DRAIN PAN	
	INSTALL FILTER	FENDER COVER	
	INSTALL DRAIN PLUG		
	LET CAR DOWN		
	FILL CRANKCASE WITH OIL		
	START ENGINE AND CHECK FOR LEAKS		

Appendix B

Project CAREER - Process Chart


CONVERSION
VALIDATION
FOUR COLUMNS
Handicapped Validation
Assign data
Conversion
First Validation
Second Validation
Prerequisite Learnings
Component Tasks
Environment
Concepts
Collect data
Assign data
USOE 15 clusters
Completed
Health
Agri-Business, Natural Resources
Public Service
Business and Office
Environment
Communications and Media
Hospitality and Recreation
Marine Science
Personal Services
Fine Arts and Humanities
Consumer and Homemaking
Construction
Marketing and Distribution
Manufacturing
Transportation
Third Validation

Appendix C

Career Development Lesson Plan

Format for I.D. # 004277

Project CAREER - Career Development Instructional Design

ORS _____
Master Teacher _____
Vocational Teacher _____
Academic Teacher _____

Sample of Instructional Activities Relating to Service Station Occupations (Trans.)	Resources (Equipment and Community Setting)		Interdisciplinary Tea Involvement
A. Awareness			
I. Introduction to basic tools	A1	Automotive hand tools	Special education and
	A1	Visuals	Arts Teacher
II. Study of liquid measurement (quart, gallon)	A2	Quarts and gallon containers	Science and Math Ac
	A2	Charts	Assistants
	A2	Liquids	
III. Demonstrate nature and function of lubricants	A3	Oil, vaseline, grease	Science Academic Ass
	A3	Hinges	
B. Exploratory			
I. Field trip to service station followed by discussion of tasks observed:	B1	Gas Station	Social Studies Assist
	B1	Student Observation Sheets	and Special Education
Lifting automobile			
Locating drain plug			
Removal of drain plug			
Locating oil filter			
Remove and replace oil filter			
Check for leaks			

CAREER - Career Development Instructional Design

LEA School System _____
Individual School _____
For Week of _____
Project CAREER I.D. #004277

	Resources (Equipment and Community Setting)	Interdisciplinary Team Involvement	To Which Part of 7-Part B.O. Strategy Relates
A1	Automotive hand tools	Special education and/or Arts Teacher	Prerequisite Learnings
A1	Visuals		
A2	Quarts and gallon containers	Science and Math Academic Assistants	Prerequisite Learnings
A2	Charts		
A2	Liquids		
A3	Oil, vaseline, grease	Science Academic Asst.	Concept
A3	Hinges		
B1	Gas Station	Social Studies Assistant and Special Education	Prerequisite Learning and Environment
B1	Student Observation Sheets		

B. Exploratory (con'td)

* II. Student exploration of oil and oil filter change	B2	Slide-tape presentation	Special Educatio
	B2	Visual aids	Teacher and Indu
	B3	Jars and covers	Arts Teacher, Sc
	B4	Nuts and bolts	Teacher
	B5	Hand tools	
	B6	Automotive mock-up	

C. Skill Development

I. Selection of proper oil and oil filter for automobile	C1	Career Resource Center - Comprehensive High School On-the-job location Vocational-Technical School	Special Education Academic Teache Vocational Teache
	C1	Oil filter chart	
	C1	Various types of oil	
II. Change oil and oil filter	C2	Career Resource Center - Comprehensive High School On-the-job location Vocational-Technical School	
	C2	See "Environment" on B.O. No. 004277	

* This sequence is expanded in greater detail on the following page.

2	Slide-tape presentation	Special Education Teacher and Industrial Arts Teacher, Science Teacher	Component Tasks
4	Visual aids		
3	Jars and covers		
4	Nuts and bolts		
5	Hand tools		
6	Automotive mock-up		
1	Career Resource Center - Comprehensive High School On-the-job location Vocational-Technical School	Special Education Teacher Academic Teacher Vocational Teacher	Extent
7	Oil filter chart		
3	Various types of oil		
2	Career Resource Center - Comprehensive High School On-the-job location Vocational-Technical School		Extent
2	See "Environment" on B.O. No. 004277		

the following page.

Project CAREER - Career Development Instructional Design

Career Exploration Procedures

Instructional Activities	Resources	Interdisciplinary Team Involvement
1. General discussion of students' awareness of transportation cluster, automotive occupations, and in particular, service station attendant skills.	Students' general instruction sheet	Special Education Te
2. Overview of changing oil and oil filter	Slide tape presentation	Special Education Te I.A. Teacher, Media
3. Introduction of major steps in changing oil and oil filter	Visuals (posters)	Special Education Te I.A. Teacher, Media Math Teacher, Scien
4. Development of manipulative skills	Plastic jars and covers Nuts and bolts Hand tools	Special Education Te Physical Education T Science Teacher
5. Simulation of changing oil and oil filter	Mock up of automobile's drain plug and oil filter	Special Education Te I.A. Teacher

ER - Career Development Instructional Design

Career Exploration Procedures

urces	Interdisciplinary Team Involvement	To Which Part of 7-Part Behavioral Objective Strategy Relates
ents' general instruction sheet	Special Education Teacher	Pre-requisite Learnings
tape presentation	Special Education Teacher, I.A. Teacher, Media Specialist	Component Tasks
ls (posters)	Special Education Teacher, I.A. Teacher, Media Specialist Math Teacher, Science Teacher	Performance, Pre-requisite Concepts
ic jars and covers and bolts tools	Special Education Teacher, Physical Education Teacher Science Teacher	Pre-requisite Learnings
up of automobile's drain and oil filter	Special Education Teacher, I.A. Teacher	Component Tasks

MASTER TEACHER'S PLAN

1. How you plan to integrate the team's comments.

   a. Use slide tape presentation on changing oil and oil filter
   b. Use visual aids suggested by Vocational Education Teacher
   c. Work with science teacher in development of manipulative skills
   d. Work with Vocational Teacher with all aspects of teaching Behavioral Objective # 004277
   e. Work on mimeographed handouts for students

2. Individual strategy to each particular problem students.

   Master teacher has made a determination as to which students need individual help. This assessment is based on pre-test regarding student general knowledge of "changing oil and oil filter" Students requiring more help will be given individual attention. Students who have some ability in this particular skill will help their classmates.

3. Record the methods regarding assessment of student growth.

   Refer to student checklist on understanding of all parts of I.D. #004277. Competency of the skill will be based on the four points in the general instructions for students.

ACADEMIC TEACHER

1. Individual contribution of the Academic Teacher.

   Social Studies Assistant

   A. Planned and assisted with field trip to Randolph Gas Station
   B. Recruited science and math teacher's to aid in teaching students.

   Math Assistant

   A. Worked with students on liquid measurement.

2. Relationship to other Academic departments.

   Science teacher - worked with students in developing manipulative skills planned for future lessons centered around ideas in concept column of behavioral objectives #004277.

3. Specific time allocated to teaching your ideas. (If you cannot teach the students yourself, what provisions are made to insure that your contribution are being followed through?)

   Social studies teacher - five hours, includes time spent for field trip and planning session with math and science teachers.

   Math assistant - 1½ hours, two class lessons on liquid measurement

   Science teacher - 3 hours, two class lessons on manipulative skills (1½hr) planning future lessons (1½ hr)

VOCATIONAL TEACHER

1. Individual contribtuion of the Vocational teacher

   Made automotive mock-up
   Provided tools necessary for teaching behavioral objective #004277
   Explained and demonstrated procedures used in changing oil and oil filter to special education teacher. Also aided in student presentation.

2. Relationship to other vocational departments.

   Worked with media specialist in designing visuals.

3. Specific time allocated to teaching your ideas. (If you cannot teach the students yourself, what provisions are made to insure that your contributions are being followed through?)

   Worked with class for 45 minutes, demonstrated proper use of tools needed in changing oil and oil filter, worked with special education teacher in designing student checklist to insure students are following a logical sequence.

GENERAL INSTRUCTIONS TO STUDENTS

I am Ms Patricia Leonard from Randolph, Massachusetts Today we will work together and learn an automotive skill used in most service stations. This skill is called "Changing oil and oil filter" and is done by person known as a service station attendant.

After learning the important parts of this skill, there will be a checklist which you and I will talk about to see if you understand what we have done.

Someday you may want to become a service station attendant. This skill is very important for you to understand and be able to do.

I. General Discussion

1. What is meant by the word transportation?

2. Discuss the variety of occupations that make up the automotive family.

3. Does anyone know what a service station attendant does?

II. Slides on changing oil and oil filter (25 slides)

1. ☐	6. ☐	11. ☐	16 ☐	21. ☐
2. ☐	7 ☐	12. ☐	17. ☐	22. ☐
3. ☐	8 ☐	13. ☐	18 ☐	23. ☐
4 ☐	9. ☐	14 ☐	19. ☐	24. ☐
5. ☐	10 ☐	15. ☐	20. ☐	25. ☐

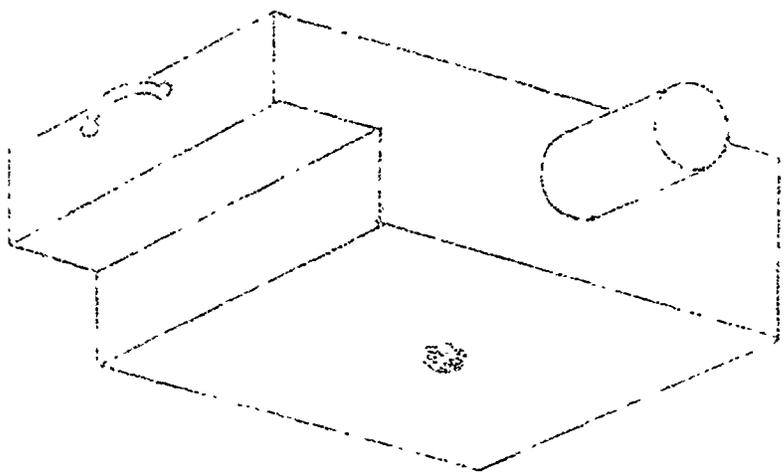
III. Seeing pictures on oil and oil filter

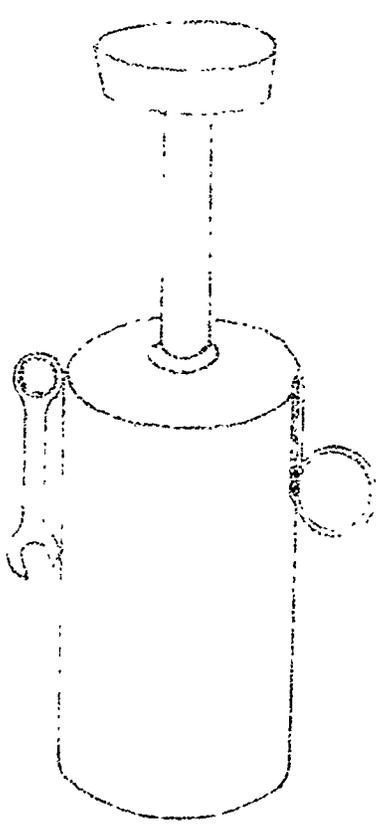
1. lifting a car (list three ways)

2. types of wrenches (list two types)

3. oil drain plug (which wrench is used)

4. oil filter (which wrench is used)





DEMONSTRATION UNIT FOR TEACHING I.D.NO.004277-CHANGING OIL AND OIL FILTER