

United States Department of the Interior  
National Park Service

National Register of Historic Places  
Inventory—Nomination Form

For NPS use only

received

date entered

8/5/85  
SEP 18 1985

See instructions in *How to Complete National Register Forms*  
Type all entries—complete applicable sections

1. Name

historic Studebaker Clubhouse and Tree Sign

and/or common Bendix Woods County Park and Nature Center

2. Location

street & number 32132 Indiana 2 N/A not for publication

city, town New Carlisle X vicinity of

state Indiana code 018 county St. Joseph code 141

3. Classification

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input checked="" type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input checked="" type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input checked="" type="checkbox"/> museum
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> park
<input type="checkbox"/> site	<b>Public Acquisition</b>	<b>Accessible</b>	<input type="checkbox"/> educational
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> entertainment
	<input type="checkbox"/> being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input type="checkbox"/> government
	N/A	<input type="checkbox"/> no	<input type="checkbox"/> industrial
			<input type="checkbox"/> military
			<input type="checkbox"/> private residence
			<input type="checkbox"/> religious
			<input type="checkbox"/> scientific
			<input type="checkbox"/> transportation
			<input type="checkbox"/> other:

4. Owner of Property

name St. Joseph County Parks & Recreation Department

street & number 50651 Laurel Road

city, town South Bend N/A vicinity of state Indiana 46637

5. Location of Legal Description

courthouse, registry of deeds, etc. Recorder's Office

street & number County-City Building

city, town South Bend state Indiana 46601

6. Representation in Existing Surveys

title Indiana Sites and Structures Inventory has this property been determined eligible? \_\_\_ yes  no

date 1976-1981 \_\_\_ federal  state \_\_\_ county \_\_\_ local

depository for survey records Indiana Department of Natural Resources

city, town Indianapolis state Indiana 46204

## 7. Description

### Condition

excellent

good

fair

deteriorated

ruins

unexposed

### Check one

unaltered

altered

### Check one

original site

moved date \_\_\_\_\_

### Describe the present and original (if known) physical appearance

The Studebaker Clubhouse and the stand of pine trees that spell out S-T-U-D-E-B-A-K-E-R are located twelve miles west of South Bend and three miles south of New Carlisle in the northwest quadrant of St. Joseph County. The clubhouse and trees, originally part of the Studebaker Corporation's Proving Ground, are now part of Bendix Woods County Park.

Sited on a slight rise, the Studebaker Clubhouse is a 1926 Colonial Revival structure which faces in a northeasterly direction. The U-shaped structure is set back about 400 feet from the highway behind a screen of trees.

The two-story clubhouse of red brick laid in a seven row, common bond pattern has a field-stone foundation and a slate roof with copper gutters and downspouts. The main, or northernmost, facade of the house is symmetrical with two slightly projecting gable end wings that flank the center section. Each wing contains an exterior chimney, capped with two chimney pots, on the front facade. Decorative round-arched, louvered screens are located on the chimneys between the second floor and the roof line. The chimneys are flanked by 6/3 double-hung windows with wood shutters on both the first and second floors.

The center portion of the clubhouse is dominated by a one-story frame porch supported by Tuscan columns. A wrought iron railing tops the flat-roofed porch. The center entrance of the clubhouse is a wood paneled door flanked by leaded glass sidelights and Tuscan pilasters, and is surmounted by a heavy entablature with a broken pediment (Photo 31). Double-hung sash windows with 4/2 lights and wood shutters flank the entry. Paired windows of the same design are positioned on the other side of each window.

At the rear of the clubhouse an open courtyard is formed by the east and west wings. Multi-paned French doors open onto the courtyard near the west wing and an arcaded porch extends the entire length of the east wing. Projecting limestone impostes support the four round arches of the arcade. Each arch has radiating voussoirs with a limestone keystone. A single leaf, multi-paned door opens onto the covered walkway from the south wall.

The interior of the clubhouse has been somewhat altered. The Studebaker Corporation remodeled the building in 1947 and 1961, and the St. Joseph County Parks and Recreation Department in 1966-67. Although remodeled, the clubhouse still retains some of its original features, such as the original window trim, staircases, balustrades, and fireplaces.

The west wing of the clubhouse, originally a dining room, has a fireplace with a simple oak mantel and wood trim surround on the north wall (Photo 6). The fireplace is flanked by windows in recessed, round-arched openings.

The east room, originally the lounge, once had arcaded columns that provided a visual division in the large room (Photo 9). The columns were removed in the 1966-67 remodeling. The east lounge also contains a fireplace on the center of the north wall that is similar to the fireplace in the west room, although simpler in design (Photo 10).

The S-T-U-D-E-B-A-K-E-R tree sign is located west of the clubhouse (the clubhouse sits approximately 100 feet southeast of the base of the second "E") and reads south to north with the base of the letters in the east. The trees span a distance of one-half mile and the individual letters measure 200 feet across and 250 feet in length. Each letter is composed of two rows of white pine forming the border and three inner rows of red pine. Approximately 8,000 pine trees, which now stand 60 feet tall, were planted as six-inch seedlings in 1938 (Photos 15-17).

## 8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400–1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500–1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600–1699	<input checked="" type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input checked="" type="checkbox"/> social/
<input type="checkbox"/> 1700–1799	<input type="checkbox"/> art	<input type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input type="checkbox"/> 1800–1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900–	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input checked="" type="checkbox"/> other (specify) Commercial
<b>Specific dates</b>	1926 and 1938	<b>Builder/Architect</b>	Ernest W. Young	Landscape

### Statement of Significance (in one paragraph)

Both the Clubhouse and tree sign reflect a part of the rich history of the automobile manufacturing period of the Studebaker Corporation, an industry of major importance to the history of South Bend and the surrounding area. The Studebaker Corporation, which had over 20,000 employees after the Second World War (population of South Bend in 1949 was 125,845), has left an architectural legacy in the city of South Bend as well as in the outlying areas. Other structures extant in the city built by Studebaker include the large automobile manufacturing complex, an automobile showroom, a downtown office building, a workers' housing complex known as Studebaker Place, and apartment building for factory management. The family and corporation executives have also added to the Studebaker architectural legacy through their large mansions scattered throughout the city. However, the Studebaker Clubhouse remains unique as the only structure built expressly for the accommodation and recreation of the employees. The Studebaker Tree Sign became symbolic of the pride both the employees and corporation had in the Studebaker name. The tree sign is a living record of what was once the testing grounds for one of the major independent automobile manufacturers in the United States.

The Studebaker Corporation began in South Bend in 1852 as the Studebaker Brothers Manufacturing Company, a manufacturer of wagons. By the 1870s the company was one of the leading manufacturers of wagons and buggies in the United States. As early as 1902 electric cars and parts of gasoline-powered automobiles were made in South Bend. However, it was not until 1920 that the wagon works in South Bend were completely converted to automobile production.

During the 1920s Studebaker entered into a large expansion program and the company grew from 3,000 employees at the end of World War I to 12,000 employees by the late 1920s. The corporation built a major automobile manufacturing complex in South Bend and purchased 800 acres of land located 12 miles west of South Bend and three miles south of New Carlisle.

The land, purchased from area farmers in 1926, was developed into an automobile proving ground. The facility was designed and constructed under the supervision of Maurice Thorne, who supervised the construction of the General Motors Proving Ground in the previous year. The Studebaker Proving Ground consisted of eight miles of roadway, an engineering building, garages, and the clubhouse. Total cost for acquisition and construction of the proving ground was \$617,375.95.

In 1926 Studebaker also moved all their engineering and design staff to South Bend from Detroit. Studebaker's new automobile manufacturing complex and proving ground were reportedly the most modern in the automobile industry at that time.

### CLUBHOUSE

The Period Revival clubhouse was built in 1926 as a place for approximately 100 proving ground employees to eat, relax in off hours, stay in bad weather, and board if they so desired. Designed by Ernest W. Young, a prominent South Bend architect, the clubhouse resembles a residential building or a country club, a stark contrast to the industrial look of the garages and engineering buildings.

# 9. Major Bibliographical References

Please see continuation sheet

# 10. Geographical Data

Acreage of nominated property 21.08

Quadrangle name Lydick, Indiana

Quadrangle scale 1:24000

### UTM References

A	<u>1</u> <u>6</u>	<u>5</u> <u>4</u> <u>2</u> <u>3</u> <u>4</u> <u>0</u>	<u>4</u> <u>6</u> <u>1</u> <u>3</u> <u>2</u> <u>2</u> <u>0</u>
	Zone	Easting	Northing

B	<u>1</u> <u>6</u>	<u>5</u> <u>4</u> <u>2</u> <u>5</u> <u>2</u> <u>0</u>	<u>4</u> <u>6</u> <u>1</u> <u>3</u> <u>2</u> <u>2</u> <u>0</u>
	Zone	Easting	Northing

C	<u>1</u> <u>6</u>	<u>5</u> <u>4</u> <u>2</u> <u>5</u> <u>1</u> <u>0</u>	<u>4</u> <u>6</u> <u>1</u> <u>2</u> <u>7</u> <u>3</u> <u>0</u>
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D	<u>1</u> <u>6</u>	<u>5</u> <u>4</u> <u>2</u> <u>3</u> <u>6</u> <u>0</u>	<u>4</u> <u>6</u> <u>1</u> <u>2</u> <u>4</u> <u>9</u> <u>0</u>
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E	<u>1</u> <u>6</u>	<u>5</u> <u>4</u> <u>2</u> <u>3</u> <u>9</u> <u>0</u>	<u>4</u> <u>6</u> <u>1</u> <u>2</u> <u>5</u> <u>2</u> <u>0</u>
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F	<u>  </u>	<u>  </u>	<u>  </u>
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G	<u>  </u>	<u>  </u>	<u>  </u>
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H	<u>  </u>	<u>  </u>	<u>  </u>
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### Verbal boundary description and justification

Please see continuation sheet

### List all states and counties for properties overlapping state or county boundaries

state	<u>N/A</u>	code	county	code
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state		code	county	code
-------	--	------	--------	------

# 11. Form Prepared By

name/title Elizabeth A. Straw

organization Historic Preservation Commission date February 23, 1984

street & number County-City Building telephone 219/284-9798

city or town South Bend state Indiana 46601

# 12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national  state  local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature *J. T. Cook*

title Indiana State Historic Preservation Officer date 6-28-85

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I hereby certify that this property is included in the National Register

*[Signature]*

date 9/18/85

Keeper of the National Register

Attest:

date

Chief of Registration

**United States Department of the Interior  
National Park Service**

**National Register of Historic Places  
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Studebaker Clubhouse  
and Tree Sign

Continuation sheet

Item number 7

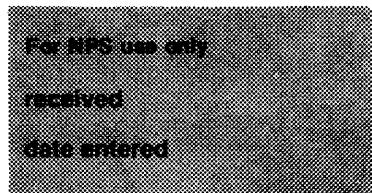
Page 1

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Although the interior of the clubhouse has been remodeled several times, the exterior has remained virtually unaltered in 57 years. Likewise, the St. Joseph County Parks and Recreation Department has kept up a maintenance program with the trees which has included removal of unnecessary tree growth to preserve the "letters" of the living sign.

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Studebaker Clubhouse

Continuation sheet and Tree Sign

Item number 8

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Architecturally, the clubhouse exemplifies the Colonial Revival style popular in the mid-1920s. The use of multi-paned windows, shutters, pilasters and entablature door surround, prominent chimneys, and a large colonnaded porch are all indicative of the style.

The first floor of the structure consisted of a large recreation room and lounge in the east wing. The lounge was furnished with pool tables, leather couches, and chairs. The west wing contained the kitchen and employee's dining room. A small executive dining room was located in the center section of the building.

The second floor contained a small apartment for the caretaker and his wife and several sleeping rooms for the workers. Ironically, these sleeping rooms were reportedly under-used, since Studebaker overestimated the employees' desire to both live and work at the proving ground facility.

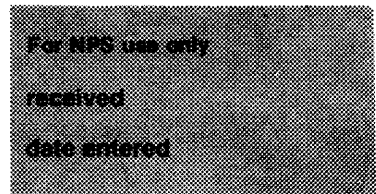
The Studebaker Clubhouse is representative of the Welfare Capitalism movement that industry embraced in the early 20th century. Welfare Capitalism was a service provided for the comfort or improvement of employees which was neither a necessity nor required by law. Studebaker's involvement in the movement was evidenced by the company's implementation of employee sports, the Studebaker Cooperative Association, the Studebaker Place housing development, and the Proving Ground Clubhouse. The clubhouse, with its proposed functions, including a recreation room, cafeteria, and a dormitory, demonstrated an effort by the Corporation to meet the needs of their employees in the isolated location, by providing an aesthetically pleasing environment.

As a result of the Great Depression the use of the Clubhouse changed. The full-time operating staff was reportedly removed from the proving ground and the facility closed except for automobile test drives. However, the purchase of a new stove for the Clubhouse in 1937 seems to indicate that the kitchen and dining room continued to be used. In 1938 and 1939 the Studebaker Corporation gave the Children's Dispensary and Hospital Association use of the Clubhouse for a crippled children's camp for one month each summer.

In March, 1943, the United States Army Ordnance Department took control of the Proving Ground for military testing. The Clubhouse became known as "The Barracks" and housed commissioned Army officers assigned to the project along with visiting officers. The Army had control of the grounds until June, 1945. After the war, the Proving Ground was returned to Studebaker in poor condition and the corporation had to incur the large cost of rebuilding the facility. Unlike the Army's contracts between General Motors and Packard, the Studebaker contract did not require that the Army return the facility to its original condition. After the repairs were completed, the tracks and the Clubhouse were once again in active use with the testing of post-war automobiles.

In 1947, the east wing of the first floor of the Clubhouse was converted into a drafting room for a special project. R. E. Cole and R. A. Vail, retired Studebaker design engineers, were hired to design a small car which would appeal to a wide audience of car buyers. The Cole-Vail project reportedly designed the first American car to use McPherson struts, a type of shock absorber that provides independent suspension to each wheel. However, the design of the Cole-Vail car was rejected by the Board of Directors. Common usage of the McPherson strut in the United States did not occur until the late 1970s although it has long been used in Europe.

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Studebaker Clubhouse

Continuation sheet and Tree Sign

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All available evidence indicates that after the Cole-Vail project was abandoned, the Clubhouse remained vacant until 1961 when Sherwood Egbert, the new president of the Studebaker Corporation, had it renovated into his private residence. In 1963, with the combination of Egbert's resignation in November and the closing of the Studebaker factory in South Bend in December, the Clubhouse again became vacant and the Proving Ground closed.

In 1966, the 800 acre Proving Ground was sold to the Bendix Corporation who, in turn, donated 175 acres of land, including the Clubhouse and tree sign, to the St. Joseph County Parks and Recreation Board. The Bendix Corporation, now a subsidiary of the Allied Corporation, continues to use the 625 acres, including the original track and engineering buildings, as a proving ground facility. (This nomination includes only the significant portion of the Proving Ground owned by St. Joseph County Parks and Recreation Department.)

By 1967, the Clubhouse was once again in use, this time as a Nature Center and offices for the St. Joseph County Parks and Recreation Department.

TREE SIGN

In 1928, with trees provided by the Indiana Forestry Department, the Studebaker Corporation began reforestation of the cleared farmland that was converted into the Proving Ground. Ten years later the corporation received an additional 16,000 pine trees, of which 8,259 were used to form the letters in a half-mile long sign spelling S-T-U-D-E-B-A-K-E-R.

The idea of planting the tree sign was conceived by two Studebaker engineers, Michael de Blumenthal and Mel S. Niemier. The plans for the tree sign were drawn up in 1936 and Niemier, his ten-year-old son, and two other men staked out the letters. Although the Studebaker tree sign was not planned by professional landscape architects, it must be considered a major undertaking in landscape design.

Niemier and de Blumenthal had to choose a site that would encompass the half-mile-long sign without interfering with the proving ground tracks, roadways, or structures. The site also had to be far enough away from the remainder of the reforestation project so that the tree letters would stand out. In addition, the staked out letters had to be large enough to allow for the projected growth of the seedlings. Once the sign was planted, it required special care that the remainder of the trees on the proving ground did not need. Dead seedlings had to be replaced and unwanted tree growth removed in order for the letters to remain readable and clear.

Although the tree sign is not yet 50 years old, it is representative of an important era in the history of the United States. The tree sign was planted by members of the Civilian Conservation Corps, a federal relief program for young men that was initiated during the Great Depression (1933) and lasted until World War II. The C.C.C. had approximately 50 camps located throughout Indiana, including one in St. Joseph County. The C.C.C. provided several services throughout the country, including improvement of state parks, flood and erosion control, irrigation projects, preservation and restoration of historic sites and monuments, as well as the reforestation projects. The Studebaker tree sign, which took six weeks of the C.C.C.'s time to plant, is unique and symbolic of "Roosevelt's Tree Army." By 1938 over 200,000,000 trees were planted by the C.C.C. The Studebaker tree sign stands out as a monument to this gigantic undertaking.

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Studebaker Clubhouse

Continuation sheet and Tree Sign

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Before the trees reached mature growth, the tree sign was completely visible from the highway (State Road #2). The Studebaker Tree Sign was used for several years as a landmark for both commercial and private pilots, and was often pointed out to passengers as a major South Bend area landmark.

The first known aerial photograph of the Studebaker Tree Sign was taken in 1945. The trees, which were planted as seedlings (approximately six inches tall), would not have been readable until approximately 1943. By the time the Army Ordnance Department had control of the Proving Ground for military testing, it is doubtful that photographs of the Proving Ground or the Trees from the air would have been allowed during the war.

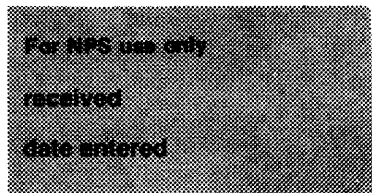
In the early 1950s Studebaker used aerial views of the Proving Ground and Tree Sign in advertisements and company publications. The corporation was proud of its leadership in design. Aerial views of the Proving Ground with the Studebaker Tree Sign re-emphasized the company's care in design and testing, and pride in the Studebaker name.

The Studebaker Tree Sign is believed to be the largest living sign in the United States. Today it stands as a vivid reminder of the Studebaker Corporation's presence and important role in this community.



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National Park Service**

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Studebaker Clubhouse and  
Tree Sign

Continuation sheet

Item number 9 and 10

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Item No. 9

PUBLISHED SOURCES

- "Acreage is Purchased South of New Carlisle." South Bend Tribune, January 21, 1926.  
"Company Starts Reforestration (sic)." South Bend Tribune, October 30, 1928.  
Johnson, Judy. "Studebaker Clubhouse a Relic of Industrial Era." South Bend Tribune,  
June 19, 1983.

Outdoor Indiana, Indiana Department of Natural Resources, various issues, 1933-1940.  
South Bend Public Library Clipping File. "Parks--St. Joseph County--Bendix Woods."  
South Bend Tribune Library Clipping File. "Studebaker."

UNPUBLISHED SOURCES

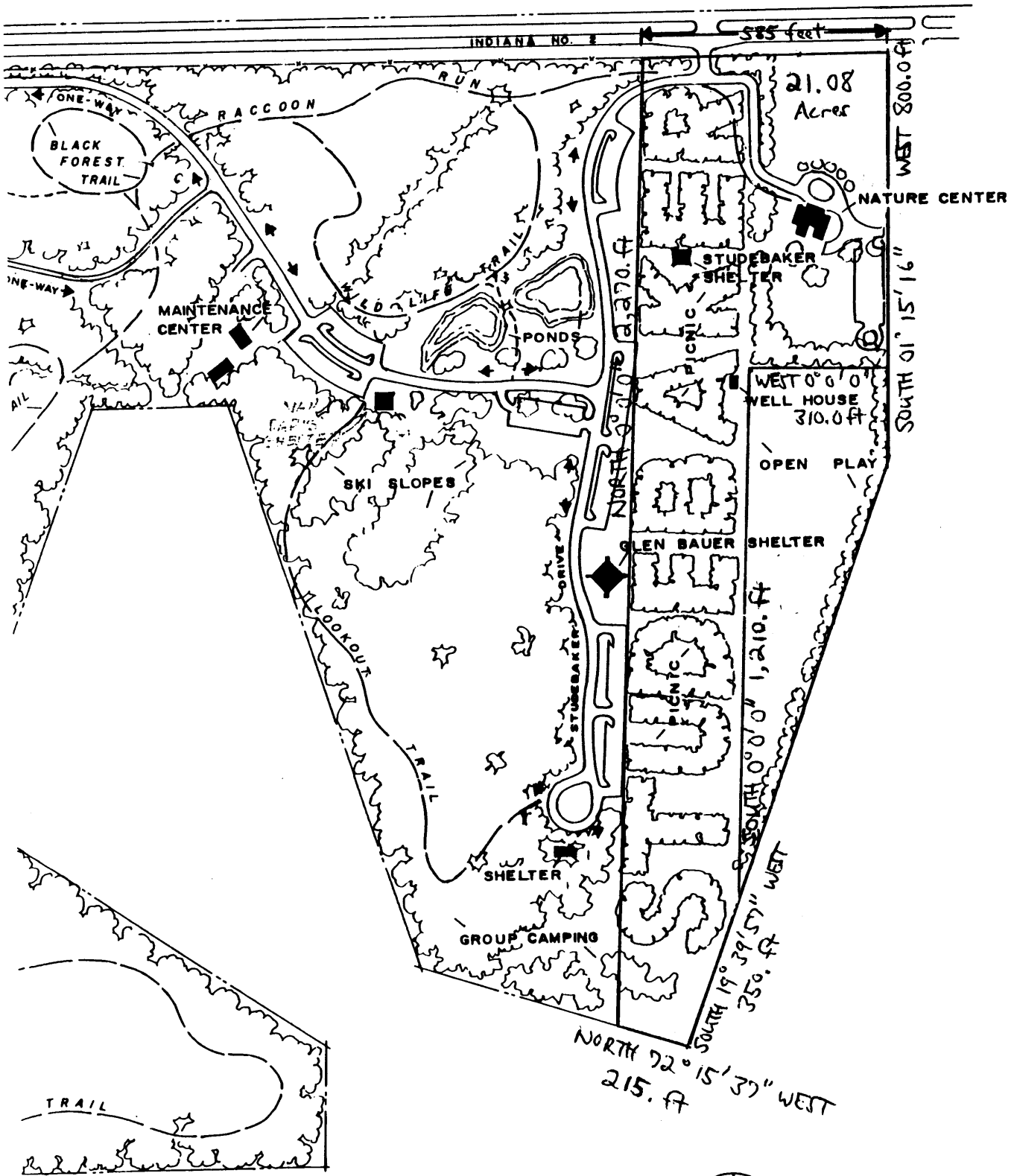
- "Additional and Up-to-the-Minute Facts on the Studebaker Proving Ground."  
Studebaker File, South Bend Tribune Library, South Bend, Indiana.  
Klausmeyer, Otto. Telephone Interview. December 12, 1983.  
"Real Estate File and Index Summary." Studebaker Archives, Discovery Hall Museum,  
South Bend, Indiana.  
Reynolds, E. T. Letter to Elizabeth A. Shaw (sic). January 10, 1984.  
"Supporting Minutes from the Board of Directors Meetings." Studebaker Archives,  
Discovery Hall Museum, South Bend, Indiana.

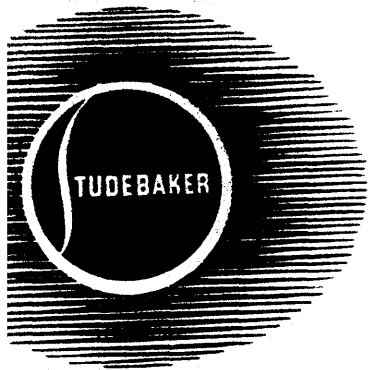
Item No. 10

A parcel of land in the east half of the southwest quarter and the southeast quarter of Section 11, Township 37 North, Range 1 West, more particularly described as follows:

Beginning at a point 3,456.13 feet South 88°55'07" East of the Northwest corner of the East half of the Southwest Quarter of said Section 11; thence South 01°15'16" West 800.0 feet parallel to the West line of the East Half of the Southwest Quarter of said Section 11; thence West 0°0'0" 310.0 feet; thence South 0°0'0" 1,210.0 feet to the centerline of a chain link fence; thence South 19°39'57" West 350.0 feet along the centerline of said chain link fence; thence North 72°15'37" West 215.0 feet along the centerline of a chain link fence; thence North 0°0'0" 2,270.0 feet to a chain link fence at the North boundary of Bendix Woods County Park, containing 21.08 acres, more or less, subject to existing highways.

The preceding boundaries were chosen because they encompass the only extant, significant improvements of the Studebaker Proving Ground facility within the landholdings of the St. Joseph County Parks and Recreation Board. The remainder of the park department's property consists mainly of the reforested farmland and minor Proving Ground roadways which have been significantly altered for park use. The remainder of the Proving Ground, including the engineering building and garages, is owned by Allied Corporation and is not included in this nomination.





A TRIP THROUGH THE

# STUDEBAKER FACTORY



THE STUDEBAKER CORPORATION

C.1950

## WATER TROUGH TEST

Besides the many fatigue and resistance tests on such parts as ignition system, brake linings are studied in detail at the proving ground. A typical test of this type is made by operating several miles over extremely dusty trails through the "water trough." Under these conditions these dust trails are so severe that the test driver must wear dust masks.

What is the effect of mud and grit on engine parts? Several weeks of almost continuous operation of this type will most certainly remove all gaskets at the "water trough" can be used to simulate a burst. The depth of the water in the "trough" can be varied from nothing to six feet.

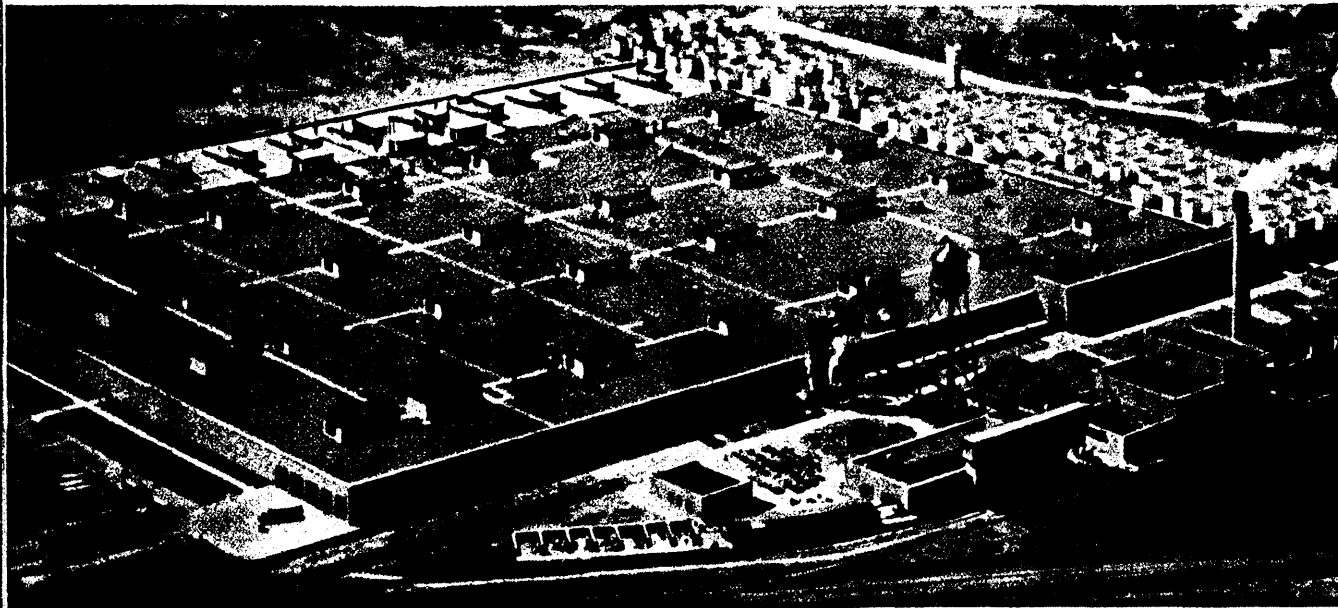
## PROVING GROUND

Day and night, winter and summer, engineers and technicians ferret out the facts in this 800-acre outdoor laboratory. Sand roads, gravel roads, black top roads, straight roads, crooked roads, smooth roads and roads that are brutally rough, cross country trails, steep grades, water hazards, a three-mile concrete speedway — just about every facility is available. Most any and every condition that an owner may encounter can be duplicated at the Proving Ground.

The engineers decide exactly what they want to determine, devise a test to give them the specific data sought, and equip the car with instruments to give them accurate recordings. The large Studebaker sign shown on this page is an evergreen planting. It is more than 1/2 mile in length. Each letter is 225 feet high. More than 4,000 trees were used.

# STUDEBAKER TRUCKS

*Brilliantly engineered and superbly constructed  
by America's finest craftsmen*



**Studebaker's 800-acre proving ground.** Through sand traps, water holes and hub-deep muck, up and down the stiffest grades, the new Studebaker trucks have taken gruelling punishment in stride and graduated with honors.

**This huge modern plant is the manufacturing headquarters for Studebaker's sensational new trucks.** Here, on 22 acres of floor space, the newest and finest kind of truck production machinery, operated by the nation's most competent and conscientious truck craftsmen, fabricates and assembles the new Studebaker trucks.



**Studebaker's corps of truck engineers** have designed some of the world's most successful civilian and military vehicles. They put years of brilliant planning and painstaking research into developing every new truck.

**Studebaker's world-famed craftsmen** are men of conscience as well as competence—and their care is evident in the top quality workmanship of every detail of these new trucks.



BF Goodrich Co. "Congratulations Studebaker on your 100th Anniversary" 1952.



P. O. Peterson

*P. O. Peterson was born in Christian's Mill, Vermont, in 1896, and joined Studebaker's purchasing department in 1919. In 1928-31, he was director of purchasing; 1931-33, treasurer of Rockne Motors; 1933-47, director of purchasing. In 1947, he was elected vice-president in charge of manufacturing, and in 1951 was made an executive vice-president.*

United States: the Lincoln carriage used by the martyred president the night of his assassination; the Grant carriage used by General Grant when he was president; the Harrison carriage built by Studebaker and used by President Harrison for many years; President McKinley's family phaeton, also many record breaking Studebaker cars and samples of war products made by the corporation.

A modern iron foundry 690x722 feet was put in operation in 1924 and Paul G. Hoffman came from his Studebaker distributorship in Los Angeles in 1925 to act as vice-president in charge of sales.

Studebaker purchased its \$1,000,000 proving grounds about 10 miles west of South Bend in 1926 and the Earskine "Six," a beautiful two-toned light car, named in honor of Studebaker's president, was introduced. Harold S. Vance became vice-president in charge of engineering and production and the 1,000,000th Studebaker rolled off the assembly line.

The year 1927 marked Studebaker's Diamond Jubilee 75 years of continuous operation. *Dictator* and *Conservator* "Sixes" and *President* "Eight" introduced. Four fully equipped stock cars began a series of sensational performance and endurance tests under the sanction and supervision of the American Automobile Association which, this year, is celebrating its Golden Anniversary.

All Studebaker manufacturing operations were concentrated at South Bend in 1928, and Studebaker ac-



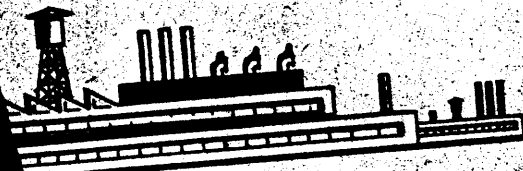
WORLD'S LARGEST LIVING SIGN

After 13 years, the scene pictured above has become a familiar sight to air travelers over northern Indiana. Occupying an area 250 feet wide by one-half mile in length, the 8200 pine trees spelling the name have now reached an aver-

age height of 20 feet. Seven rows of trees planted 6 feet apart form the letters. The huge sign is located about 10 miles west of South Bend, Indiana on Studebaker's 800-acre proving ground, where the new 120-horsepower Studebaker V-8 engine was test driven for hundreds of thousands of miles.

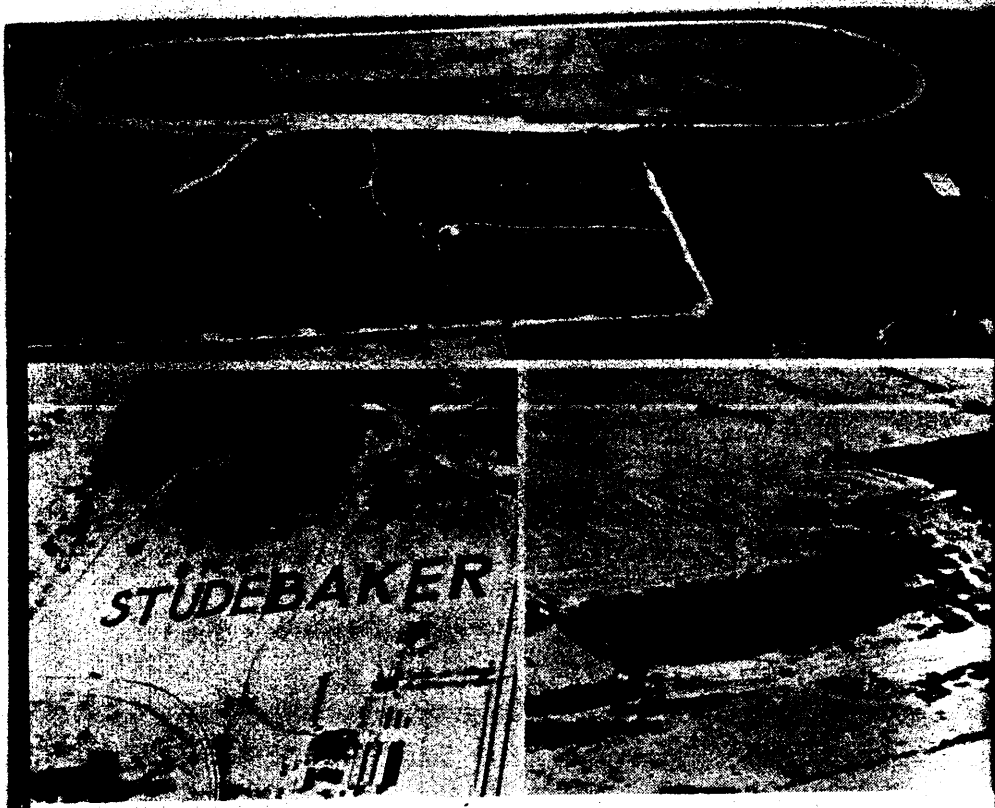
**A TRIP THROUGH THE**

# **STUDEBAKER FACTORY**



**THE STUDEBAKER CORPORATION**

1952



## WATER TROUGH TEST

Besides the many fatigue and resin on such parts as ignition system, l are studied in detail at the provin test of this type is made by operat over extremely dusty trails and "water trough." Under favorab dust trails are so severe that the masks.

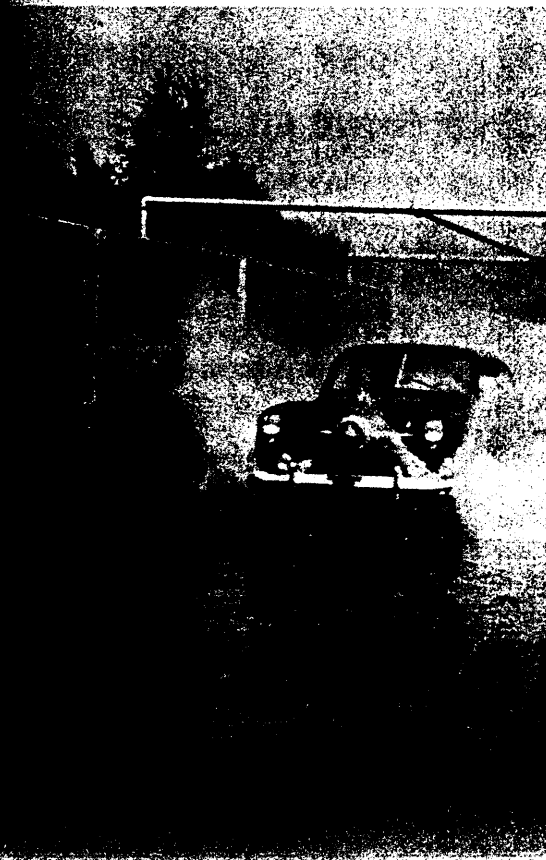
What is the effect of mud and gri Several weeks of almost continu will most certainly remove all gu the "water trough" can be used to depth of the water in the "trou nothing to six feet.

## PROVING GROUND

Day and night, winter and summer, engineers and technicians ferret out the facts in this 800-acre outdoor laboratory. Sand roads, gravel roads, black top, straight roads, crooked roads, smooth roads and roads that are brutally rough, cross country trails, steep grades, water hazards, a three-mile concrete speedway — just about anything and everything that can happen to a car in actual use can be duplicated here in actual road tests.

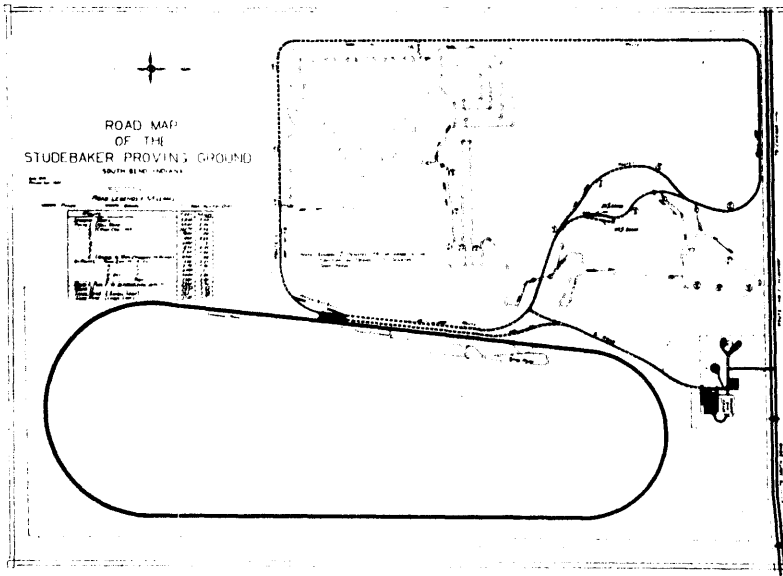
The engineers decide exactly what they want to know, equip the car with instruments to give them accurate recordings, and devise a test to give them the specific data sought.

The large Studebaker sign, in the lower left corner of the picture shown on this page is an evergreen planting. It is more than 1/2 mile in length. Each letter is 225 feet high. More than 4,000 trees were used.





Jan 43  
Rev. Sept 44



Studebaker Proving Ground provided an extensive testing facility.

Proving Ground 'tree sign' is still visible today.

days. Though its features, including the banked oval three-mile track, compared roughly to Packard's (many miles of twisting test roads with all kinds of surfaces, hills as steep as one-in-four, beds of water for splash tests and sand pits to check traction) it was more elaborate and nearly twice as large in total area. Whereas Packard's property housed the bare minimum of buildings, Studebaker's included a club house, recreational facilities, even living quarters for employees who preferred not to commute between the facility and South Bend. In a burst of pride, several thousand pine trees had been planted along a half-mile length at one end of the oval in 1937, spelling Studebaker from the air. They're still distinguishable today, though the current owner, Bendix, has not made particular efforts to preserve the pattern.

Prewar, the Proving Ground was used to test proposed or production cars and trucks, plus numerous foreign and domestic competitors purchased for evaluation. Occasionally it was opened to the public for displays and exhibitions, though its primary purpose was undisturbed research.

In March 1943, the Proving Ground was leased by the Army Ordnance Department for testing military vehicles. The road mileage was doubled, the 100-mph high-speed lane of the oval track was removed. Garages were expanded, a 250-foot basin was constructed for water testing. Over 650 vehicles were tested there, everything from tanks to half-tracks, logging nearly a million miles in little more than two years. With termination of the Ordnance contract in July 1945, the Proving Ground had to be extensively repaired, as the heavy vehicles had caused considerable damage. While



Packard received government help in similar reconstruction at its proving ground, Studebaker apparently paid the cost without aid.

The expenses of converting from defense work were reflected and enlarged down the road in South Bend, and naturally affected the balance sheet. Though the company voted dividends totaling fifty cents a share for 1945, Studebaker sales had slid to \$212.8 million and profit was only \$3.2 million, both real financial worries. War contracts were completed on the basis of plans worked out eighteen months before, and Studebaker was fully ready for civilian production again by October 1. Actually it had been given government permission to build cars again in July, but conversion work and strikes in component industries, not to mention shortages of raw materials, prevented a restart until January 1946.

The speed at which Studebaker reconverted was partly due to its ace contract termination officials. Just 105 days after V-J Day, for example, the company settled \$110 million in Army truck contracts. "For its size," commented *Business Week*, "this is easily the fastest and smoothest termination on the books." As subcontractors entered claims against commitments, Studebaker paid them off without waiting to pass the claims on to the government, receiving in the end only partial payments or nothing at all. If this appeared a strangely loose policy, it probably was. But the company liquidated war business faster than most auto manufacturers, and the amount lost by rapid defense settlements was probably a small price to pay for the advantage gained.

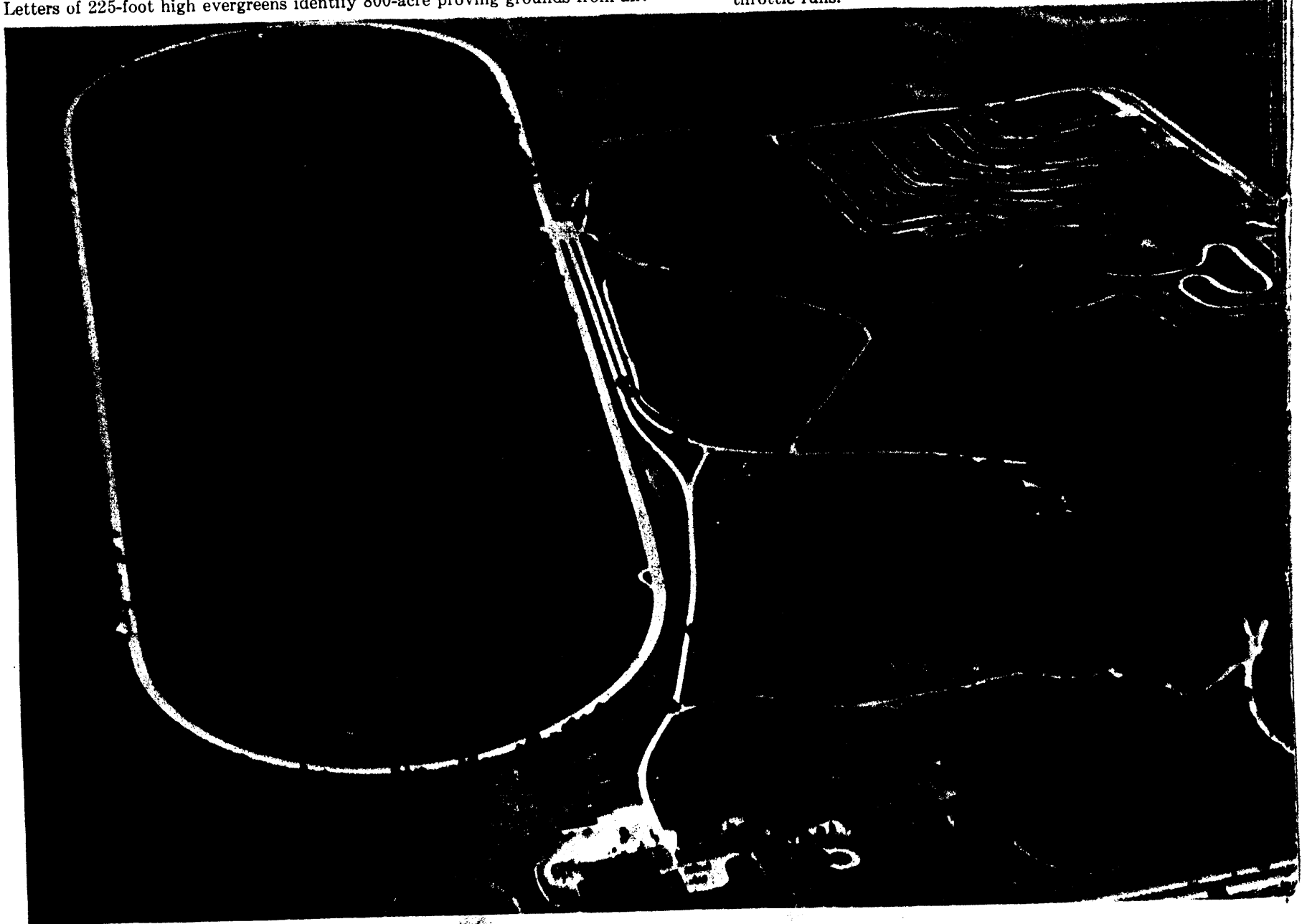
Significant, too, for the selling seasons to come, was the August 1944 changeover from the distributor system to direct retail dealers. Eliminating distributors meant that the profit increment they usually absorbed would go directly to the dealers, who naturally approved this policy loudly. But smaller manufacturers traditionally used the distributor system to assure themselves adequately financed representation, so the change indicated that Vance and Hoffman were thinking big about postwar production. This was borne out when production reached beyond a quarter million cars in 1950—but still, it

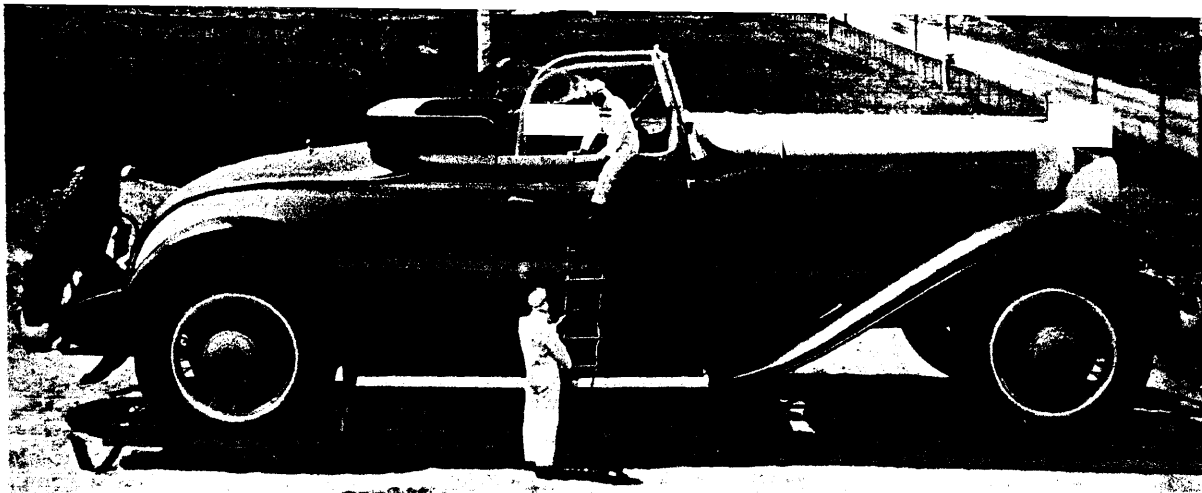
On last lap of production, brand new Studebakers move down the final inspection line, where a battery of inspectors systematically check doors, windows, trunks, upholstery and all body fittings.

# FINAL INSPECTION

Letters of 225-foot high evergreens identify 800-acre proving grounds from air.

Three-mile concrete track has banked curves for open-throttle runs.





molybdenum steel — contemporary with (some claim earlier than) Wills Sainte Claire. At the same time the aluminum cone clutch formerly used gave way to a single dry plate clutch designed and built by Studebaker. In September of 1924, for the 1925 model year, the Duplex Phaeton was introduced, with a hard-top and glass rear quarters. During 1925, too, the Light Six became known as the Standard Six.

An interesting but short-lived interlude (1925-26) was the hydraulic servo braking system, consisting of a transmission-driven oil pump which operated a mechanical brake linkage by hydraulic pressure. It came with four wheel brakes, and operated on both front and rear wheels, with a mechanical override on rear wheels only. This was because the power unit was ineffective below 15 mph or in reverse. (It was also a reserve system in case of servo failure.)

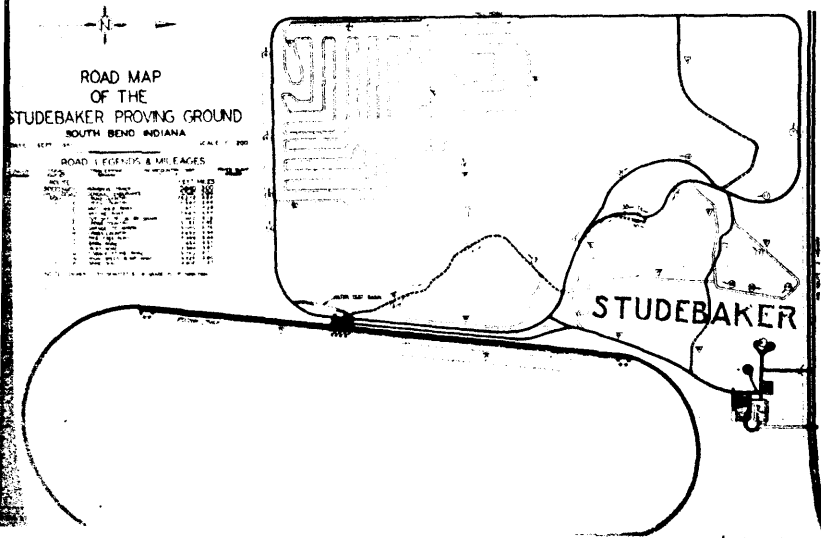
"The brake pedal had two zones of operation," recalls a Studebaker engineer. "The first two inches of movement controlled the power brake, but if the pedal was depressed over two inches the rear mechanically-operated brakes only were in effect. . . . No great imagination is required to guess what happened when a panic stop was made. I can testify to [having had] some rather startling moments behind the wheel."

Henry was responsible to engineering and manufacturing vice-president Max Wollering. Assisting Henry were consulting engineers Vincent Link and E. J.

Miles, chief body engineer J. H. Bourgon, methods and standards manager W. P. Woodside and two men, Leroy Maurer and A. J. Chanter, who would later head engineering and administration at Pierce-Arrow.

Studebaker's plant facilities were enormous, having been continuously expanded since 1914. By the mid-Twenties the original vehicle plant in South Bend had been relegated to small forgings, stamping springs and certain body parts manufacture. Separate buildings for Light, Special and Big Six models were added in 1922-23, these alone totalling well over one million square feet of floor space. At capacity, a total of 5200 bodies were in process at any one time, a complete body taking from nineteen to twenty-one days to complete.

All chassis components for Light Sixes were made at South Bend's Plant 2, which included an extensive and up-to-the-minute foundry opened in 1924. Its floor area was 575,000 square feet and its capacity 600 tons of castings daily. As a result of their engineering testing, Studebaker insisted on steel companies supplying steel alloys to their own specifications. Use was also made of alloys in the cast iron mix, and here they could do as they chose because they had their own foundry. Plant 3, at Detroit, made complete chassis for Special Six and Big Six models, and had over three-quarter million square feet of floor space. Plant 5, also in Detroit, was the service parts store and shipping facility, and also housed the executive offices of the manufacturing, engineering, ex-



Sept 1951



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