

## UNITS

### MODEL C-57-89-42

POLISHED ROD CAPACITY: 8,900 lbs.  
POLISHED ROD STROKES: 23", 33", 42"  
PEAK TORQUE RATING: 57,000 in./lb.  
MAXIMUM COUNTERBALANCE EFFECT  
AT POLISHED ROD: 6,891 lbs.  
RATIO OF GEARS: 30.2:1  
WEIGHT OF GEAR REDUCER: 1,201 lbs.  
STRUCTURAL UNBALANCE: -134 lbs.

### MODEL C-114-D-143-64

POLISHED ROD CAPACITY: 14,300 lbs.  
POLISHED ROD STROKES: 28", 40", 52", 64"  
PEAK TORQUE RATING: 114,000 in./lb.  
MAX. COUNTERBALANCE EFFECT  
AT POLISHED ROD: 10,758 lbs. (STD.)  
AND 11,552 lbs. (W/AUX. WTS.)  
RATIO OF GEARS: 29.665:1  
WEIGHT OF GEAR REDUCER: 3,033 lbs.  
STRUCTURAL UNBALANCE: +249 lbs.

### MODEL C-114-D-173-64

POLISHED ROD CAPACITY: 17,300 lbs.  
POLISHED ROD STROKES: 34", 44", 54", 64"  
PEAK TORQUE RATING: 114,000 in./lb.  
MAXIMUM COUNTERBALANCE EFFECT  
AT POLISHED ROD: 12,786 lbs.  
RATIO OF GEARS: 29.7:1  
WEIGHT OF GEAR REDUCER: 3,033 lbs.  
STRUCTURAL UNBALANCE: +348 lbs.

### MODEL C-160-D-173-74

POLISHED ROD CAPACITY: 17,300 lbs.  
POLISHED ROD STROKES: 39", 51", 62", 74"  
PEAK TORQUE RATING: 160,000 in./lb.  
MAXIMUM COUNTERBALANCE EFFECT  
AT POLISHED ROD: 13,192 lbs.  
RATIO OF GEARS: 29.5:1  
WEIGHT OF GEAR REDUCER: 3,455 lbs.  
STRUCTURAL UNBALANCE: +364 lbs.

### MODEL C-228-D-246-86

POLISHED ROD CAPACITY: 24,600 lbs.  
POLISHED ROD STROKES: 47", 61", 74", 86"  
PEAK TORQUE RATING: 228,000 in./lb.  
MAXIMUM COUNTERBALANCE EFFECT  
AT POLISHED ROD: 18,618 lbs.  
RATIO OF GEARS: 29.6:1  
WEIGHT OF GEAR REDUCER: 5,279 lbs.  
STRUCTURAL UNBALANCE: +408 lbs.

### MODEL C-320-D-256-100

POLISHED ROD CAPACITY: 25,600 lbs.  
POLISHED ROD STROKES: 55", 70", 85", 100"  
PEAK TORQUE RATING: 320,000 in./lb.  
MAXIMUM COUNTERBALANCE EFFECT  
AT POLISHED ROD: 19,588 lbs.  
RATIO OF GEARS: 30.2:1  
WEIGHT OF GEAR REDUCER: 5,716 lbs.  
STRUCTURAL UNBALANCE: +507 lbs.

### MODEL C-320-D-213-120

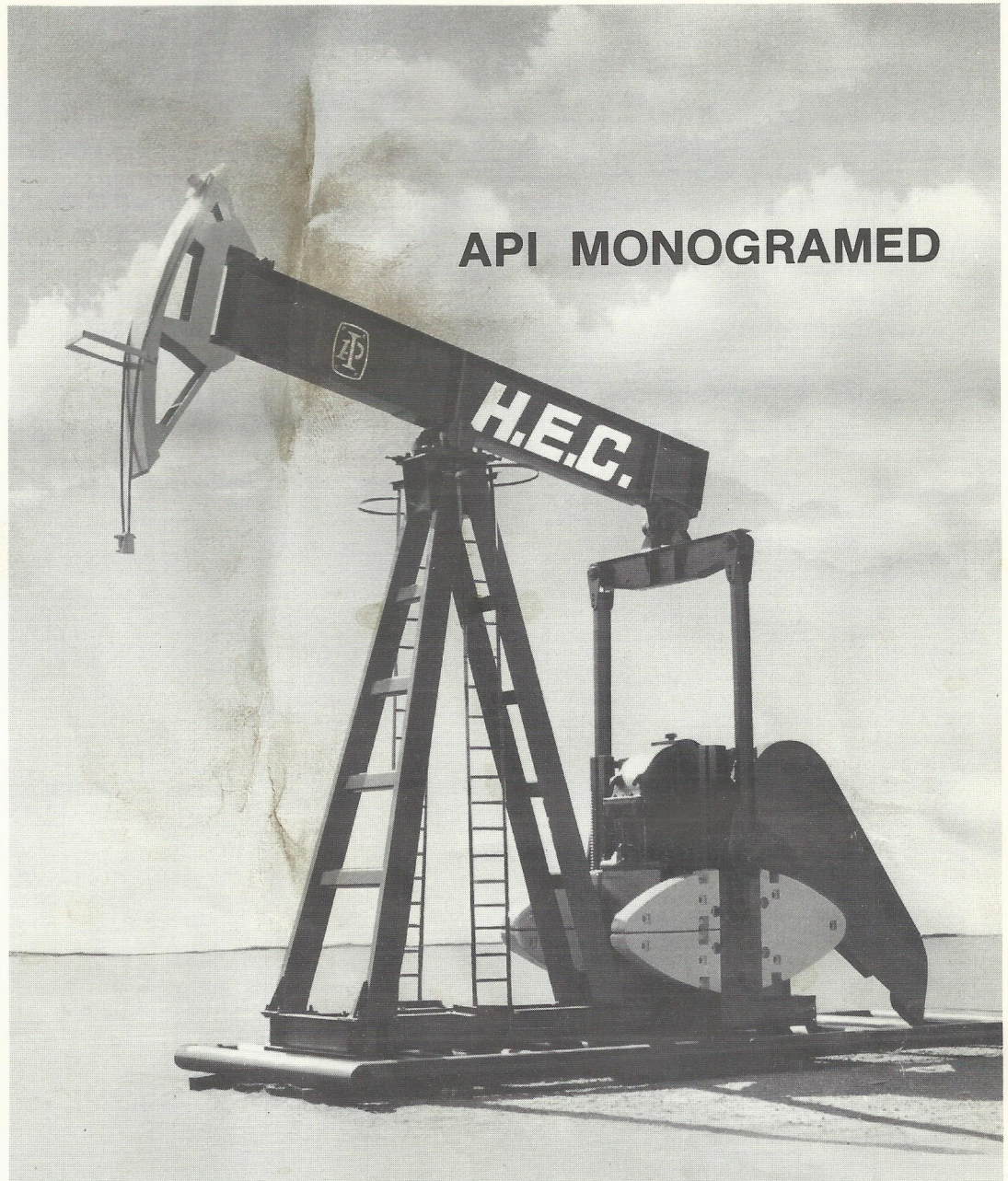
POLISHED ROD CAPACITY: 21,300 lbs.  
POLISHED ROD STROKES: 42", 84", 102", 120"  
PEAK TORQUE RATING: 320,000 in./lb.  
MAXIMUM COUNTERBALANCE EFFECT  
AT POLISHED ROD: 16,038 lbs.  
RATIO OF GEARS: 30.2:1  
WEIGHT OF GEAR REDUCER: 5,716 lbs.  
STRUCTURAL UNBALANCE: +227 lbs.

### MODEL C-456-D-305-144

POLISHED ROD CAPACITY: 30,500 lbs.  
POLISHED ROD STROKES: 84", 104", 123", 144"  
PEAK TORQUE RATING: 456,000 in./lb.  
MAXIMUM COUNTERBALANCE EFFECT  
AT POLISHED ROD: 22,817 lbs.  
RATIO OF GEARS: 30.3:1  
WEIGHT OF GEAR REDUCER: 8,346 lbs.  
STRUCTURAL UNBALANCE: -666 lbs.

### MODEL C-640-D-305-168

POLISHED ROD CAPACITY: 30,500 lbs.  
POLISHED ROD STROKES: 103", 124", 145", 168"  
PEAK TORQUE RATING: 640,000 in./lb.  
MAXIMUM COUNTERBALANCE EFFECT  
AT POLISHED ROD: 22,905 lbs.  
RATIO OF GEARS: 29.1:1  
WEIGHT OF GEAR REDUCER: 9,894 lbs.  
STRUCTURAL UNBALANCE: -295 lbs.



API MONOGRAMMED

# HEC I

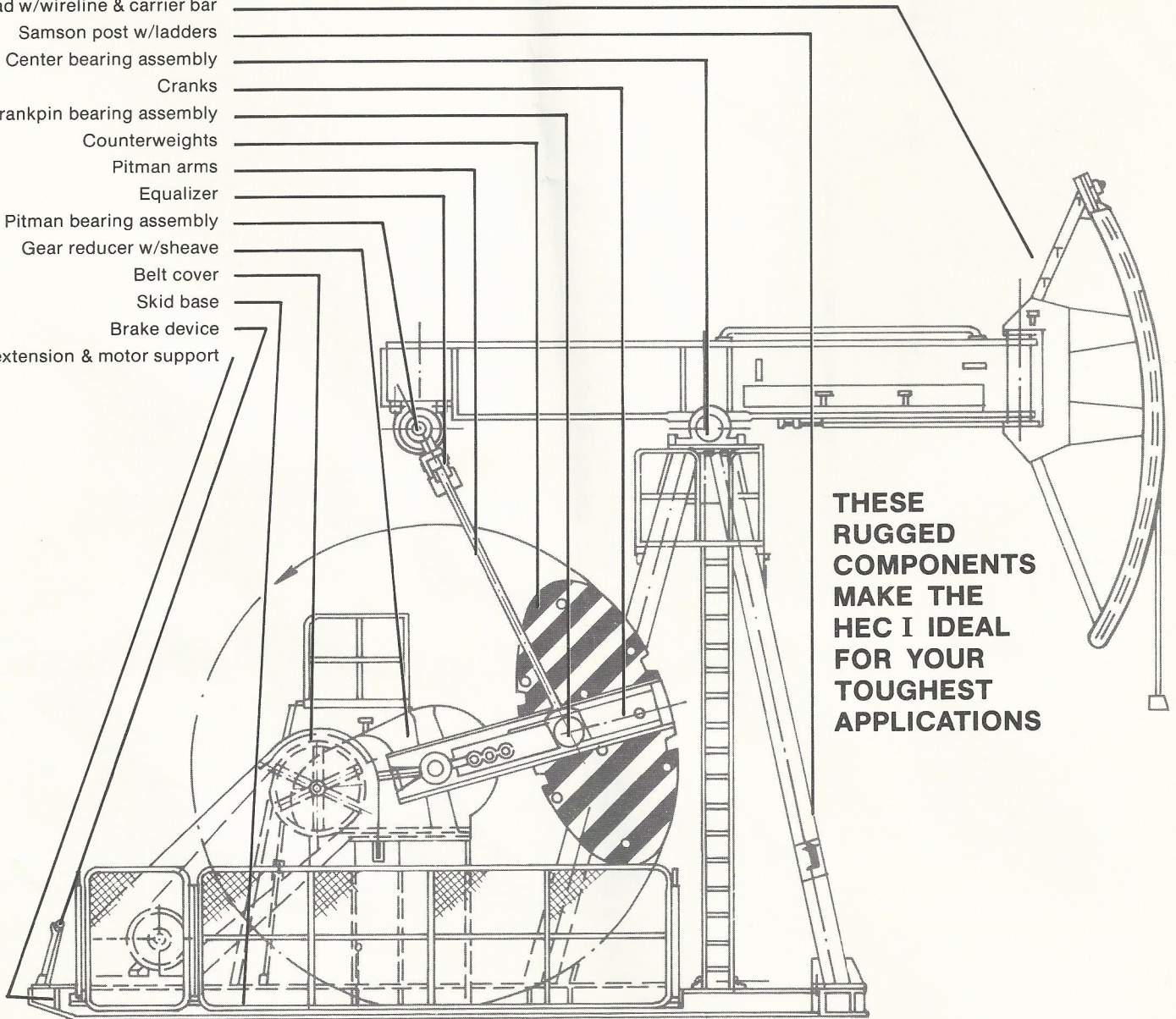
## HEAVY DUTY CONVENTIONAL PUMPING UNITS

# HERCULES ENERGY MFG. CORPORATION

Post Office Box 754 • Oklahoma City, OK 73101, USA • Telephone (405) 232-3161 • Telex 74-7157

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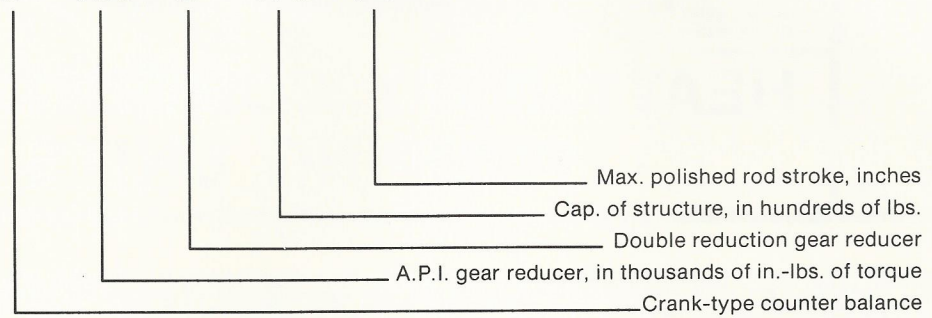
- Horsehead w/wireline & carrier bar
- Samson post w/ladders
- Center bearing assembly
- Cranks
- Crankpin bearing assembly
- Counterweights
- Pitman arms
- Equalizer
- Pitman bearing assembly
- Gear reducer w/sheave
- Belt cover
- Skid base
- Brake device
- Base extension & motor support



**THESE  
RUGGED  
COMPONENTS  
MAKE THE  
HEC I IDEAL  
FOR YOUR  
TOUGHEST  
APPLICATIONS**

**MODEL NUMBERING SYSTEM**

**C-160-D-173-74**

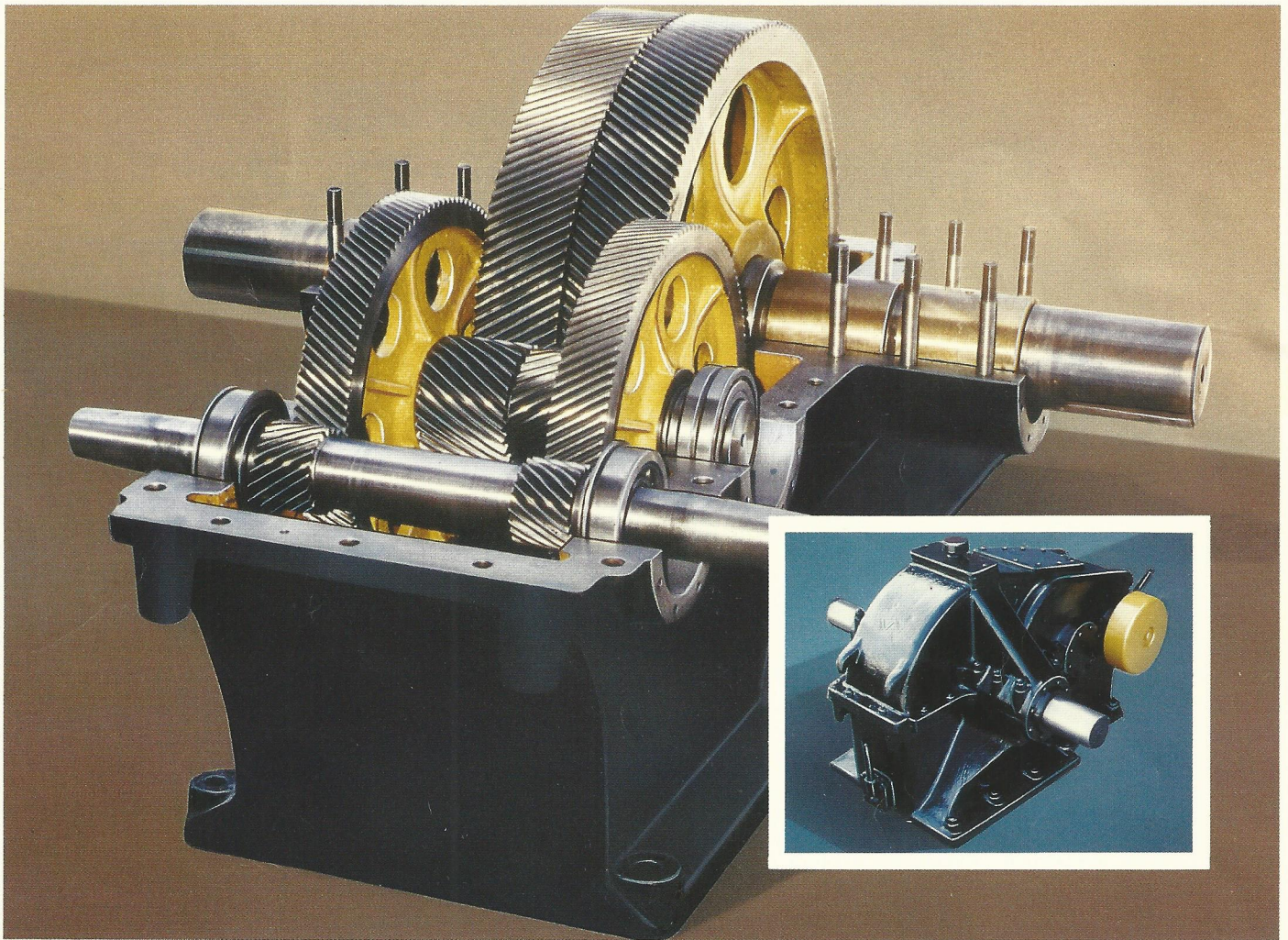


- Max. polished rod stroke, inches
- Cap. of structure, in hundreds of lbs.
- Double reduction gear reducer
- A.P.I. gear reducer, in thousands of in.-lbs. of torque
- Crank-type counter balance

# H.E.M.C.

## HEAVY DUTY DOUBLE REDUCTION GEARBOX — EXTRA WIDE GEAR FACE CONTACT

The H.E.C. unit gearbox is superior in design, engineering, manufacture, and most of all, performance. Gears of the highest quality metals are available, precision machined to exceedingly fine tolerances to ensure an outstanding service life, perhaps the longest in the industry. The double reduction gearbox incorporates precision cut, extra-wide herringbone gears with forged alloy steel shafts. The high speed and intermediate shafts run on roller bearings. The low speed shaft runs on sleeve bearings. The heavy cast case eliminates distortion. The absolute symmetry of this configuration allows smooth operation, eliminating overall vibration found in units of lesser quality.

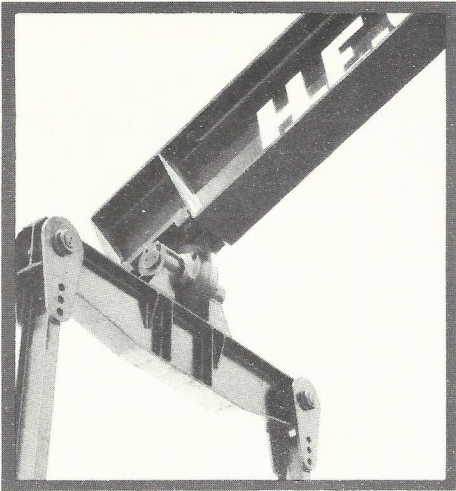


In many years of actual oilfield testing, no early damage of the tooth surface has ever occurred in the H.E.C. unit gearbox. Tests confirmed the tooth surfaces to be in good working condition and could still be used for an extended period of time. In addition, all units are built to API specification 11E, one of the toughest in the industry. Gears and shafts are quenched and tempered under strict control to reach the hardness and mechanical properties so vital to a long, productive life, reaching the class 8, AGMA standard 390.02.

## **HERCULES ENERGY MANUFACTURING CORPORATION**

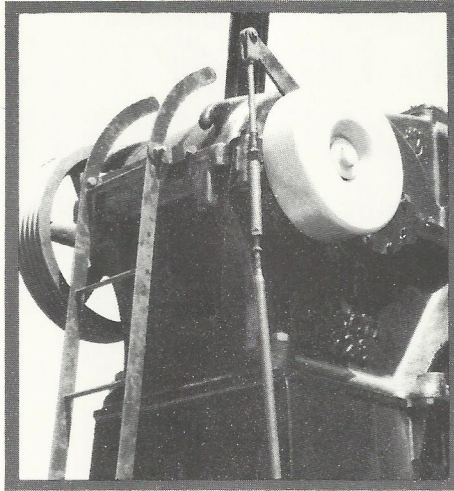
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#### **EQUALIZER**

Constructed for strength and rigidity, the HEC I equalizer ensures equal sharing of torque loads by both pitman arms. The equalizer bearing assembly consists of an extra-large diameter, self-aligning, spherical roller bearing to eliminate any lateral binding.



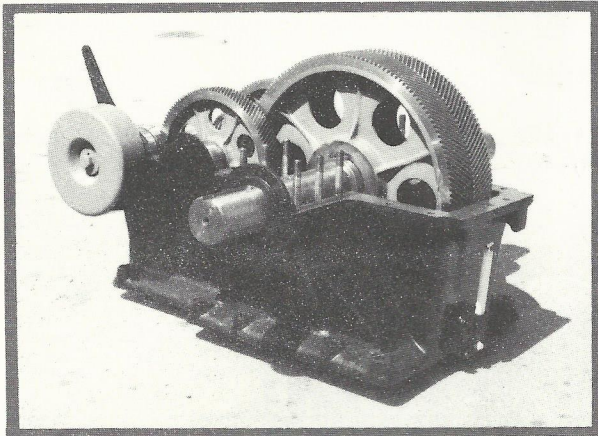
#### **SERVICE BRAKE**

The large, automotive-type service brake is capable of locking the crank arms in any position and meets API's brake performance standards.



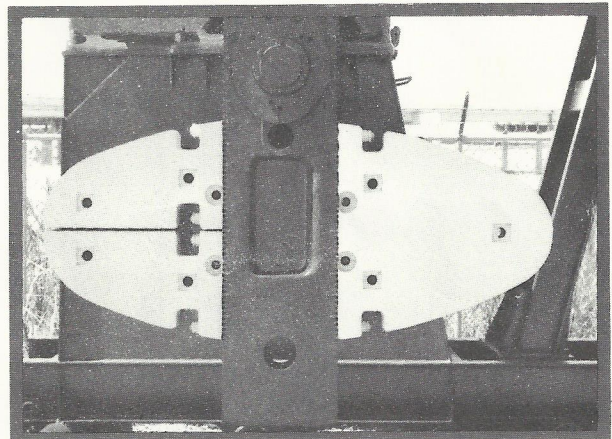
#### **PITMAN ARMS**

The HEC I pitman arms are manufactured of high-strength H-beam steel, providing greater torsional and longitudinal strength than conventional pipe-stock arms. Equalizer and wrist pin pivot mounting flanges are made of heavy, welded steel plate.



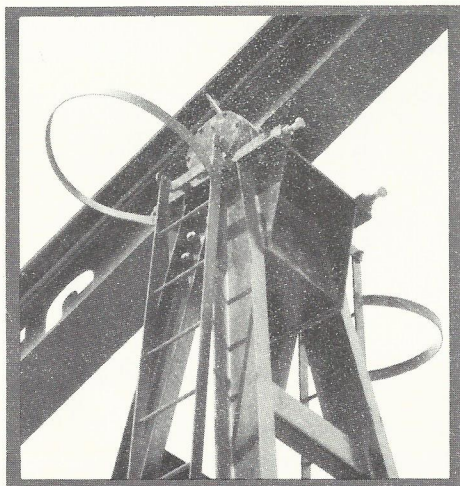
#### **GEARBOX**

The HEC I unit double reduction gearbox incorporates precision cut, extra-wide herringbone gears with forged alloy steel shafts. The high speed and intermediate shafts run on roller bearings. The low speed shaft runs on sleeve bearings. The heavy cast case eliminates distortion.



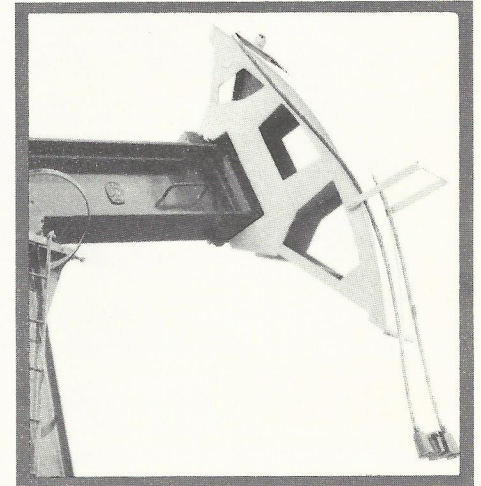
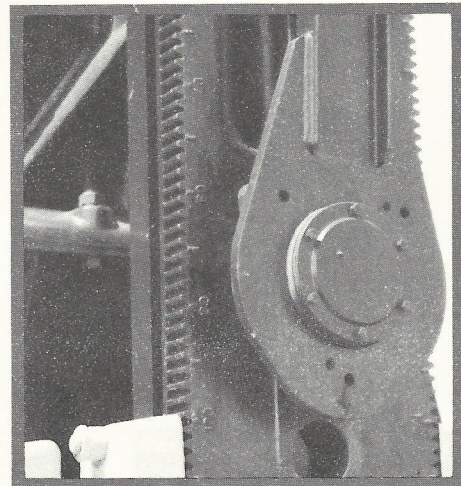
#### **COUNTERWEIGHTS**

One man can safely and easily move the adjustable counterweights to change the counterbalance effect using the special pinion/crank provided with the HEC I standard equipment tools. Each weight may be individually adjusted without changing the position of the cranks.



#### **WALKING BEAM and WRIST PIN BEARINGS**

As with the equalizer bearing assembly, the HEC I walking beam and wrist pin bearings are extra-large, self-aligning spherical roller bearings. Each bearing carries a B-10 rating (100,000 hours of service under maximum loads) assuring strength and long life. All structural bearings are standard SAE bearings.



#### **HORSEHEAD**

The horsehead incorporates a swivel that allows for easy wellover.

# YOU CAN PUT THESE PUMPING UNITS TO WORK TODAY — WITHOUT DELAY!

**FINANCING:** Several easy, monthly “pay as you go” plans allow your equipment to earn its way.

**LEASING:** Avoid depreciation of balance sheet and banker problems with a lease plan tailored to your pocketbook.

**RENTING:** Month to month plans that even allow favorable purchase options.

## Specifications

Model	Polished Rod Capacity	Polished Rod Strokes	Peak Torque Rating	Maximum Counterbalance Effect At Polished Rod	Ratio Of Gears	Weight Of Gear Reducer	Structural Unbalance
	LBS.	IN.	IN./LB.	LBS.		LBS.	LBS.
C-57-89-42	8,900	23, 33, 42	57,000	6,891	30.2 : 1	1,201	- 134
C-114-D-143-64	14,300	28, 40, 52, 64	114,000	10,758	29.665 : 1	3,033	+ 249
C-114-D-173-64	17,300	34, 44, 54, 64	114,000	12,786	29.7 : 1	3,033	+ 348
C-160-D-173-74	17,300	39, 51, 62, 74	160,000	13,192	29.5 : 1	3,455	+ 364
C-228-D-246-86	24,600	47, 61, 74, 86	228,000	18,618	29.6 : 1	5,279	+ 408
C-320-D-256-100	25,600	55, 70, 85, 100	320,000	19,588	30.2 : 1	5,716	+ 507
C-320-D-213-120	21,300	42, 84, 102, 120	320,000	16,038	30.2 : 1	5,716	+ 227
C-456-D-305-144	30,500	84, 104, 123, 144	456,000	22,817	30.3 : 1	8,346	- 666
C-640-D-305-168	30,500	103, 124, 145, 168	640,000	22,905	29.1 : 1	9,894	- 295

### WARRANTY

- A. **EXPRESS WARRANTY:** Hercules warrants the Equipment (for the purposes of this warranty provision, Equipment shall include only Hercules brand products and not any engine, motor or other accessory used in connection therewith) to be free from defects in material and workmanship for a period of twelve (12) months from the date of delivery to Buyer. *HERCULES MAKES NO OTHER EXPRESS WARRANTY ON THE EQUIPMENT OR ANY OTHER GOODS SOLD BY HERCULES*, and no affirmation by Hercules or its representatives, by word or action, shall constitute a warranty.
- B. **IMPLIED WARRANTY:** *HERCULES MAKES NO IMPLIED WARRANTIES AND THE EQUIPMENT HEREIN WILL BE PURCHASED BY THE BUYER "AS IS." HERCULES MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.*
- C. **WARRANTY VOID:** If the Equipment is damaged in freight or is damaged due to collision, overturn, dropping, water damage, or improper maintenance after delivery of such Equipment to Buyer, or if Buyer makes any shop modifications to such Equipment, or if Buyer assembles or installs the Equipment contrary to Hercules' or the manufacturer's instructions, then the above warranty is null and void. The warranty is further void if the Equipment is not used in a normal and proper manner and operated within manufacturer's specifications by Buyer or is sold or transferred by the original Buyer. Any repair work done by Buyer during the warranty period, without the written approval of Hercules, or any default by Buyer of its obligations relating to the purchase of the Equipment shall void Hercules' warranty and Hercules shall have no liability or responsibility to Buyer thereafter.
- D. **LIMITATION OF WARRANTY AND LIABILITY:** In the event of a breach of the above warranty or negligence on the part of Hercules, Hercules shall only be obligated to either repair or replace, at Hercules' option, the Equipment, and such repair or replacement shall be Buyer's exclusive remedy under this warranty or due to the negligence of Hercules. *HERCULES SHALL NOT IN ANY MANNER WHATSOEVER BE LIABLE FOR ANY LOSS, DAMAGE OR EXPENSE, WHETHER DIRECT, INCIDENTAL OR CONSEQUENTIAL, INCLUDING BUT NOT LIMITED TO LOSS OF USE, INCOME, PROFIT OR PRODUCTION, OR INCREASED COST OF OPERATION, OR SPOILAGE OR DAMAGE TO MATERIAL, ARISING IN CONNECTION WITH THE SALE, INSTALLATION, USE OF, INABILITY TO USE, OR THE REPAIR OR REPLACEMENT OF, THE EQUIPMENT.* Any defective parts that come within Hercules' warranty shall be returned to Hercules at its plant in Oklahoma City, Oklahoma at Buyer's expense; and Hercules shall, when such part has been either replaced or repaired, return such to Buyer, F.O.B., Hercules' plant, Oklahoma City, Oklahoma.

Hercules reserves the right to make changes in Equipment at any time deemed necessary without obligation to previously sold Equipment.

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