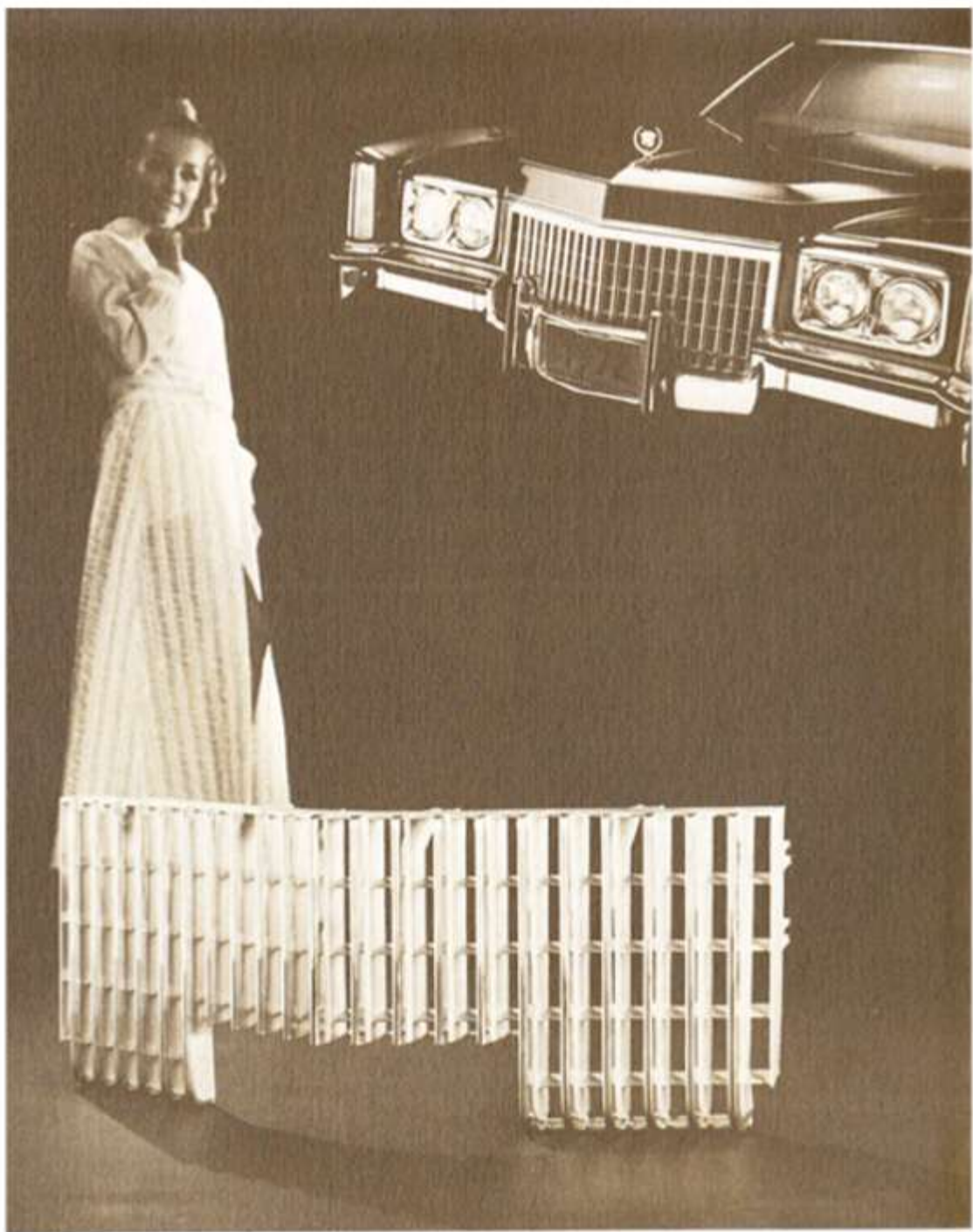


**A
GUIDE
TO
GUIDE**

GM



**GUIDE LAMP DIVISION
GENERAL MOTORS CORPORATION
ANDERSON, INDIANA 46011**



CHROMIUM-PLATED PLASTIC GRILLE in this elegant setting is one of many plastic parts produced by Guide. Plastic is noncorrosive, lighter weight than metal and is not as vulnerable to dent damage. Plastic also offers a unique design potential and more styling flexibility. Other Guide products on the car pictured above include all exterior lighting equipment, day-night rearview mirror, Twilight Sentinel electronic light control and Guide-Matic electronic beam selector.

THE GUIDE STORY

The Guide story began in 1906 in Cleveland, Ohio, when three young men with a total capital of only \$300 founded a vehicle lamp repair shop. They named it "Guide Motor Lamp Company."

With electricity coming into use for home lighting, the three partners began experimenting with electricity for vehicle lighting. Their efforts were successful, and in 1908 they developed and marketed the first electric head lamp.

The company was incorporated in 1913 as the Guide Motor Lamp Manufacturing Company and soon became a leading manufacturer of all types of automotive lighting equipment. In 1928, Guide became part of General Motors and acquired a plant in Anderson on the present Guide site. The Cleveland operations were eventually phased out.

In Anderson, building after building has been added to the Guide complex on Pendleton Avenue. The Guide operations now occupy 2,342,000 square feet of floor space. In addition to the headquarters and manufacturing facilities in Anderson, the division maintains offices in the Detroit and Milwaukee areas. Employment is approximately 5,700.

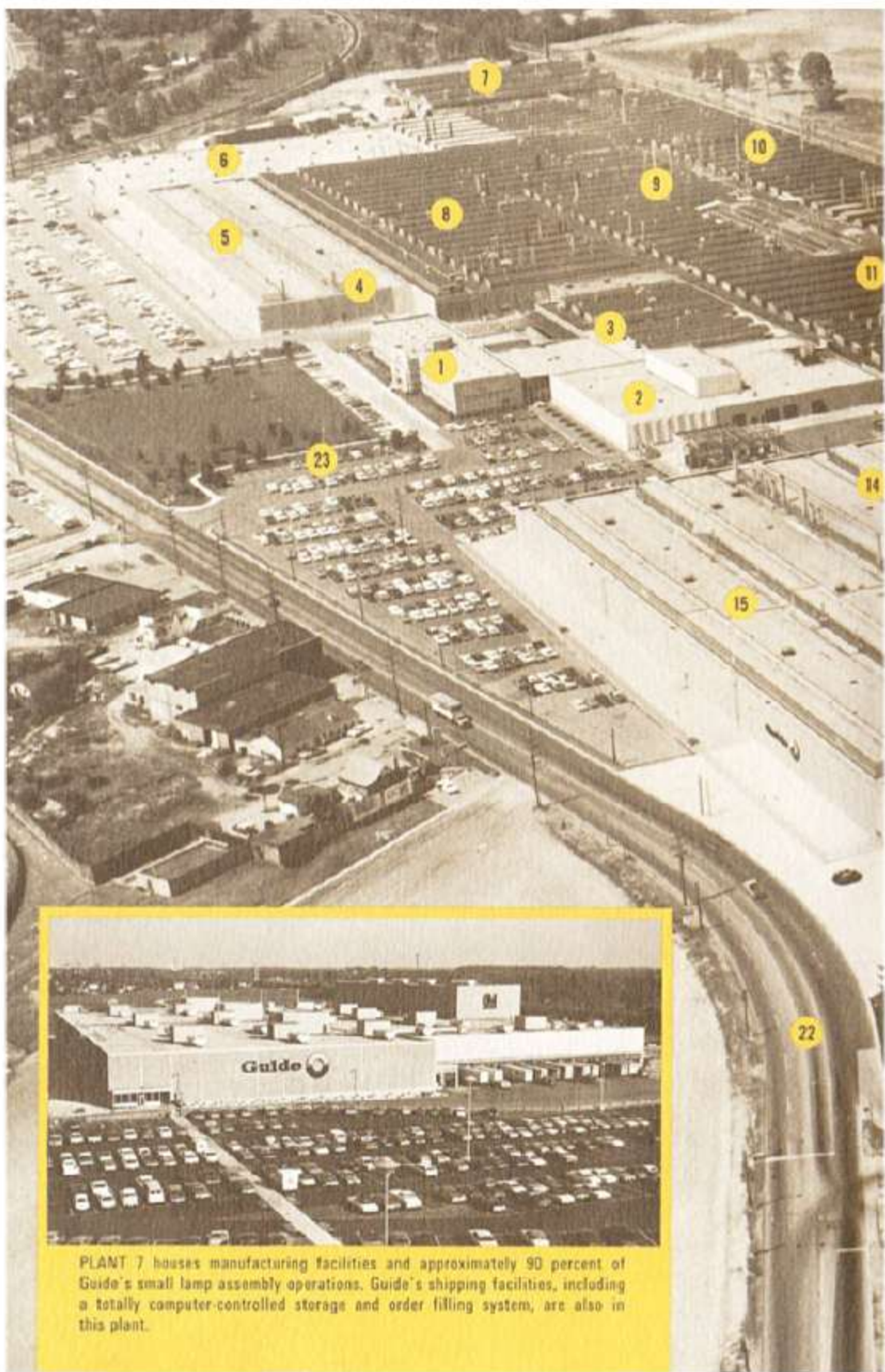
Guide today produces more automotive lighting equipment than any other company—77,000,000 lamps a year. The division also is a leading molder of plastic parts, and during the current model year will produce 203,000,000 parts in 3,015 designs, using 11 different kinds of plastics in 140 formulations. There are other products, such as electronic lighting controls and rearview mirrors.

Guide's introduction of plastic lenses in 1947 led to many other plastics applications for automotive use. The division now uses more acrylic plastic than any other molder. Vast quantities of other plastics also are used.

In addition to its plastics machines and other manufacturing equipment, Guide has extensive facilities for polishing, plating, enameling and vacuum deposition of metals. It also has one of the world's largest groups of equipment for the automatic plating of copper, nickel, chromium, zinc, cadmium and silver. There are elaborate testing facilities for materials, components and finished systems to assure reliable, long-lasting performance by Guide products.

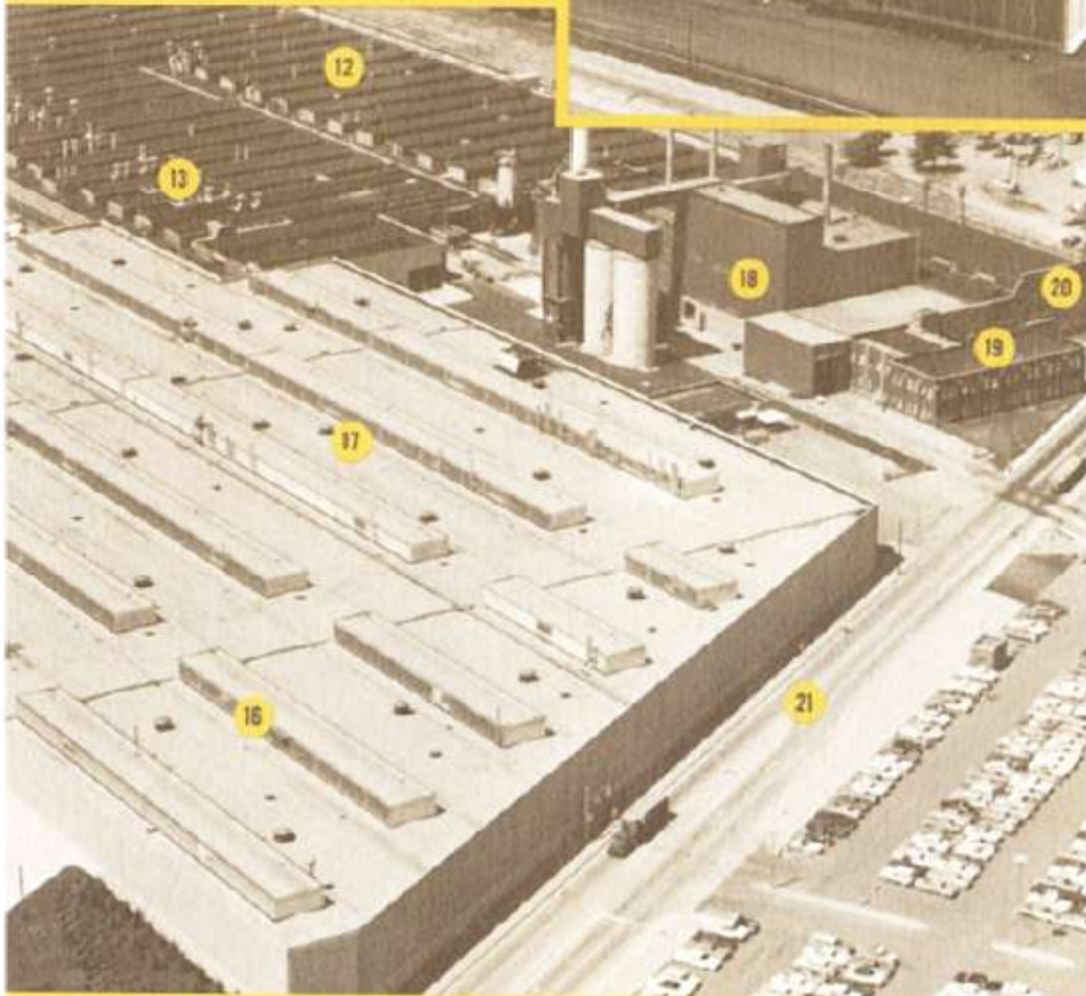
A longtime leader in air and water pollution control facilities, Guide recently constructed one of the most advanced water and waste treatment plants of its type. The Wabash Valley Association, composed of environmentalists in Indiana and Illinois, presented the Association's 1971 Annual Award of Merit to Guide in recognition of the division's work in water pollution control.

Guide customers include Chevrolet, Pontiac, Oldsmobile, Buick, Cadillac, GMC Truck & Coach, Fisher Body and other GM divisions. In addition, there are many non-GM customers, including other car manufacturers, bus, truck, farm implement companies, and others.



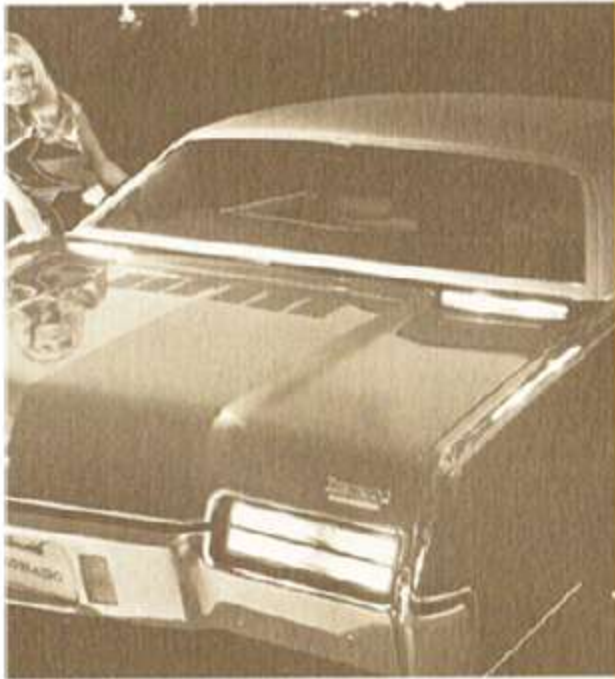
PLANT 7 houses manufacturing facilities and approximately 90 percent of Gulde's small lamp assembly operations. Gulde's shipping facilities, including a totally computer-controlled storage and order filling system, are also in this plant.

WATER AND WASTE TREATMENT PLANT, recently constructed by Guide, is completely automatic with closed-circuit television for remote monitoring of outside equipment. The plant can treat 3.5 million gallons of water a day. Incoming water is treated for manufacturing processes, and after use is treated to remove wastes and recirculated. There is also provision for collecting and using rainwater from parking lots. Equipment is painted different colors for coding purposes.



AERIAL VIEW, above, shows Guide facilities on the west side of Pendleton Avenue. Water and Waste Treatment Plant, upper right, and Plant 7, lower left, are on the east side of Pendleton Avenue.

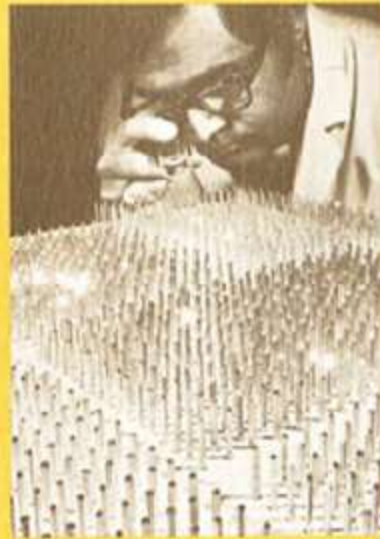
- | | | |
|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------|
| 1. Administration Building | 8. Painting, Aluminizing, Sonic Welding | 15. Press and Harness |
| 2. Engineering Building | 9. Buffing, Plating | 16. Toolroom and Machine Building |
| 3. Data Processing, Manufacturing Development, Process, Industrial Engineering, Cafeteria, Receiving | 10. Die Cast, Toolrooms, Maintenance, Machine Repair | 17. Plastics (Large Body Components) |
| 4. Guide-Matic, Twilight Sentinel | 11. Head Lamp Assembly and Rearview Mirror Manufacture | 18. Power Plant |
| 5. Plastics (Lamp Components) | 12. Press and Assembly | 19. Personnel Building |
| 6. Service (Past Model Lamps and Components) | 13. Sealed Beam Unit Manufacture | 20. Die and Mold Storage |
| 7. General Stores | 14. Compression Molding and Process Development | 21. 25th Street |
| | | 22. Pendleton Avenue (State Road 9, Business Route) |
| | | 23. Visitor Parking |



NEW HIGH MOUNTED AUXILIARY LAMPS signal both stops and turns to a following driver. The signals also can be observed through intervening cars to alert other following drivers. Developed by Guide, the new lamps are standard equipment on the Oldsmobile Toronado.



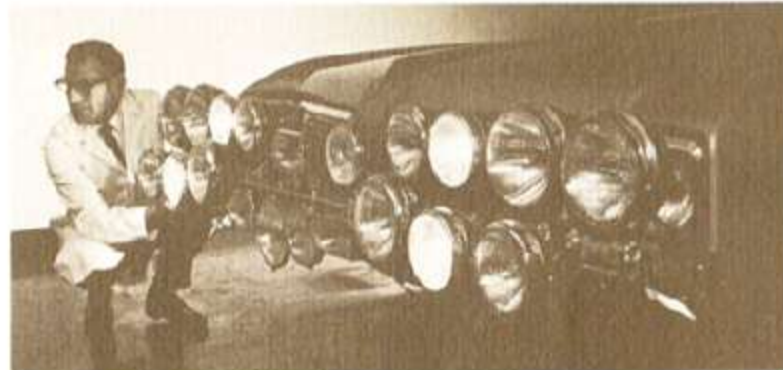
ALUMINIZING—A rack of 432 lamps has just been removed from a vacuum chamber where the lamps' reflecting surfaces were coated with a mirror-like finish of aluminum. The aluminum is first vaporized, then vacuum-deposited in a layer less than 10-millionths of an inch thick.



PINCUSHION? This may look like a large pincushion, but actually the hexagonal pins being inspected here will be used to mold plastic reflex reflector lenses for the rear and sides of General Motors cars. The three facets of each pin have been ground to a flatness of 1/12-millionth of an inch and then polished with diamond dust to a mirror finish. Guide uses 250,000 of the pins each year to produce more than 30,000,000 reflector lenses.

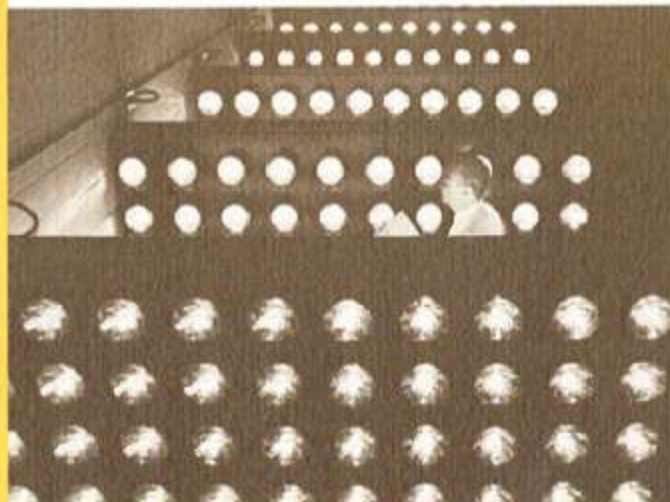


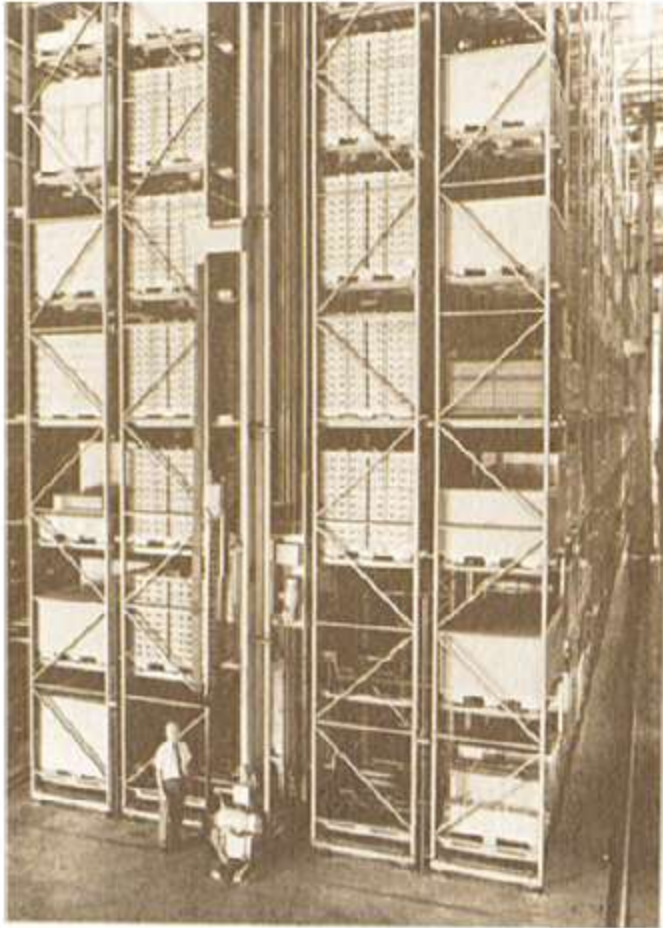
INSPECTION—A row of decorative headlamp parts frames an inspector as she examines the chromium finish of a bezel which fits around the Sealed Beam unit on a car.



TEST CAR—Various headlighting systems and stop, turn signal and tail lights are compared under identical conditions on a specially-equipped car. Lights can be controlled from driver's seat for road tests and demonstrations.

SEALED BEAM HEADLIGHT UNITS burn continuously in a controlled life test. The hermetically sealed, all-glass units contain argon and nitrogen for longer life and better performance of the tungsten filaments.





STACKED BY COMPUTER—An automatic storage machine places a pallet of automobile lamps in one of the 6,120 storage spaces (the equivalent of 127 railroad cars of finished goods). Five of the computer-directed machines, each as tall as a six-story building, move pallets in or out of storage at the rate of 240 loads per hour.



TWILIGHT SENTINEL turns on your lights automatically when it gets dark, turns them off at dawn. It also allows you to leave your lights on for up to 90 seconds to light your path from the car.



LITTLE-KNOWN PRODUCT is the "Liberator" pistol produced by Guide for OSS during World War II. In record time of only 13 weeks, Guide secretly tooled and produced 1 million of the pistols for use by resistance forces in enemy-held territory.

GUIDE LAMP DIVISION

Product "Firsts"

| PRODUCT | YEAR INTRO- DUCED | MODEL YEAR | REMARKS |
|------------------------------------------------------------------------|-------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| First electric head lamp for automobiles | 1908 | — | Aiming was accomplished by bending a solid fork that held the lamp. |
| Ball and socket head lamp mounting | 1919 | — | Major advance in head lamp aiming. By loosening a nut, the lamp could be swung to any position, then tightened. |
| Guide Ray head lamp | 1922 | — | First completely engineered head lamp. "Hot spot" or high intensity area was placed at the top of the beam for the first time. This gave good lighting well down the road. |
| Tilt Ray head lamp | 1924 | — | Two V-filaments were used to give upper and lower beams. This was first real two-beam head lamp, and resulted in resistance dimmers being dropped. |
| Multibeam head lamp | 1931 | — | Provided a beam aimed high on the right side for safe seeing, but low on the left to avoid glare. The nonsymmetrical meeting beam principle incorporated in this unit has been retained on all lighting systems to date. First three-beam system. |
| Turn signals | 1936 | 1937 | Developed for truck applications. Manual "on-off" switch, no flasher. |
| Turn signals | 1939 | 1940 | First turn signals for passenger car use, introduced on 1940 Buick. Manual "on-off" switch. First switch to use flasher. |
| Day-night inside rear view mirror | 1940 | 1940 | First two-position, "day-night" mirror. Provided glare reduction for nighttime use. |
| Autronic Eye head lamp control | 1951 | 1952 | First used on 1952 Oldsmobile. Automatically switched headlights from upper to lower beam when approaching car was about 1,000 feet away. |
| New improved Sealed Beam unit | 1954 | 1955 | Provided increased seeing light on lower beam. |
| T-3 Safety-Aim head lamp and T-3 aiming device to provide built-in aim | 1955 | 1956 | First head lamp to introduce three "guide points" or glass knobs on Sealed Beam unit lens to permit mechanical aiming in broad daylight. |
| Four-lamp headlighting system | 1956 | 1957 | First used on 1957 Cadillac Eldorado Brougham. Provides less compromise between upper and lower beams in design. |
| Vinyl gasket material | — | 1958 | First use of vinyl compound for molded lamp seals. Provides better aging and sealing characteristics. First used in 1958 Chevrolet trucks. |
| Twilight Sentinel electronic light control | 1959 | 1960 | Electronically turns lights on and off as required. First used on 1960 Buick. |
| Vinyl weather stripping | 1960 | 1961 | First time for weather strip and fastener to be integrated and molded as one unit. Introduced in 1961 two-door Corvair. |
| Cornering lamps | 1961 | 1962 | Used on 1962 Cadillac. Provides light for turning in driveway and narrow roads. |
| Guide-Matic electronic headlight beam selector | 1966 | 1967 | Solid state unit. First used on 1967 Cadillac. Replaced the Autronic Eye. |
| Plastic lamp housings | 1966 | 1967 | Major advance in lamp housings. Provides a lightweight noncorrosive lamp housing. |
| High-impact plastic bucket seat back and side panel | 1966 | 1967 | Advantage of being color molded. Improved passenger safety. |
| Lamp capsule concept | 1968 | 1968 | Hot melt and sonic weld processes used. Provides improved seal and economy. Used on various car lines for 1968. |
| Map light mirror | 1968 | 1969 | Provides recessed map light without glare that is readily accessible to driver or front seat passenger. |
| Head lamp turn-off time delay | 1969 | 1970 | Keeps headlights on for up to 90 seconds after head lamp and ignition switches are turned off. |
| Power Beam Sealed Beam unit | 1969 | 1970 | Improved light output through engineering improvements. Introduced on 1970 Chevrolet Monte Carlo. |
| Two-beam agricultural unit | 1970 | 1970 | Provides improved lighting for tractors in a single headlight. |



ATTRACTIVE THREESOME draws attention to growing use of plastics. The reinforced plastic front-end assembly is one of Guide's many plastic products.



COMPUTER-DESIGNED CAR LIGHT

—The reflector of this new prototype lamp is divided into planes or facets, optically calculated and positioned to project a beam of the desired shape and intensity through a clear lens. Present lamps with smooth reflectors use complex lenses with spreading flutes and bending prisms to control the final light pattern. The faceted reflector lamp uses a shielded tungsten-halogen bulb.

GUIDE PRODUCTS

Console Assemblies / Chrome-Plated Plastics / Die Castings, Zinc / Fan Shrouds / Guide-Matic Electronic Headlight Beam Selector / Head Lamp Bezels / Head Lamp Turn-Off Time Delays / Molded Vinyl and Sponge Gaskets / Plastic Instrument Panel Inserts / Plastic Shipping Trays / Plastic Tote Boxes / Radiator Grilles / Rearview Mirrors / Reflex Reflectors / Sealed Beam Units / Seat Backs and Side Panels / Specialized Plastic Parts / Specialized Low Profile Premix and SMC Parts / Stampings / Twilight Sentinel Electronic Light Control / Vehicle Lighting Equipment

We hope you have found this "Guide to Guide" interesting and informative. We are proud of our plants and the products we produce. The success of Guide Lamp is primarily due to the men and women who work here, and to our customers who buy our products. Great credit is also due to our many suppliers who furnish the quality materials that go into our products. For further information about Guide and General Motors, contact:

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