

Life on the Line

A Week Spent Building Cars Gives an Insight Into Industry's Problems

Production Pace Is Grueling For a Newcomer; Quality Control Is a Big Headache

'Leave Your Brains at Home'

By ROGER RAPOPORT

Staff Reporter of THE WALL STREET JOURNAL

WIXOM, Mich.—The Ford Motor Co. auto assembly line here is an impressive sight. Bare frames are put on a slowly moving conveyor. Wheels, engines, seats, body sections and hundreds of other components are added along the way. At the end of the quarter-mile, 90-minute trip, finished cars are driven off to be inspected and shipped to dealers.

It takes some 275 workers to put the cars together on the Wixom line. To hear a guide at Ford's big River Rouge plant, a popular tourist stop in nearby Dearborn, tell it, life on the line is a snap. "Each worker on an assembly line has one little job to do," he says. "It's simple. Anyone could learn it in two minutes."

That's bunk.

Working on the line is grueling and frustrating, and while it may be repetitive, it's not simple. I learned how tough it can be by working for six days at Ford's Wixom plant, which assembles Thunderbirds and Lincoln Continentals.

I learned first-hand why 250,000 auto workers are unhappy about working conditions. Ford calls Wixom the "most progressive automobile assembly plant on the North American continent." Facilities at the 10-year-old plant here are indeed better than those at many of the 46 other auto assembly plants scattered around the country. Wixom is clean and well-lit by auto industry standards. It boasts adequate rest rooms, plenty of drinking fountains and an air-conditioned cafeteria. Even so, working conditions are less than ideal.

Problems of Quality

I also learned why quality control is a major problem for the industry and why so many Americans complain about poor workmanship in the cars they buy. I saw one blue fender installed on a white car and saw the steering column fall off another newly built car. Wixom's repair area, nearly the size of a football field, usually had a line-up of 500 cars waiting to have steering adjusted, scratches painted, brakes repaired and other faults fixed—but not all defects are caught before cars leave the plant. The four auto companies have recalled from customers more than a million 1967 model cars since last September because of suspected manufacturing defects.

Ford didn't know I was a reporter. Along with a handful of other young men, I was hired as a summer replacement, and to the personnel department I was simply Social Security number 362-44-9616. The foreman on the line knew me as "9616" for short.

Names aren't necessary on the line. The conveyor moves at 1-6 of a mile an hour, and while that may not sound terribly fast, it doesn't leave much time for conversation. Also, the cacophony of bells, whistles, buzzers, hammers, whining pneumatic wrenches and clanking, rumbling machinery drowns out voices, so most communicating is done by arm waving and hand gestures.

Only two of the dozens of men I worked beside at various points on the line ever learned my name, and I knew only the first names of two workmen. One was Clyde, a husky Negro who had been an assembler for about a year. My first day on the job, a foreman assigned Clyde to teach me the ropes at one work station.

Lessons From Clyde

Clyde, a 220-pound six-footer, showed me how to bolt the car body to the chassis in three places. It was fairly easy for me, a 160-pound six-footer. He showed me how to lean inside the trunk, tighten two bolts and make an electrical connection. I managed that task, too. He showed me how to maneuver a big V-8 engine dangling overhead down into a car's engine compartment. By this time, I considered myself fairly versatile.

Then Clyde showed me how to scramble from one car to the next, putting chassis and trunk bolts in the first two cars and helping with the engine in the third—all in less than five minutes. When I tried it, I got stuck in the trunk of one car, missed the chassis bolts on the next and was too late to help install the engine on the third car.

Gradually, I became more proficient. But I didn't last long at any job. As a temporary worker, I was assigned to fill in for absent workmen at five different work stations at various times during my six days on the line. Except for Clyde, the men who showed me the jobs weren't very good teachers. One workman demonstrated the way to attach clamps to heater hoses, but he didn't mention that the clamps have tops and bottoms. A foreman caught my error after I had installed a dozen clamps upside down.

Learning From Experience

Nobody told me to put on steering wheels that match the color of the dashboard—I figured that out myself. But I made some mistakes because nobody warned me that tinted glass makes it difficult to distinguish the color of the dash by looking through the windshield. I installed some blue steering wheels on cars with aqua dashboards and mismatched a black wheel with a gray dashboard.

An experienced worker told me that a color-blind assembler recently installed the wrong color vent plates under the windshield wipers on cars for two hours before a foreman spotted the error and assigned the man to another job.

I wasn't checked for color blindness when I was hired. Rapid turnover and a major expansion at Wixom made getting a job easy, even though the plant was heading for a temporary shutdown to make the annual model change-over. I passed a three-hour physical exam and an 11-minute written test. (Sample questions: "Which of the following doesn't belong? spade, queen, king, ace; oak, maple, leaf, elm.") There was no interview. I was issued a free pair of safety glasses, given a five-minute lecture on safety and plant safety rules, and told to report to work.

Along with some 2,700 other employes on the third work turn, I arrived at the sprawling, suburban Detroit plant shortly after 3 p.m. and

punched the time clock. Most of the men on the line were between 20 and 35 years old. Most wore sport shirts and slacks or green coveralls. About a third were Negroes.

The windowless assembly line area inside the two-story plant reminded me of a tunnel. Down the middle ran the assembly line. Overhead were fluorescent lights and conveyors carrying engines, fenders and other components. Tall racks and bins full of auto parts lined the sides. A narrow slit trench for underbody installations stretched the length of the line.

At 3:30 p.m., the conveyor began moving, and work started on the assembly line. For the next three hours—until a relief man shouted at me to take a 20-minute break while he replaced me—I rarely spoke or was spoken to.

For a while, I concentrated hard to get each job done within the 90 seconds the moving car was in front of my work station without dropping the five-pound pneumatic wrench on my foot. Every third car on the line was a Continental, and required a slight variation from Thunderbird installation procedures.

Nevertheless, each task soon became a mind-deadening routine, and my thoughts turned to everything but cars. ("You just leave your brains at home and work out of habit," one experienced worker later advised me.) Sometimes, after many minutes of bending over and zeroing in on a moving target, I would step back, and the line would appear to be stationary, while everything else seemed to be moving.

Crouch, Stretch, Ache

I'm in fairly good physical shape, but I ached all over after each day's work on the line. At one station, I had to bend down into the engine compartment to bolt on the steering column. To install carpeting, I sat on the door frame with one foot dragging and drilled holes, then stretched out on my side under the instrument panel to fasten the carpet to the floor. Attaching steering wheels meant stretching through the open car window to stick the wheel on the column and bolt it down.

Nobody seemed to take any particular pride in his work. Some workers considered some of the parts shoddy. The kick-pads that I installed under instrument panels, for example, were made of relatively brittle plastic and sometimes broke off during installation. One workman told me that "over 400 of them broke off one month last winter."

One day when I was helping two men bolt steering columns in place, the columns on a dozen cars were mounted improperly by someone up the line, so we couldn't bolt them down and men further down the line couldn't attach the steering wheels. Such chain-reactions often result from a single slip-up, and regularly snarl the precision of the computer-controlled assembly line.

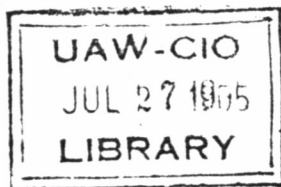
It was Clyde who first told me what to do if I made or discovered a mistake. "Get the next car and don't worry," he said. "They'll catch that one further down the line." When I spotted the white Thunderbird wearing a blue fender, another worker explained: "They'll paint over it in the repair shop. It's easier to catch it there than it is on the line."

Catching Defects

About 10 repairmen stationed at various points along the way catch and fix some minor defects right on the assembly line. But it's up to the 15 or 20 inspectors along the line to check each car thoroughly and route those with improperly installed parts into the plant's 100-man repair shop. One inspector was an inexperienced college student. Some regular inspec-

Book Industry Employees

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Men and Machines

An Assembly-Line Worker Looks at His Job

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. . . How does a man feel when almost everything that makes work intrinsically worth while has been "engineered out" of his job? Some of the answers—and their practical implications for management—emerge from this analysis of a highly meaningful interview with a typical assembly-line operator.

Men and Machines

An Assembly-Line Worker Looks at His Job

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WHEN FUTURE historians get around to appraising our present mid-century industrial era, they will of course note the enormous developments in our technology, and they will note, too, our popular preoccupation with the so-called science of human relations in industry. I should like to comment on this preoccupation and this science, and to suggest some ideas about technology and human relations that have been somewhat neglected.

Just as the designer and engineer drew upon the physical sciences to meet the technical problems of modern production, so today we find the administrator turning to the social sciences to meet the "human" problems of management. Industry is coming to accept the contributions of the psychologist in such a range of activ-

ities as interviewing, testing, counseling, placement, and training—to mention only a few. Consciously or otherwise, it is absorbing many of the findings of the sociologist and anthropologist in its efforts to understand the problems of conflict, group relations, communications, and the structure of organization.

We are constantly seeking to perfect our engineering skills and our human relations skills, but the curious fact is that we *have somehow failed to recognize the interdependence of the two fields*. The Technology Project at Yale is one attempt to meet this challenge.

Our research work and our practical experience in industry have convinced us that a full understanding of the behavior of "men at work"—the dyna-

Adapted from an address at the McGill University Industrial Relations Centre, Montreal. The work on which this paper is based is under the general direction of Charles R. Walker, Director of Research in Technology and Industrial Relations, Yale University.

mics of human relations in industry—cannot be achieved until this behavior is placed in its proper technological perspective. What the engineer does to change the machine environment is as crucially important to human relations as what the administrator, the foreman, the personnel manager, or the shop steward does in the non-technical sphere. In other words, we must know what is happening to machines before we can interpret what is happening to man. It is perfectly proper to interpret labor disputes as struggles for political power, to analyze foreman-worker relations as sociological, wages as economic, and attitudes as psychological phenomena. But let's make sure that we first understand the technological factors that impinge on these other aspects of the total situation.

The Typical Assembly Line

To develop this central theme I should like to describe the effects on workers of a specific technological environment, the automobile assembly line.

A few years back, the Yale Technology Project undertook to study the relationship between technology and human relations in a few industrial plants in the United States, with particular reference to attitudes and behavior of workers in mass-production industries. For years, there has been a great deal of speculation about the effects of highly repetitive and routinized tasks on workers. The British were perhaps the first to begin serious research in this direction. Many years ago, Wyatt and Frazer concerned

themselves with the problems of fatigue and boredom. Elton Mayo, acquainted with the work of the British Medical Research Council, wrote a penetrating little essay called "Monotony." But perhaps the one person who did most to popularize the effects of mass-production work on people was Charlie Chaplin in his film classic, *Modern Times*.

Of all occupations in modern industry none has aroused such controversial comment as has that of the assembly worker, and especially the auto assembly worker on the "final line." The extraordinary ingenuity that has gone into the construction of automobile assembly lines, their perfected synchronization, the "all but human" or "more than human" character of the machines, the miracle of a car rolling off the conveyor each minute under its own power—all this has caught and held the world's imagination for a quarter of a century. On the other hand, the extreme subdivision of labor (the man who puts a nut on a bolt is the symbol) conjoined with the "endlessly moving belt" has made the assembly line the classic symbol of the subjection of man to the machine in our industrial age.

General Characteristics of the Mass-Production Method

But before considering man in relation to the machine, it would be advisable to define the general characteristics of the mass-production method.

Utilizing the two basic principles of standardization and interchangeability, Ford was able to work out and

apply the three following additional "principles" of progressive manufacture:

1. The orderly progression of the product through the shop in a series of planned operations so arranged that the right part always arrives at the right place at the right time.
2. The mechanical delivery of these parts to the operators and the mechanical delivery of the product from the operators, as it is assembled.
3. A breakdown of operations into their simple constituent motions.

The Mass-Production Job

Let us now look at these familiar principles or techniques as they are translated into the work experience of individual men and women in mass-production factories. The characteristics of the average mass-production job may be summarized in the following manner:

1. Mechanical pacing of work.
2. Repetitiveness.
3. Minimum skill requirement.
4. Predetermination in the use of tools and techniques.
5. Minute subdivision of product worked on.
6. Surface mental attention.

For the engineer, all the above characteristics are brought into focus in what is known as the *job cycle*. Each worker must perform a prescribed number of operations within a set time limit, and, in the case of

those working on moving conveyors, within a given distance along the assembly line.

HOW A TYPICAL ASSEMBLY-LINE WORKER FEELS

With these characteristics in mind, let us go right to a man on the assembly line and see how they affect him; but instead of a statistical summary of the findings from interviews with over 400 assembly-line workers in two plants, excerpts from a single interview will be given here and commented upon insofar as they hold true for the total sample.

The worker whose actual words are quoted below is, like many others, a graduate of a public vocational school in the United States. He is 36 years old and married; he has a couple of children, is buying his own home, and "takes home" just under \$80 a week. Here, he is talking to me in his home:

In 1940 I heard that they were hiring people for the assembly plant. Must have been thousands of fellows lined up for the job. The word got around that they were paying real good money. It was a big outfit, too. No fly-by-night affair.

Figured I'd get any job and then, with a little electrician experience I had in vocational school, I could work my way up to a good job. And the idea of making automobiles sounded like something. Lucky for me, I got a job and was made a spot welder on the front cowling. There wasn't much to the job itself. Picked it up in about a week. Later I was drafted into the Army, and then in 1946 I came back. I tried to get into the Maintenance Department as an electrician, but there was no opening, so I went back to the line—we call

in the iron horse. They made me a welder again, and that's what I have been doing ever since.

What His Job Is Like

The worker then went on to describe his job:

My job is to weld the cowl to the metal underbody. I take a jig off the bench, put it in place and weld the parts together. The jig is all made up and the welds are made in set places along the metal. Exactly twenty-five spots. The line runs according to schedule. Takes me one minute and fifty-two seconds for each job. I walk along the line as it moves. Then I snap the jig off, walk back down the line, throw it on the bench, grab another just in time to start on the next car. The cars differ, but it's practically the same thing. Finish one—then have another one staring me in the face.

I don't like to work on the line—no man likes to work on a moving line. You can't beat the machine. Sure, maybe I can keep it up for an hour, but it's rugged doing it eight hours a day, every day in the week all year long.

During each day I get a chance for a breather, ten minutes in the morning, then a half-hour for lunch, then a few minutes in the afternoon. When I'm working there is not much chance to get a breather. Sometimes the line breaks down. When it does we all yell "Whoopee!" As long as the line keeps moving I've got to keep up with it. On a few jobs I know, some fellows can work like hell up the line, then coast. Most jobs you can't do that. If I get ahead maybe ten seconds, the next model has more welds to it, so it takes ten seconds extra. You hardly break even. You're always behind. When you get too far behind, you get in a hole—that's what we call it. All hell breaks loose. I get in the next guy's way. The foreman gets sore and they have to rush in a relief man to bail you out.

It's easy for them time study fellows to come down there with a stop watch and figure out just how much you can do in a minute and fifty-two seconds. There are some things they can see and record with their stop watch. But they can't clock how a man feels from one day to the next. Those guys ought to work on the line for a few weeks and maybe they'll feel some things that they never pick up on the stop watch.

I like a job where you feel like you're accomplishing something and doing it right. When everything's laid out for you and the parts are all alike, there's not much you feel you accomplish. The big thing is that steady push of the conveyor—a gigantic machine which I can't control.

You know, it's hard to feel that you are doing a good quality job. There is that constant push at high speed. You may improve after you've done a thing over and over again, but you never reach a point where you can stand back and say, "Boy, I done that one good. That's one car that got built right." If I could do my best I'd get some satisfaction out of working, but I can't do as good work as I know I can do.

My job is all engineered out. The jigs and fixtures are all designed and set out according to specifications. There are a lot of little things you could tell them, but they never ask you. You go by the bible. They have a suggestion system, but the fellows don't use it too much because they're scared that a new way to do it may do one of your buddies out of a job.

Interviewer: "Who do you talk to, Joe, when you're working?"

There's only three guys close by—me and my partner and a couple of fellows up the line a bit. I talk to my partner quite a lot. We gripe about the job 90 per cent of the time. You don't have time for any real conversation. The guys get along okay—you know the old saying, "misery loves company."

Interviewer: "What sort of a person is your foreman?"

Oh, I think as a man he is an all right guy. I see him once and a while outside, and he's 100 per cent. But in the shop he can't be. If I was a foreman nobody would like me either. As a foreman, he has to push you all the time to get production out so that somebody above won't push him. But the average guy on the line has no one to push—you can't fight the line. The line pushes you. We sometimes kid about it and say we don't need no foreman. That line is the foreman. Some joke.

The worker then discussed the general working conditions in the plant—the lighting, ventilation, safety conditions, housekeeping, cafeteria facilities, and the plant hospital. He thought these conditions were all good, and that in this respect at least the company had done all it could to make work as pleasant as possible for the workers. Then he added:

But you know it's a funny thing. These things are all good, but they don't make the job good. It's what you spend most of the time doing that counts.

His Chance of Promotion

The interview then turned to the subject of promotion opportunities:

My chances for promotion aren't so hot. You see, almost everybody makes the same rate. The jobs have been made so simple that there is not much room to move up from one skill to another. In other places where the jobs aren't broken down this way, the average fellow has something to look forward to. He can go from one step to another right up the ladder. Here, it's possible to make foreman. But none of the guys on the line think there's much chance to go higher than that. To manage a complicated machine like that, you need a college degree. They bring in smart

college boys and train them for the better jobs.

Interviewer: "What does your wife think about your job?"

At this point his wife spoke up:

I often wish he'd get another job. He comes home at night, plops down in a chair, and just sits for about fifteen minutes. I don't know much about what he does at the plant, but it does something to him. Of course, I shouldn't complain. He gets good pay. We've been able to buy a refrigerator and a TV set—a lot of things we couldn't have had otherwise. But sometimes I wonder whether these are more important to us than having Joe get all nervous and tensed up. He snaps at the kids and snaps at me—but he doesn't mean it.

The worker was then asked if he had considered working elsewhere:

I'll tell you honest. I'm scared to leave. I'm afraid to take the gamble on the outside. I'm not staying because I want to. You see, I'm getting good pay. We live according to the pay I get. It would be tough to change the way we live. With the cost of living what it is, it's too much of a gamble. Then there's another thing. I got good seniority. I take another job and I start from scratch. Comes a depression or something and I'm the first to get knocked off. Also they got a pension plan. I'm thirty-seven and I'd lose that. Course the joker in that pension plan is that most guys out there chasing the line probably won't live 'til they're sixty-five. Sorta trapped—you get what I mean?

His Views on the Union

The subject of the worker's relationship to his union came up in the course of the interview:

The union has helped somewhat. Before they organized, it was pretty brutal. The bosses played favorites—they kept jacking up the speed of the line every time after they had a break-

down. But the union can't do much about the schedule and the way a job is set up. Management is responsible for that.

We had a walk-out last year. They called it an unauthorized strike. Somebody got bounced because he wouldn't keep up his job on the line. The union lost the case because it should have gone through the grievance procedure. The company was dead right to insist that the union file a grievance.

But it was one of those things it's hard to explain. When word got around that the guy was bounced—we all sort of looked at each other, dropped our tools and walked. Somehow that guy was every one of us. The tension on the line had been building up for a long time. We had to blow our top—so we did. We were wrong—the union knew it and so did the company. We stayed out a few hours and back we came. We all felt better, like we got something off our chests.

Some of these strikes you read about may be over wages. Or they may just be unions trying to play politics. But I sometimes think that the thing that will drive a man to lose all that pay is deeper than wages. Maybe other guys feel like we did the day we walked out.

Toward the end of the interview, the worker spoke of the company he worked for:

They are doing what they can—like the hospital, the safety, the pay and all like that. And the people who run the plant I guess are pretty good guys themselves. But sometimes I think that the company doesn't think much of the individual. If they did they wouldn't have a production line like that one. You're just a number to them. They number the stock and they number you. There's a different feeling in this kind of a plant. It's like a kid who goes up to a grown man and starts talking to him. There doesn't seem to be a friendly feeling. Here a man is just so much horsepower. You're just a cog in the wheel.

Let's just take this interview apart for a moment.

Notice, first, that this worker's dissatisfaction was not due primarily to the things that are usually considered important to a job. People often say, "Pay a man enough and he'll be satisfied." But this man's pay was good. His job was secure. He worked for a sound company. He had substantial seniority. He had a pension, hospitalization and disability benefits when he became sick, and a good boss; at least he did not hold the kind of job he had against the boss. Working conditions, heating, lighting, cafeteria facilities, and safety conditions were, I would say, as good as if not better than average.

Yet Joe despised his job.

The simple fact is that the impact of "sound" engineering principles had had a marked effect on his total outlook on the job.

What "Sound" Engineering Has Taken Away

For this man, and for hundreds of others with whom we have had experience, the engineer, in applying the principles of mass production to the extreme, had factored out virtually everything that might be of real, personal value to the worker. The sense of anonymity implicit in much of what this particular worker said can be traced back to some of the basic characteristics of his immediate job.

The conveyor belt determined the *pace* at which he worked. He had no control over his pace.

Because it was broken down into the simplest motions possible, the job was highly *repetitive*.

Simple motions meant that there was little or no need for *skill*.

The tools and the work procedure were predetermined. And when techniques changed, it was the engineer—not the worker—who controlled the change.

He worked on a *fraction of the product* and never got a sense of the whole. (He admitted that in 12 years of work he had almost never seen a finished car roll off the final line.)

Some attention was required. Too much to allow him to daydream or carry on any sustained conversation with others; but not enough to allow him to become really absorbed in his work.

The technical setup determined the character of his work relationships. This man identified himself with the partner who worked with him on the opposite side of the line, but beyond that he displayed almost no identification with a work group as such. Men on the line work as an aggregate of individuals with each man performing his operation more or less independently of the others. The lack of an intimate group awareness appeared to reinforce the same sense of anonymity fostered by the conveyor-paced, repetitive character of the job itself.

The worker's comments about promotion and job aspirations are interesting. He saw little hope for advancement because most of the production jobs paid about the same. By applying principles of work rationalization, the industrial engineer, in the best interests of efficiency, had simplified the tasks so that differences in skill from one job to the next were all but eliminated. It was difficult for the

average worker to move vertically through a series of distinct steps in promotion. In this connection, it should be added that over the years the union itself, through collective bargaining, had encouraged the trend toward uniform wage standards by raising minimum levels without increasing the relative amounts between job classes.

From a careful examination of the actual work careers of over two hundred workers we have found only a few who had experienced any substantial change in job classification during a period of from 12 to 15 years. Collectively, all the workers had improved their over-all economic status; individually, few had experienced much change in their relative job status. The net effect of this condition was to increase the de-personalization of the job.

Social and Economic Costs

What did the total job picture add up to? The worker's own words sum it up: "You're just a cog in the wheel."

So what? This company and the thousands of others that had adopted mass production methods were making a profit and giving the public what it wanted. The workers were making good wages. But against these plus factors we found that over and above the social costs to the men involved, there were economic costs to the industry. Turnover was high. Quality performance was not maximized because of the inherent lack of interest in the job. Labor-management relations were in a state of constant tension.

Ways of Bringing About A Better Adjustment

Does this imply that I am advocating that we scrap mass production methods? Certainly not. But it does imply that industry and labor must take steps to bring about a better adjustment of man to machines. Here are some ideas suggested by our studies.

Wherever possible, those responsible for equipment, layout, and job design should try to re-introduce a certain amount of flexibility in the way work is set up and performed by the work group. Job rotation is one answer. We have seen this done successfully and not at the expense of sound engineering practice; but it should be emphasized that such rotation cannot be carried out by arbitrary orders from supervision. It is a *group* function and the members of the group must have a share in determining how the system should operate.

Job enlargement, a term originally coined by my colleague, Charles R. Walker, is another effective technique that reduces boredom and restores greater interest to the job itself. Stated simply, job enlargement means that the individual worker performs more operations over a longer cycle of time. Such a method involves considerable initial training costs, but the evidence now coming in shows clearly

that it improves quality and increases job satisfaction.

Many other techniques designed to maximize interest in the immediate job have been tried out with success. In my judgment we have only begun to strike pay dirt. The problem arose in the first place through the failure of those responsible for the purely technical branches of management to understand the basic needs of the men who must operate the machines.

"Will not automation solve the problem in the long run?" a friend recently asked. Possibly so. It looks as if intrinsic skills will be changed and enlarged. The debilitating effects of highly-fractionated, repetitive work, with man a mere physical extension of the machine, will be eliminated. Skills of the hand will yield to skills of the mind. But automation will not make job satisfaction automatic, especially if those traditionally concerned with the technical phases of production continue to operate independently of those who manage men.

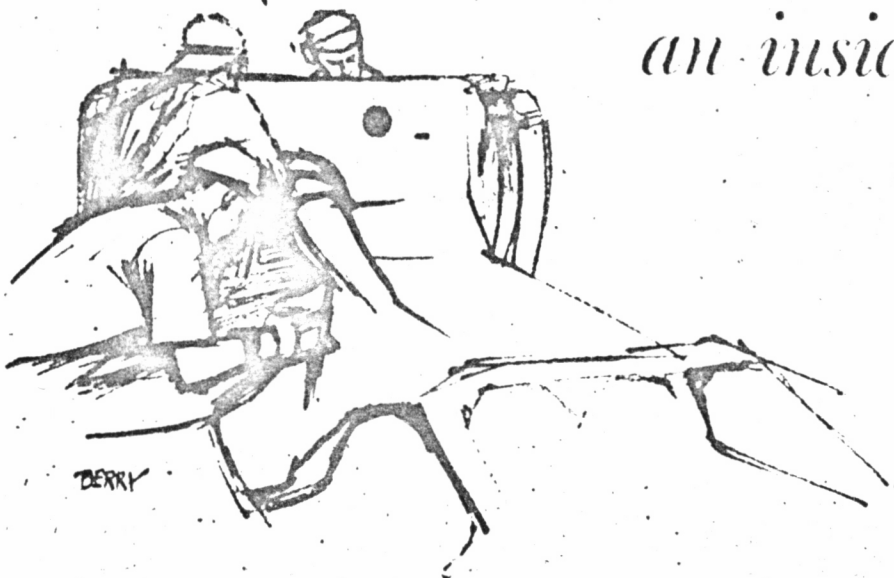
The challenge is clear. In the jobs of today that are rationalized in the tradition of Taylor and in the jobs that will be rationalized under automation tomorrow, management must look at work as a mutually interdependent function of both engineering and human relations.

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THE AUTO ASSEMBLY LINE

an inside view



PATRICIA CAYO SEXTON

*How the world looks to the men (and women)
on a factory floor... and why
their emotions, hopes, investments,
and pleasures are so different
from those of the white-collar workers.*

FACTORY work and union membership are realities for about ten million Americans. But people on the outside—who wear white collars or gray flannel suits—glimpse the workers only through an opaque shield, the popular press. Here are the stories of Beck and Hoffa and the other enemies within who are part of the reality but not all of it. And here are the headlines about major strikes that often seem stupid and futile if not subversive.

If the strike has something to do with automation, it is at least dimly comprehended by most people. Fear of losing a job is an emotion a good many of us can share, and we heard in school about weavers who smashed mechanical looms in the early days of the Industrial Revolution.

But when collective-bargaining negotiations collapse because of grievances that seem trivial

or even silly, nonfactory workers are puzzled or, more often, exasperated. For seen through the soundged lens of the mass media, the average worker appears a quite well-fixed middle-class character. He drinks well (too well), eats well, recreates well, fights with his wife like everyone else, hates more than others (so the sociologists say). What more could be possibly want? Very likely his union has just been stirring up trouble.

These are some of the things that are said about the worker and his union. They are not all true or all false. But the worker's world—as one lives in it—is very different.

For three years I worked in the Dodge Main Plant in Detroit. Though I'm a perennial student (with even a Ph.D. now), I've never learned as much as I did there, nor do I recall any scene out of the past with as much sentiment. Thinking of those five hundred faces, I remember the Irish scholar and anarchist; the lean Polish orphan working beside me (I put license-plate brackets on the trunk of every other car on the line); the solemn Ukrainian with the long blond hair who tried to teach me his native tongue; Pete and Louis, pint-sized trimmers who brought in crab apples from their farm; Eddie the Jumper who was a bit of a hustler and con man on the side; the doe-eyed Syrian who had been ruined in his grocery business; the five hillbillies just up from Alabama, at once sweet and surly, who

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cooked a chicken dinner for me and entertained on their harmonicas; the quiet clarinetist who had been with Teagarden; the Puerto Rican who took me home to meet his wife and who was always trying to fix me up with some nice Puerto Rican boy; Barazani, a Chicago artist and a good one, who worked in the shop because he wanted it that way . . . college boys, bums, saints, hoods, ordinary guys . . . and Poles. Poles everywhere.

In an auto plant, if you're lucky enough to get day shifts, you roll out of bed at 5:30 to be on the job at 7:00, and leave at 3:30, waiting for slow-motion buses at both ends of your day. Even now, eight years later, the phrase "going to work" stirs up these responsive images in my mind: damp January cold; before dawn; a long, empty, dark, and silent street; a half-dozen huddled figures in jackets and slacks stamping feet to keep warm; peering down the street for the bus, waiting, waiting.

At Dodge Main you go to your job on a freight elevator (a cattle car, we said). It's an old building, with none of the graces of the modern horizontal plants. (I'm told some of the executives ride freight elevators too because the passenger cars are too small and few.) It's a cheerless start for your working day—to be one of fifty vertical bodies, packed in like a case of ball bearings.

Comes lunchtime, there's a good cafeteria for the office staff but it's too far away for plant workers. So when the noon whistle blows, perhaps you rush out to a neighborhood greasy spoon, bolt down kielbasa (Polish sausage) and sauerkraut, and rush back before your thirty-minute lunch "hour" is up. Or maybe you've learned to swallow the food wheeled to the line on a lunch wagon which we used to say wasn't fit for pigs. Or you've brought your own sandwich and eat it sitting on a box in the middle of the grease, dirt, spit, and debris. There are no chairs or tables.

There are no chairs either in the ladies' "rest room"—only backless wooden benches. And the doors and windows are open, permeable to all the factory noises and staring eyes. There are big stone "bird-bath" wash-up basins, designed

Now assistant professor of educational sociology at New York University, Patricia Cayo Sexton knows the blue-collar worker's problems from having worked for three years in an auto shop and served as a full-time union steward. Her recent book, "Education and Income," deals with inequalities of educational opportunity in our public schools.

for mass efficiency—not a pink frill anywhere. And there are no doors on any of the johns. No doors! It matters.

Factories are like this in most places I guess. But still, if you work there, you don't like it. Not one damn bit.

MORE WILDCATS THAN A ZOO

IN THE Dodge Main trim shop, working conditions were as good as any in the industry at that time. Yet it was the hardest I've ever worked. The noise, dirt, and confusion drained off surplus vitality. Continuous, supervised, manual work produces a dull, deadening fatigue which you must experience to know. This is why the speed of the line means everything to the worker and breaks are an oasis of relief.

Back in 1945 at one of the Chevy plants when management threatened to take away a coffee wagon, the local struck for six solid weeks—right on the heels of a 114-day national strike. Outsiders, uncomprehending, raised their eyebrows. What could be more ridiculous than a coffee-wagon strike?

In last year's auto negotiations, the fuss about what was euphemistically called "time to perform natural functions" struck most people as even funnier. But for an auto worker nothing could be so grimly serious, so brutally basic, as the guaranteed right to relief time to go to the toilet. Once an auto worker was fired because, denied relief time, he went in a barrel near the line. It was no joke to him.

In some General Motors plants, when workers left the line on relief, they were followed to see that they went only to the john and were not distracted along the way. Sometimes workers were penalized for stopping to talk on the way out. At least one man went to a vending machine and was given a time-off penalty.

I was a full-time, elected, chief union steward in my last year as an auto worker. The speed of the line was my biggest headache. Perhaps 90 per cent of all grievances and complaints that came to me had to do with production rates. It was my herculean job to "hold the line," at a time when Chrysler was bearing down and squeezing all moisture from production rates.

There were more wildcats (unauthorized strikes) in my department than in a zoo—though none at my direction. In fact, my life was a quicksand bog—complicated by the fact that I was the only "right-wing" (pro-Reuther) steward in a "left-wing" union stronghold. After a year of the bitter and confused factionalism—plus the

time studies, slowdowns, and never-ending trouble—were more than I could take. I quit and went back to college.

Most auto workers, of course, can't walk out on a tough job. And probably many wouldn't want to. It depends a lot on where you work. For instance, in Tarrytown, New York, a Chevy and a Fisher plant—both owned by General Motors, nestling side-by-side, with a single entrance—look like Siamese twins of separate ancestry. But work standards at Fisher are crushing; at Chevy, relatively relaxed.

It is said you can easily tell a Fisher from a Chevy worker: Metaphorically speaking, the Fisher worker is paced by Chaplin's "Modern Times" metronome; he can't unwind or slow down and his leisure is as taxing as his work day. At Tarrytown Chevy, in the last ten years, there has been only one strike over the speed of work; at Fisher there have been eight.

General Motors' power lies largely in local autonomy and decentralization. As the company has dispersed its operations, the union has also changed its pattern. At the 1960 bargain session, the union released its precious strike-making power to its locals, leaving them free to bargain at the division and plant level where the critical decisions are made.

If you work in a GM assembly plant, you are probably working at top speed. Assembly plants do not have the bargaining power of the tool-and-die, the motor, or the stamping plants. They can't shut anyone else down. So it is that the key plants in GM are plants like Pittsburgh stamping, Indianapolis truck, Massena (New York) aluminum, Defiance (Ohio) foundry: because they have bargaining power, they usually have better working conditions.

KIELBASA AND CONFERENCES

A STRIKE is a big event in a worker's life, full of a threatening yet releasing kind of excitement. You wait for the strike deadline, wondering how your own team is doing. The deadline is postponed. You wait some more, both hoping and fearing that it will come, waiting almost like a child at school for a fire drill or a blizzard that will make the walks to school impossible.

Then, hours before the deadline, you come to work, and there is much buzzing in the plant and a nervous fluttering of wings. Comes 11:00 A.M. on that day and someone shouts down the line: "Okay, let's go home!" The shout bounces around the plant, passed from mouth to mouth;

there is a great flurry of talk, excitement, loud catcalls, and strange exuberant sounds (as at a New Year's Eve rodeo), and then a dash for the coats, the lunch buckets, and the exits, as the line, completely out of character, comes to a dead stop.

You are on strike. You have committed a personal act of defiance against the line, against the bosses and everyone who holds you down and gives you trouble. Though you usually have a gripe against the union too, you feel good. You have struck your own blow in revenge for your grievances, and you are part of a giant mass protest.

Outside, it's like a holiday—from school, prison, or other places of confinement. What happens now? Who pickets? When will it end? Where the hell are the local officers and why can't you ever find them when you need them? But the complaints are easy: the weather is great this time, the handcuffs are off, and you can swing around and enjoy yourself for a while.

A big strike can be an adventure. For family men, of course, with no income cushion, it can also be a hardship. But for those who can somehow manage, few events in this workaday world are more exciting; for the average worker, only births, marriage, perhaps graduation send up as many sparks and flames.

If the strike is short, there's not much doing. If it drags on, the local starts to buzz. At UAW Local 3 (Hamtramck, Michigan) during a hundred-day Chrysler strike in 1950, I served in the soup kitchen. In this Polish enclave, the menu was plain. Kielbasa soup, kielbasa and boiled potatoes, kielbasa and cole slaw, and coffee that scorched the liver, at whatever hour of the day or night you happened in.

The old-timers would come around and play cards, warmed by the familiar smell, the heat from the steaming sausage, the café feel of the kitchen. The rules provided food only for the picket line, but I never saw anyone turned away. Some would picket just to eat: it was free, and, for whatever it was worth, plentiful. So many would shovel it down like a last supper, store it away inside for the less bountiful seasons. During a strike at my local, if you had the strength and the will, you'd become a polka champ. I did, whirling and stomping until I mastered this strenuous art form.

Meanwhile, on the major bargaining front, a far different drama is unfolding. Long before the strike deadline, both sides are lined up at a table big enough to seat fifty people and to require microphones for conversation. There is

always action at the Big Table but the plays are called and the preliminary decisions are made in small conferences. Upstairs the top company executives are passing on proposals submitted by their underlings. In the final days, they sit there round the clock, as does Walter Reuther in nearby offices (and a flock of reporters and staff people in still other offices, nibbling away at company sandwiches, playing poker, and trying to stay alert on coffee), hammering out proposals that will get the most and give the least.

The Big Table is the distributing outlet for the proposals fed into it by the top decision makers and the various technical subcommittees that have worked for months on specific contract issues. The decisions are shaped in the antechambers and come for final assembly and inspection to the Big Table. The drama of this conflict, involving some half-million wage earners in auto, billions of dollars, and the whole power structure of our society, is comparable to a national Presidential election.

On the union side, between the birth and baptism of a new agreement, the national councils and the national negotiating committees, elected by the local unions, map out battle strategy, in concert with the international staff.

Who are the people who finally sit at the Big Table? Bill Horner, for example, is chairman of the union's national GM council and of the rank-and-file negotiating committee. A sensible man, articulate (as many UAW people are), he is good-looking, straightforward, with no smell of corruption, deviousness, or cynicism anywhere about him. Bill is the son of a railroad man and farmer from Ireland who lost out during the depression; his mother, born in Estonia, had escaped during the 1905 revolution. After high school he traveled around the world, worked as a short-order cook for ten bucks a week, and in '39 got a job at Chevy in Tarrytown. Since then he has held every office in his local union but financial secretary. In a Republican suburb, he was elected and re-elected to office as a Democrat—trustee, police commissioner, acting mayor, fire commissioner, street commissioner.

He quit politics, with a perfect record of no defeats, to spend more time with the union. Formerly a shy man, he says, the union and politics brought him out of it, but he still has a refreshing reserve about him. As top man on the rank-and-file bargaining team, he enters negotiations at the beginning and stays to the end.

A key figure on the company side is Louis Seaton, GM vice-president in charge of personnel. He is respected by the union as a man of feel-

ing and real experience, as contrasted with the strict "bookmen" who preceded him. While many of the GM executives moved out to the fanciest suburban areas, Seaton still lived in a relatively modest area, his number listed in the phone book. Once a student at Detroit's Wayne State University and now a devoted alumnus, Seaton sits at the Big Table opposite UAW's Leonard Woodcock, now chairman of the board of governors of Wayne. (Reuther is also a Wayne alumnus.)

WHAT MATTERS TO JOE

SOME critics think there is something fishy about union and company men being on speaking terms. You can get too much of a good thing, of course, and too much respectability can kill the union spirit. But negotiations are not possible unless the parties are on speaking terms.

However, talk alone does not win arguments or settle contracts. The quality and skill of the negotiators make a big difference; but power relations and the forces of history are what give muscle to the players. And finally, even after all the kinks are ironed out at the Big Table, the question of whether or not there will be a strike is not one question but many questions. How do Joe, Lem, Barazani, and Kwiatkowski, and hundreds like them in Hamtramck and Tarrytown and Indianapolis, feel, not only about their paychecks, but about the speed of the line and—yes—relief time?

Perhaps they feel more strongly about these here-and-now problems because manual workers wear out faster in body and soul than other people. According to Bernice Neugarten, a University of Chicago sociologist who studied seven hundred families in different income levels, men in the middle and upper class, when they reach the age of fifty or so, see themselves as "mellow fellows, ready to reap life's greatest rewards. Women in this category found these years fruitful too and serene without dynamic youngsters around the house."

But in the lower-income brackets, many men felt "handicapped by their age, labeled as has-beens. They reported that although they were using more elbow grease, their working days were getting rougher. The women were only somewhat less pessimistic."

I have seen this happening a thousand times with my own eyes. Possibly this is why such phrases as "powerful unions" and "enlightened management" seem to me to convey very little of the essence of life on the assembly line.

A DAY ON AN AUTO ASSEMBLY LINE . . .

Are the nation's automobile assembly plants "gold-plated sweatshops"? United Auto Workers chieftain Walter P. Reuther says they are; and to drive home his point, UAW officials last week accused a General Motors plant in Doraville, Ga., of giving "carefully prepared gimmick" tours to visitors, pointedly skirting the noisiest, dirtiest, "jungle" operations.

GM ignored the charge, but a Ford labor expert, John E. Reese, said of Ford's assembly: "We don't have a drawing room out there, but damn it we don't have a sweatshop either. You can't build automobiles in surroundings that a banker or a school-teacher might be used to." The spat pointed up a central fact of the current contract negotiations between the UAW and the automakers. This year the real "gut" issue is a UAW demand that the manufacturers clean up and slow down their assembly lines, and give workers more "relief times."

Just how tough a taskmaster can a car assembly line be? To find out, NEWSWEEK's Tom Nicholson spent an autoworker's day last week watching the chassis go by and talking to line workers at Pontiac's main assembly plant in Pontiac, Mich.—and without any restrictions at all from GM. Here is what he saw . . . and heard:

To a visitor whose office solitude is marred only by the clicking of typewriters, the first assault is on the ears. The most strident notes are sounded by the air-powered torque wrenches that are used to bolt the cars together. Some sound like a swarm of insects, others like an old lady's scream. The forklift trucks klaxon their way down the aisles; the car bodies "kruuummp" as they drop from the second floor onto the frame moving 29 feet a minute down the rumbling assembly line.

No Laughing: The building smells of oil, paint, rubber, old lunches, and sweat. It's hot—90 degrees—but in summer you're no better off outside. For the most part, men work with an air of detachment. There's little time for horseplay, and little laughter.

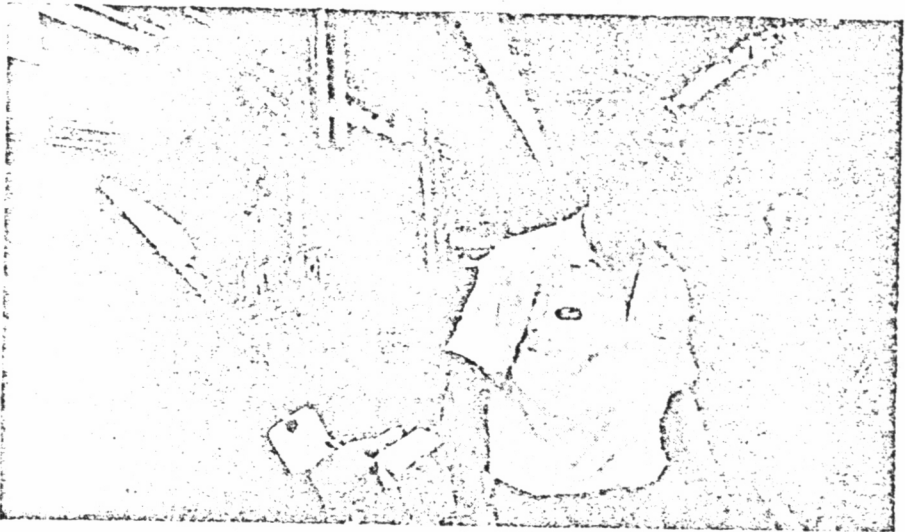
As I saw it, assembly-line work is hard. But above all, it is monotonous. You can't anticipate good days on an assembly line; they are all the same—gray and greasy. Your job has to take less than a minute because that's all the longer the car is at your work station. The motions become automatic.

Thousands of men spend their working lives on an automobile assembly line. Some like it, some tolerate it, some detest it and live for the day they can escape. One of the reconciled ones is Larry (Tom) Pitser, 22, a wiry, softspoken boy who earns \$2.89 an hour working at the head of the line. Depending on the car, Tom handles three operations. On the big frames, he affixes small rubber shims to the frame on the driver's side. On compacts, he also lays in the gas line. On station wagons, he attaches a spare-tire bracket. Tom works hard. In one five-minute stretch I observed, he had exactly 41 seconds to stand still and take a deep breath.

Tom starts work at 6:18. He's re-

who works where the engines drop from the second floor to the frames on the first-floor line. He's 48 and is almost always smiling with a cigarette jammed in the corner of his mouth. His take-home pay is \$84 a week, for hefting 18- to 21-pound drive shafts some 600 times a day and greasing and inserting them into axle and transmission housings. "I ain't sad or anything," Joe grinned. "I'm awful satisfied with what I'm doing. My only complaint is they ain't got no fans in here."

Among the disenchanteds is George Brinkley, who's 32 and has been a Pontiac assembler for twelve years. George's job is not heavy, but it is hard. He works in a trench beside



Reporter Nicholson with Pontiac worker Pitser: 'I'm making money'

lieved for fifteen minutes in the morning and for twelve minutes in the afternoon. On relief, he goes to the restroom 75 yards away, gets a cup of coffee from a vending machine, then comes back and sits near the job. On his 30-minute lunch break, he scoots to one of the beaneries across the street.

Away from the clatter of the pneumatic wrenches a moment, Tom talked about his job: "For the amount of knowledge you have to have, it's a good job. But once you learn it, it's the same thing every day. If they had extra relief men so I could learn other jobs, it would help me, and it would help the company, too. But I don't feel it's quite as bad as a 'gold-plated sweatshop.' GM is making money, but I'm making money, too."

Joseph Deming is a happy man

the line, and all day reaches above his head to affix rocker-panel trim brackets to the bodies as they pass.

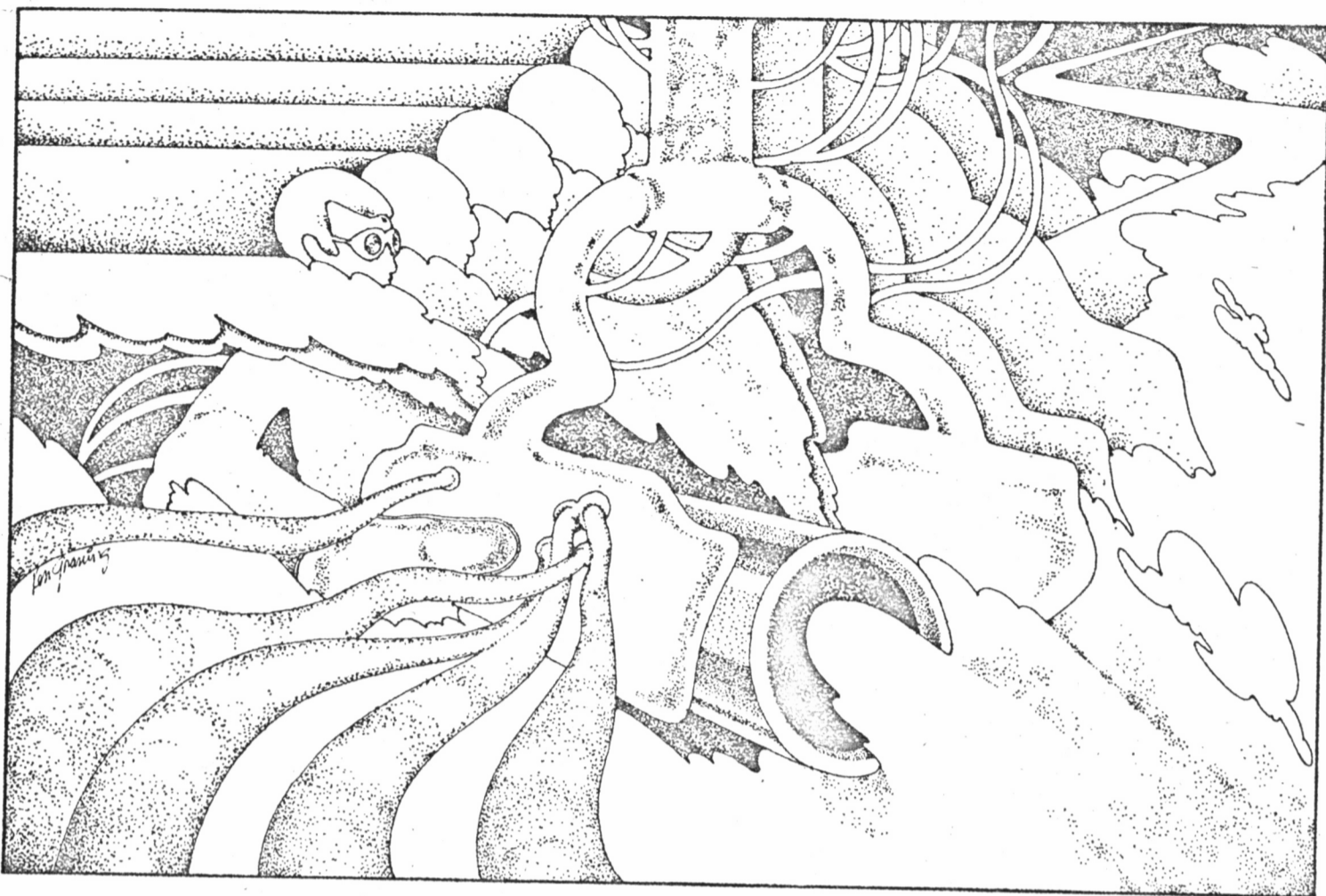
I asked George what he thinks about while he works. "I think about getting out of here," he said. "I just feel like you become a machine on this job. You feel kind of trapped because the older you get the less chance you got of getting away. But my hope of getting out keeps me going." What if he can't get out? "I don't know. I just don't know."

George also touched on another fact of assembly-line work—its impersonality. Asked the last name of the man at the next station, George said: "I don't know. Me and him don't talk much."

George and his neighbor have been working together in the pits feet apart—since last September.

8-10-64

Factory Line in Detroit. A Student's Bitter Taste



"God, the place is huge . . . The bewildering maze of complicated machinery, conveyer belts, smoke and steam is a surrealistic landscape of well organized insanity . . . a subterranean world . . ."

BY JAMES R. AMOS
For *DETROIT* Magazine

School ended. For many students the search began. Jobs did not come easily this year. President Nixon was repairing the economy, and as a result unemployment was skyrocketing. Mr. Nixon apparently had never read John Maynard Keynes.

In the Detroit area, the auto workers were hit by the recession shock wave. Many had been shifted to temporary jobs outside the city — jobs that normally would go to college students. A phone call to Ford's National Parts Depot in Livonia told it all. A pretty, young secretary was contacted (she sounded pretty over the phone). Her voice was warm and bubbling:

"You say you worked here last year, Mr. —? By the way, what is your name?"

This question is the kiss of death — a maneuver designed to cushion the psychological letdown. She sounds so — personally concerned.

"Well, Jim, I'm afraid we aren't hiring at all. No, there's not a chance. I'm very sorry,"

Ah well, it wasn't the end of the world. It was still a long time until the fall semester.

As an out-of-work college student your mornings were spent job hunting: warehouses (not hiring), super-

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Detroit Magazine

August 30, 1970

Illustration by Ken Graning

First Shift Is His Last

Continued

markets (not hiring), K Mart (maybe in a few weeks, maybe in a few months).

One month passes. A telegram arrives from Detroit Diesel at Plymouth and Telegraph roads (you've already been turned away from there three times). Pay dirt. They have an opening — drill and tap, afternoons, \$3.69 an hour plus 17 cents shift premium plus 21 cents cost of living.

Drill and tap sounds difficult to a history major, but Detroit Diesel gives assurances that the job is a snap. There is a routine physical, a plant safety indoctrination. By the time you emerge from this gratefully wearing a badge, you feel reasonably self assured. Of course, you've never worked on an assembly line before...

God, the place is huge. It is composed of 11 buildings with more planned for the near future, including turbine engine manufacturing facilities. The bewildering maze of complicated machinery, conveyer belts, smoke and steam is a surrealistic landscape of well organized insanity, but you don't mind so much because you're being paid well. The cacaphony of roaring, whirring, pounding, whistling noises is painful to your uninitiated ears. Hot and humid and deafening, Detroit Diesel and its workers put one in the mind of H. G. Wells' Morlocks — pale, sleazy residents of a subterranean world; dimwitted slaves to great machines; the future generation of mankind.

People endure what they must endure.

Think of Walter Reuther. Think of the progress made by the working man in America during this century. Think of what it used to be like in the factories. Every time the union demands a pay hike, thousands of Americans cry foul. "Unions are responsible for inflation," they say.

But how do you adequately compensate a man for robbing him of intellectual initiative?

You are led to a small aisle located between six clanking, detergent-spewing "mechanizers." The job is simple, you are told. Take a metal cylinder weighing five pounds off the conveyer line as it comes in (there are four such lines). Place the cylinder underneath a clamp-like device in one of the machines, push a pedal on the floor, press a button to your right. A huge tank will rise out of the machine's main body enveloping the vibrating cylinder for 30 seconds and spraying it with a powerful, pungent detergent that splatters in your eyes despite your safety glasses. When

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It's No Job For Humans

Continued

the cycle is complete, press a pedal releasing the cylinder; return the cylinder to the conveyer line.

Grab, push, clamp, press, push, remove; grab, push, clamp, press, push, remove; grab, push, clamp... Your partner who is supposed to operate the remaining machines and place the "Mechened" parts on the line, takes a 12-minute break every half hour. You struggle by yourself to keep up until a kindly old gent walks over and whispers (he's yelling, but it sounds like a whisper), "Don't work too hard, son. Your partner's no good. He'll be gone half the night. Don't strain yourself on his account."

Grab, push, clamp, press, push, remove. The parts begin to pile up. There's nowhere to stack them. The sweat trickles into your eyes; the hot water from the machines burns your hands. You grit your teeth and laugh at yourself out of desperation.

At last it's lunch time. Twenty minutes to eat, 10 of which you spend either in the restroom or hunting for the cafeteria. Your ears ring. Two men are engaged in a conversation only five feet away, but you barely hear them. You gulp down a hot dog...

The second half of the evening will be pretty much the same. By the time you punch out you're damned tired.

Money is important. Your newly acquired position is exactly what the hordes of unemployed are clamoring for, although this fact may be hard to believe. Such jobs are the pride, the muscle of Detroit — Motown — the arsenal of democracy — the factory workers' Mecca. No wonder every fourth word spoken by a Detroiter is profane (as reported in the Free Press). No wonder the factory worker's range of conversation is limited to the Tigers, the weather, cars, and management versus labor. These topics never change. No wonder when he goes home at night the worker prefers the banal world of the Beverly Hillbillies to the fatiguing mind-baiting of Dick Cavett. The factory worker is too tired to be interested in such things.

You return home and take a shower, fall into bed and dream. Your dream consists of grab, push, press, clamp, push, remove — over and over again. You've found a fantastic summer job. You should feel jubilant.

Tomorrow you will go back to K Mart and see if they've got an opening. It doesn't pay as well, but there, at least, you'll feel like a human being. [D]

James R. Amos is a resident of Livonia and a sophomore at Oakland University.

tors seemed far from dedicated.

I saw one standing with his eyes closed. When a workman pointed out a faulty engine, the inspector tagged the defect, then closed his eyes again. Once I spotted a loose steering wheel and told an inspector. He said he had just checked that wheel and "found it tight," but he double-checked and admitted, "You were right—it was loose."

I saw a loose steering column fall off a Thunderbird when an inspector checked it. Later he told me that before lunch he had "only missed marking up three loose steering columns, which is pretty good since 80% of them were going through loose yesterday." Another inspector farther down the line spotted the three loose columns.

An inspector who had five things to check on each car told me: "There isn't nearly enough time to do all the inspections. I'm supposed to check shock absorbers, but I haven't had a chance to look at one in a month." Another inspector jokingly said he inspects a car trunk just closely enough "to make sure there's no dead foreman in there."

A "Slow" Pace

Because Wixom builds luxury cars priced to sell from \$4,600 to over \$7,300, the assembly line moves at what, for the auto industry, is considered a slow production pace of about 40 cars an hour. Some other luxury cars are built at a faster rate. General Motors Corp.'s Cadillac assembly line rolls out 50 cars an hour, and Chrysler Corp. builds about 55 Chryslers and Imperials an hour. Lower priced cars such as Fords, Chevrolets and Plymouths usually come off the line at a rate of up to 65 cars an hour.

That can seem like breakneck speed to a weary worker on the assembly line. The speed of the line, in fact, has been a major cause of half a dozen local strikes by United Auto Workers Union members at other auto assembly plants in the past few years.

Even Wixom's pace seemed fast to me. When my 20-minute break started at 6:30 each night, I staggered to the pop-machine to buy a cold drink. Then I looked for someplace to sit and rest. There aren't many places to sit in the plant. My favorite spot was atop a cart loaded with big white laundry sacks full of dirty coveralls, a place where I could stretch out.

Sometimes a few workers would talk and joke during their breaks. Foremen and other supervisors were the butt of many jokes—particularly one balding supervisor who was referred to as "Khrushchev." But the assemblers actually got along well with the foremen, who worked hard themselves and generally were patient and polite when correcting workmen's mistakes. Supervisors insisted on informality. When I called one "sir," he quickly told me: "That isn't necessary around here."

Scramble for Lunch

After my relief period, I spent another hour and 10 minutes on the line. Then, at 7:30 p.m., the conveyors stopped, and the scramble for lunch started. There wasn't time to wash the grease off my hands or pull the slivers of glass fiber insulation out of my arms before eating.

Usually lunch periods were staggered, but sometimes the day's production schedule was arranged so that all 2,700 workers in the plant ate at the same time. The first day that happened, I cut in near the front of the long line outside the air-conditioned company cafeteria. It took 15 minutes, half my lunch period, to reach the counter, pick up iced tea, milk, soup, roast beef, Jell-O, pie and pay the cashier \$1.50. I ate in 11 minutes.

That left two minutes to go to the bathroom and another two minutes to get back to my place on the line. I had indigestion for an hour after lunch. Some workers had to wait 25 minutes to get served that day. I don't know how, or if, they ate and got back to work in five minutes.

Many workmen brought sack lunches and sat on stock racks or in cars on the line eating sandwiches. Eating in the cars was against plant rules. Nevertheless, when I was installing carpets, I frequently had to throw out lunch sacks, cigaret butts and coffee cups along with the usual assortment of screws, fuses and bolts before laying a carpet. I picked an empty beer can out of a car, too—even though another plant rule prohibits drinking alcohol.

Safety rules frequently were violated, too. I saw foremen running and assemblers jumping across the assembly line trench, both supposedly forbidden. Occasionally there was horseplay on the line. But I didn't see any accidents. Indeed, when I was there, Wixom had gone two million man-hours without an accident.

Jokes and Concerts

Ennui set in during the second half of the work turn. To break the monotony, some workers played practical jokes, like detaching the air hose from an assembler's pneumatic wrench. Others performed timpani concerts on plant ventilation ducts with rubber mallets. They hooted and whistled whenever women office employes ventured into the production area.

My second relief break began at 10 p.m. and lasted 16 minutes. (In the UAW's contract negotiations with Ford and the three other auto companies, the union is demanding two 30-minute paid relief breaks daily for assemblers. Auto workers aren't paid during their half hour lunch periods.) There was less bantering among workers during the second break. Some of them talked of quitting. One man grouched about "too much pressure" and said: "When I was working in an auto parts plant, I could meet my quota in four hours and then goof off, but here there's no rest."

When the quitting whistle blew at midnight, smiles returned to most workers' faces. They washed up quickly and headed for the parking lot. I drove straight home and went to bed. But some of the men went out moonlighting. One young guy making about \$3.30 an hour at Wixom worked several hours as a night pressman for a small morning newspaper. Another, earning about \$3.50 an hour, went home and slept for five hours, then put in eight hours doing maintenance work at a nearby golf course. "I made \$11,000 last year," he told me.

After the final whistle blew on my last work turn before the plant closed for model change-over, Clyde kidded me at the water cooler. "You should feel ashamed of yourself, taking all that good Ford money after the way you worked," he said.

Hiring me might not have been one of Ford's better ideas, but I think I earned my \$110 take-home pay. Ford apparently thought so, too. The foreman told me to report for work again when Wixom resumes production next week.

But I don't intend to go back to the plant—except perhaps to pick up my pay check. Ford wouldn't mail it to me. "We've got 6,000 guys who would like to have their checks mailed to them," a personnel man told me. "What makes you think you're any different?"

LABOR

The spreading Lordstown syndrome

Younger workers at GM—and other companies—rebel against assembly-line woes

Automation was supposed to relieve the back-breaking drudgery on the assembly line while improving manufacturing efficiency and product quality. But it has also accentuated the monotony of such labor and—in the view of union critics—"dehumanized work."

This is the issue at General Motors' highly automated plant at Lordstown, Ohio, where workers—and mostly younger ones—are rebelling against a purported production speedup on an assembly line turning out Vega subcompact cars. After months of negotiations, the United Auto Workers has set this weekend as a formal date for a full-scale walkout if GM does not "step up to its responsibilities to workers."

But the production disputes and management charges of worker sabotage at Lordstown, though considered a somewhat local problem, underscore the increasingly serious problem of worker discontent on automated assembly lines everywhere. For automakers and other employers in the U.S. and abroad, worker grievances in automated plants—the "Lordstown syndrome" of hard and more monotonous work—shapes up as a major issue in future labor-management relations. If it had not been for the high unemployment rates in the past year, the automation issue might well have surfaced earlier and more dramatically.

Says UAW Vice-President Ken Bannon: "The pace at which people are compelled to work and the monotony of many jobs have their effect both on the worker and on the product. New and younger workers will be less attracted to repetitious and uninteresting or physically arduous routine tasks. The traditional concept that hard work is a virtue and a duty, which older workers have adhered to, is not applicable to younger workers, and the concepts of the younger labor force must be taken into account." Bannon recently called on Ford Motor Co. to discuss "means of eliminating the monotony of the assembly line."

Crux of problem. Until now, the problems of assembly-line work have been debated essentially on a basis of the speed of work. Workers now complain that the latest automation technology has made much speedier production possible. But the work is less creative

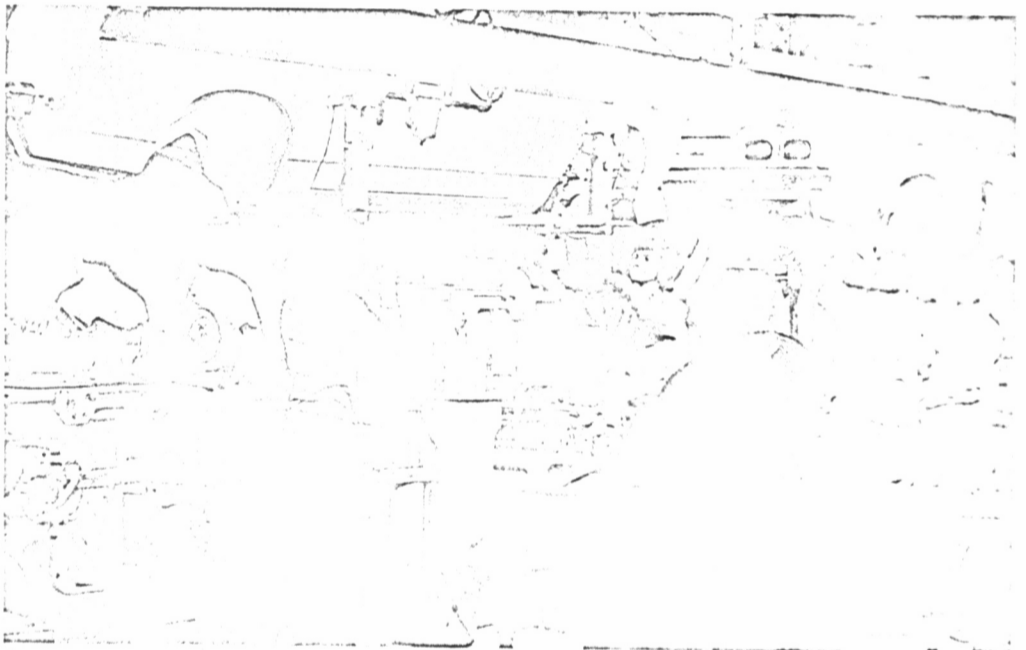
and just as physically arduous. Better educated workers find the adjustment hard to make. The result is more absenteeism, a higher work force turnover, and less quality in the work turned out. The intensity of protest depends on the general age level of a plant work force. The lower the age, the angrier the outcries are likely to be.

"If you were 22 and had a job where you were treated like a machine and knew you had about 30 years to go, how would you feel?" asks an older union official at Lordstown, summing up the problem. As the UAW sees it, young workers, less tolerant of the tedium and discipline of the assembly plant, are frustrated, and conditions seem

alternative jobs. One significant sign: Absenteeism and turnover rates have recently declined.

However, UAW leaders feel that the problems are still there and are merely restrained by the recession. "If the economy were booming, we would have the seeds for revolt," says Gordon Fleming, a 31-year-old committeeman at Ford Local 600 in Detroit.

In the plants, workers are complaining about individual work conditions, but there is still no sign of any organized effort by young workers to insist on basic reforms. At Lordstown, workers complain about work speed-ups and a lack of freedom to go to the rest room. "I no sooner get one job done



GM's Lordstown plant, where most of the workers are under 25, is a big trouble spot.

ripe for change. The situation at Lordstown, where the average worker is under 25, is the most serious manifestation of the problem so far.

Dormant. In the late 1960s, when jobs were abundant and absenteeism and turnover rates were high, management began to take the problem of assembly-line worker discontent seriously. In 1969 an auto company personnel vice-president spoke to top management in crisis terms: "In the 1970s, we are told, the young will be even less concerned about losing a job, less willing to put up with dirty, uncomfortable working conditions, less willing to conform to rules."

That crisis has ebbed with the economic slowdown, largely because there is less hiring and there are fewer al-

than I have to do another," says a young woman worker, who claims GM has added two tasks to the three she was already doing. "I don't even have time to get a drink of water," she adds.

Aside from the scarcity of new job opportunities, the attractive pay and fringe benefits of an auto worker hold many of them trapped in the plants. A 32-year-old worker at Lordstown, where the line speed runs up to 160 units an hour, says that his former job at a steel mill was hot and dirty, but "I felt like a man there. Here I feel like nothing." He stays at Lordstown because of an attractive pension plan that allows some workers to retire after 30 years at \$500 a month.

Activity. While workers themselves have not been articulate about reform mea-

tures, management and the union have been experimenting with changes. GM is stepping up worker-motivation studies, and has tried brainstorming with workers over absenteeism. Chrysler Corp. is experimenting with allowing small groups of workers to make some decisions affecting their jobs. Ford is giving its foremen "sensitivity" training in dealing with the young. Probably the most significant experiment of

'If the economy were booming, we would have the seeds for revolt'

its type is under way in a Saab auto plant in Sweden (see box).

The UAW's Bannon wants Ford to discuss changes in auto production practices prior to next year's contract negotiations. Bannon's concept is to have a worker follow a car along part of an assembly line, say for a distance of 50 ft., and perform several functions, and then walk back. Bannon says that this can be done with the same work force and in the same time, and that it will reduce the monotony.

Ford has agreed to talk about the proposal but it is skeptical. Similar ideas have been proposed before, but management argued that they were not economical for a mass-production, assembly line industry. The UAW has given such concepts a low priority up to now, compared to pay and fringes.

Moreover, workers themselves may not like the idea. Another UAW vice-president, Douglas A. Fraser, says that additional tasks may make the job more difficult, but not more satisfying. "Some say you should change a guy's job every day," says Fraser. "Well, an auto worker would kill you for suggesting that." At Lordstown, a young worker who was in the labor pool and did different jobs agrees. "It's harder to keep up, and you get a different ache every day," he says.

Experiments. General Motors appears to be taking the most systematic approach to studying worker motivation in this country. Last fall, it established a new personnel administration and development staff and hired Stephen Fuller, an associate dean of the Harvard Business School, to head it as vice-president. Fuller says he has been told to be the "vice-president of tomorrow." "If someone says, 'that's the way we've done it for 10 years,' that in and of itself should make it suspect," he says.

A former GM plant manager, Frank Schotters, was named last fall to assist Fuller because of innovative worker motivation techniques he employed in the Atlanta area. Schotters believes that communication may be the most important solution. At GM's Lakewood (Ga.) assembly plant, workers and management get together for "rap"

Sweden tests a new assembly-line concept

Swedish trade unions have been pressing for years to end "dehumanizing" monotony and dull jobs on many assembly lines. Now Saab-Scania is taking a big first step in that direction at a new \$10-million engine plant in Soedertaelje, 25 mi. south of Stockholm. The traditional assembly line will be partly replaced by a new assembly system that uses a Swedish-made industrial robot to take over many monotonous operations. More important, it will allow a worker to produce an entire engine, and not just one part of it.

The plant will assemble a two-liter, four-cylinder, overhead-camshaft engine that will be used in a new version of the Saab-99 sedan. The engine is the first to be made by Saab in Sweden since the late 1960s, and the Soedertaelje plant, when in full production, will allow Saab to stop buying engines from England.

The plant is so new, and its production plans are so unique, that it has not yet been shown to outsiders. It is just starting up production. Workers, mostly women and many of them Finnish, are still being hired and trained, and the basic "assembly team" operation is still more theory and plan than a tested technique. However, Saab is pretty certain it will succeed, and Swedish unions intend to help make it work. **Teamwork.** Motorblocks, crankshafts, connecting rods, and cylinder heads are delivered to the plant from outside foundries and will be machined and finished at Soedertaelje. Parts and components not needing additional work will be sent directly to the assembly area. Much of the preliminary work and some of the mounting and assembly will be done as before. However, final assembly will be handled by a new "assembly team" approach that will be a sharp departure from the traditional.

There will be seven teams, each made up of four workers. Each worker will be able to assemble the entire engine. In the past, assembly-line workers were required to be

able to do one or only a few parts of the assembly process. In the new system, a member of a team might work individually on an engine assembly, members may elect to pair up, or they may choose to work together otherwise.

Saab and its unions have run into some problems on pay. Most Swedish factories work on a combination of hourly and piece work rates, and working out a rate on a team basis posed difficulties. The company and unions have been discussing this and a premium rate for maintaining high-quality production.

First step. To the unions, the new production concept is fine—but only a first step in the right direction. The whole question of what is called *arbetsmiljo*, or working environment, has had a high union and public priority in Sweden for several years.

Arne Gustavsson, chairman of the local trade union, hailed the Soedertaelje project as a good move toward "goals for better working systems." But he said: "Now we have to see what we can do in other parts of the plant. . . . There is still much hard physical work to be done and there will still be a high-tempo work that will have psychological effects. . . . There will be monotonous tasks to be performed, and thus it is necessary that the union take an active role in organizing the work to make sure that monotonous jobs are eliminated as much as possible."

While the unions do not expect the Soedertaelje plant to be "any kind of a model workshop," the experiment is considered important and is being followed closely. If it succeeds from the workers' viewpoint, the unions talk of pressing for the "assembly team" concept in other assembly-line plants.

U.S. auto makers are eyeing the experiment with considerable interest. The big question, of course, is whether the one-man, one-engine concept would work on high-volume production runs.

sessions on absenteeism and how to improve assembly processes.

GM experiments with "enlarging" jobs—by giving the worker four functions instead of one, for example—have not been very successful. Workers often found they had less rest time and the job was not more interesting. Workers, however, have responded favorably to experiments in giving them responsibility for deciding how their simple tasks will be performed.

Sometimes it takes more than that.

The Lordstown dispute showed that some young workers went through their assembly line routine without knowing what parts they were handling; the job was entirely mechanical.

Many auto union officials see no real way that can be changed substantially enough to make assembly line jobs seem more worthwhile. The solution may be, they say, to pay workers to accept the unpleasantness—and cut their work time so that they will have shorter hours and fewer years to work. ■