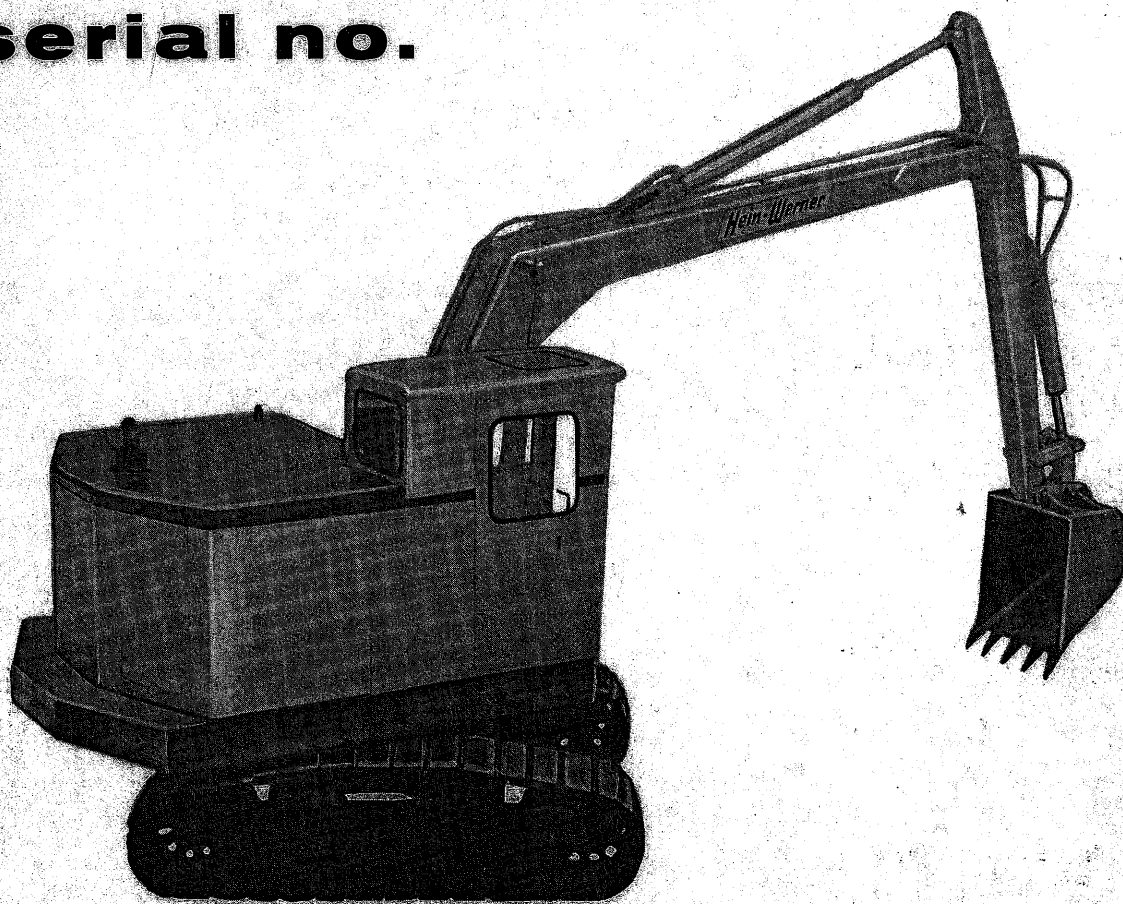




HYDRAULIC EXCAVATORS

**service manual
model
serial no.**



9308127



CORPORATION
CONSTRUCTION EQUIPMENT DIVISION
WAUWATOSA, WISCONSIN 53187



service manual

HYDRAULIC EXCAVATORS

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Almost half a century of design and manufacturing experience has gone into your new Hein-Werner machine. It is the finest equipment that this know-how and modern technology can produce. We congratulate you on your selection.

We recommend that you become familiar with this manual and the maintenance procedures outlined herein. Following these instructions and operating the machine in a proper manner will assure you of long, dependable and profitable service.



CORPORATION
CONSTRUCTION EQUIPMENT DIVISION
WAUKESHA, WISCONSIN 53187

INSTRUCTIONS FOR ORDERING REPLACEMENT PARTS

To assure prompt and accurate service, include the following data with each parts order:

1. Model and Serial number of machine
2. Part numbers
3. Part descriptions
4. Quantity of each part desired
5. Correct shipping destination
6. Method of transportation

Confirm all telephone and telegraph orders in writing. Be sure these orders are marked "Confirmation," to avoid duplication of orders.

WHERE TO ORDER PARTS

Hein-Werner Dealers are conveniently located throughout the United States and Canada. These Dealers maintain a stock of genuine Hein-Werner replacement parts. Always order parts from your nearest Hein-Werner Dealer.

INSPECTION OF SHIPMENTS

Carefully inspect all shipments upon arrival. In the event of loss or damage, do not accept the shipment until the transportation company either makes a notation on the freight bill, or gives you an inspection report covering said damage or loss. In the event of concealed damage or loss, notify the carrier at once (within 20 days) requesting that an inspection be made and damage or loss be acknowledged.

ADJUSTMENTS AND RETURNS

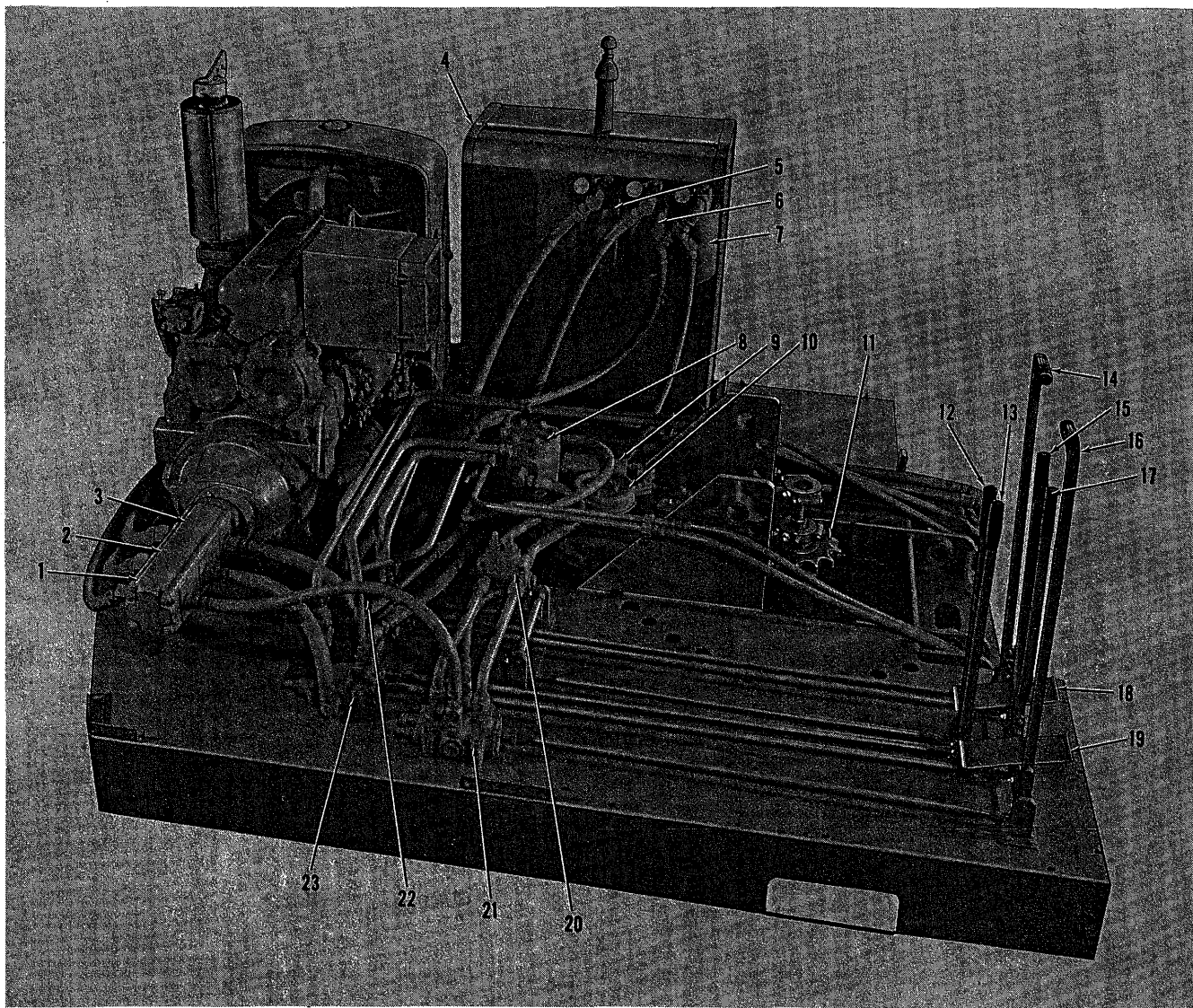
Refer to the written Warranty in this manual for an explanation of Warranty policy. If you feel a Warranty claim is in order, consult your Dealer. Claims must be made through your Dealer within a 15 day period from the time a failure occurs. Parts returned directly to the factory, without Dealer Authorization, will not be accepted.

USE ONLY GENUINE HEIN-WERNER PARTS FOR MAXIMUM PERFORMANCE

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Hein-Werner Hydraulic Excavator Models C-10, C-10HD and C-12

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| 1. Swing system hydraulic pump section | 12. Speed travel lever |
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| 3. Boom, propel, and bucket system hydraulic pump section | 14. Boom control lever |
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| 5. Boom, propel, and bucket system filter | 16. Swing control lever |
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| 7. Swing system filter | 18. Bucket control foot pedal |
| 8. Swing system hydraulic motor | 19. Dipstick control foot pedal |
| 9. House brake cylinder | 20. Swing system relief valve |
| 10. House brake drum | 21. Swing system control valve |
| 11. Propel system chain driven sprocket | 22. Boom, propel, and bucket system control valve |
| | 23. Dipstick and propel system control valve |

Figure 1. Machinery Platform

SECTION I DESCRIPTION

GENERAL

This manual provides operating instructions, service information, and repair parts lists, for Model C-10, C-10HD, and C-12 crawler-mounted hydraulic excavators. Information in this manual is applicable to all models unless otherwise noted.

MACHINERY PLATFORM

The machinery platform (see figure 1) is fully reinforced at stress points to provide a rigid base for operating components. The location of components on the platform results in a well balanced rotating unit, and provides easy access for servicing all parts including hydraulic lines and connections.

The use of a three section tandem hydraulic pump, results in the elimination of gear drives and thus increases efficiency. This also provides each control valve with an independent oil supply for top response under all operating conditions.

The hydraulic reservoir is equipped with three separate suction hoses and three separate return hoses. The three return hoses are each equipped with a safety-flow oil filter with cleanable filtering elements. Disposable filtering elements are also available. Each filter has a back-pressure gage to indicate filtering effectiveness. If a filter element becomes clogged, the automatic by-pass valve in the filter will open to allow the oil to circulate.

SWING BEARING

The double row ball bearing swing bearing results in greater effectiveness, reduced maintenance, smoother rotation, and the elimination of such parts as pins, rollers, roller paths, bushings, brackets, nuts, thrust washers, shims, etc. This greatly increased effectiveness is a result of the swing bearing's ability to absorb all axial, radial, and tilting forces; and to distribute them over a much wider area than is possible with conventional rollers. The swing bearing is bolted together to form a completely enclosed unit which eliminates adjustments and day-to-day maintenance other than lubrication.

Since the swing bearing is the only connection between the carbody and the machinery platform it eliminates any rocking motion except that permitted by the carbody as it moves over the terrain.

HOUSE BRAKE

An automatic "house brake" safety feature eliminates all drift and creep, even in the event of engine failure. The house brake is automatically actuated by spring force when the operator releases the swing lever or for any other reason that causes a lack of pressure to the swing circuit. When the swing circuit is in use, the house brake is automatically released by hydraulic pressure.

BOOM, DIPSTICK, AND BUCKET

The boom is made of high strength steel and is of extremely deep box section. Boom flange strength is further increased by the addition of an internal plate, and extra large reinforcing plates at the top, bottom, and sides which extend beyond the area of greatest stress concentration.

The dipstick is made of high strength steel and is internally reinforced.

The bucket is also reinforced at all high stress concentration points. The bucket teeth are pin connected and are individually replaceable.

All pivot points of the dipstick and bucket linkage are equipped with steel bushings and heat treated pivot pins to minimize wear.

CRAWLER UNDERBODY

The crawler underbody is equipped with split-chain sprockets, self cleaning tread and tumblers, and centrally located lubrication points on the side frames. The fully enclosed track adjustment eliminates "freezing". Double-flange track rollers provide maximum bearing surface in wear areas. Heavy ship-channel side frames, extra heavy shoes, and involute splined power shafting, are proof of its rugged, job-proven construction.

CAB AND CONTROLS

The cab provides excellent visibility and protection from the elements. The large front glass panel can easily be removed. All control lever linkage is above the machinery platform and away from mud and dirt. Controls are conveniently located and swing and boom levers can be interchanged for right or left hand operation if desired. The bucket and dipstick controls can be hand or foot operated (see figure 1).