

# LUFKIN OIL FIELD EQUIPMENT



**CATALOG 48-49**

*Featuring the*

**LUFKIN** *Universal*  
**PUMPING UNIT**



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# LUFKIN EQUIPMENT OF ADVANCED DESIGN

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**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**



Above—Lufkin TC-OA-60A pumping unit with GSDH Lufkin-Cooper-Bessemer Horizontal Gas Engine  
Below—Lufkin TC-33A-18B pumping unit with Sub-base and GSC Lufkin-Cooper-Bessemer Vertical Gas Engine

# LUFKIN FOUNDRY & MACHINE CO.

FACTORY AND GENERAL OFFICES

LUFKIN, TEXAS

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## INTRODUCTION

Twenty-four years ago LUFKIN manufactured and installed the first geared pumping unit ever to pump a deep well. Today thousands of LUFKIN units are operating successfully in oil fields all over the world. LUFKIN has pioneered a large majority of the steady improvements in pumping equipment during this time. LUFKIN introduced the first rotary counterbalanced crank and furnished the first unit with a brake, also was the first to develop an oil bath, dustproof pitman bearing, head and tail bearing and center iron bearing. LUFKIN introduced the first one hundred per cent center-line bear-

ing walking beam and equalizer, and, because of patents, is the only concern able to furnish them today.

Being located close to many producing areas has enabled our engineers to keep in close touch with the performance of our equipment. It has been possible to continually watch details, which many times result in success or failure in practical operation.

Our plant is completely equipped with the finest machine tools obtainable anywhere. We invite you to visit our plant and see for yourself why LUFKIN is still leading after all these years.

## UNIT DESIGNATION—EXPLANATION

Lufkin units are designated by combination of letters and numerals; taking the "TC-33A-22G" as an example:

"TC" means "Twin Crank"

"33A" is the **Structural Assembly** number.

"22G" is the number of the **Gear Box**.

A design change on the assembly is indicated by using a new letter after the assembly number. If the gear box design is changed in any way, a new letter is used after the gear box number.

Lufkin pumping unit gear reducers are manufactured in accordance with the latest edition of API Specification 11-E and conform to API designated sizes. The API size is gear rating in thousand pound inches peak torque.

Walking Beams are designated by a combination of four figures indicating the weight of the beam and its length. The first two figures indicate the weight per foot of the beam material and the last two figures indicate the overall length of the beam between working points. When the four figures are followed by "CU," the beam is a Universal center-line type with Rod Hanger, as shown on page 2439. When the

four figures are followed by "CH," the beam has the same Center-line pitman-end as before but the well-end is fitted with a Hinged Horsehead with wire line.

For instance, "1625CU" means the beam is made of steel weighing 160 pounds per foot, is 25 feet long between working centers and the well-end is equipped with the Universal Rod Hanger. When the designation is "8216CH," the beam is made of material weighing 82 pounds per foot, the beam is 16 feet long between working centers and the well-end has a Hinged Horsehead.

**EXCLUSIVE FEATURES OF LUFKIN PUMPING UNITS****TROUT COUNTERBALANCED CRANK**

FIGURE 1

The Trout Counterbalanced Crank, using sliding weights to change the counterbalance effect, is an exclusive Lufkin feature. To change the counterbalance effect, it is not necessary for the operator to employ any tools other than a pinch bar and a wrench. With the crank slanted slightly in the direction in which the weights are to be moved, and held by the double-shoe brake, the weight is moved by means of the bar, as shown in Fig. 1. This positive method enables ONE man to change the counterbalance effect by either a few ounces or by hundreds of pounds. It is not necessary to add or to remove weight elements weighing 100 to 150 pounds. There is no waiting while needed weight elements are obtained from the supplier. There is no hazard to the safety of operator or equipment as it is impossible for the weight to slide off the crank even when the counterweight bolts are loosened so long as the nuts are not completely removed from the bolts. Either zero or negative counterbalance effect, as well as positive effect, may be obtained with the Trout Crank; this is a unique feature.

The Trout Crank provides absolute assurance that perfect counterbalance of all fixed load can be obtained. With the current emphasis on deeper wells, this is a factor of prime importance to the operator. On deeper wells, the rod load begins to exceed the fluid load, and perfect counterbalancing of the fixed

rod load means decreased lifting costs. As much as 25% of fuel or electric bills is due to poor counterbalance. Since the Trout Crank does not employ weight elements the counterbalance effect can be adjusted to exactly offset the weight of the rods plus the portion of the fluid load that can be balanced; the remaining load to be carried is the relatively small portion of the fluid load which varies with well condition and rate of withdrawal. Saving on wear of gears and prime mover, as well as lower power consumption, makes the Trout Crank the most inexpensive method of counterbalance on an overall, long-term basis.

On the smaller Lufkin Units, no tools, other than the wrench furnished with the unit, are necessary to enable ONE man to change counterbalance as desired. Slanting the crank in the direction in which the weight is to go, the operator loosens the counterweight bolts, then shakes the weight back and forth as shown in Fig. 2, and the weight "walks" down the crank to the desired position. Trout Cranks employ the same fixed weight, regardless of position on the crank. This is an invaluable contribution to the complete pumping unit as the flywheel effect obtained damps out a large part of the shock loads encountered in oilfield pumping. Since the center of weight of a Lufkin counterbalance crank is concentrated near the crank pin, the bearing loads at the crank shaft and the stress in the crank shaft are lower than those encountered with the conventional type crank.



FIGURE 2

**THE LUFKIN UNIVERSAL CENTER-LINE WALKING BEAM**

The Lufkin Beam Construction is a patented feature that accounts for much of the success of Lufkin Units even when employed on loads exceeding the ratings of the component parts of the assembly. In addition to strength, this construction gives increased polished rod stroke and decreased lifting costs, as compared to types of construction formerly used.

All pumping units employ an arrangement of beam loading based on variations of the method used by the original standard rig, illustrated in Figure 3. Since the beam is a rolled structural member, not

machined, all beams have a slight twist. When loaded as shown in Figure 3, with the load applied on TOP of the beam, it twists the beam still further since the line of the load and the line of the reaction do not coincide. The resultant horizontal force, as in Figure 4, acts about the lever arm X to twist the beam. This constant twisting under load causes this beam to fail under a fraction of the load that could be safely applied to the same beam using Lufkin Universal Centerline Beam Construction.

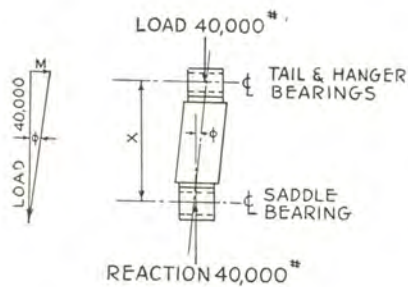


FIGURE 4

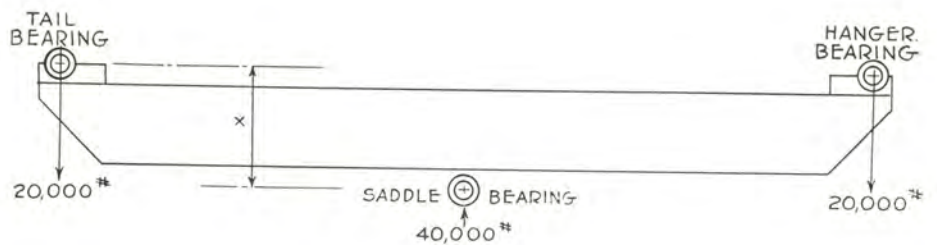


FIGURE 3

The load of 40,000 lbs. at center of beam does not coincide with line of reaction due to twist in beam (exaggerated here). The difference between the two lines is angle  $\phi$ . The twisting load  $M$  is  $40,000 \times \tan. \phi$ . The twisting moment on the beam is  $40,000 \times \tan. \phi \times \text{lever arm } X$ , in inch-pounds.

**THE LUFKIN UNIVERSAL CENTER LINE UNITS**

**WORKING "POINTS" THAT INSURE FULL STROKE ON POLISH RODS AND HIGHEST COUNTERBALANCE EFFICIENCY**

The universal center line design, patented by LUFKIN, has many advantages over the other types of construction and no disadvantages that we know of.

Field tests have been made on pumping wells, comparing this design with that of the tail bearing mounted on top of the beam both with the gear box set directly under the tail bearing, and also with it set in back of it. The results show considerably more production due to better pump plunger action, and less power consumed per barrel of fluid pumped. Peak loads were less per barrel of fluid pumped with the LUFKIN design than the others tested.

Placing the tail bearing under the beam eliminates vibration in the walking beam which is caused by the leverage which is necessarily imposed by the bearing when placed on top of the beam. No beam is made perfectly and beams break more easily due to twisting action when the load is applied to the top of the beam. Actual experience shows that in some cases LUFKIN walking beams are successfully carrying over double the A.P.I. rating and have been doing so for years.

The universal spherical bearing on the front and back of the walking beam is considerably more expensive to manufacture, as is the arch type equalizer. We are convinced, however, that this additional quality is justified in that it accounts for trouble free, long life operation.

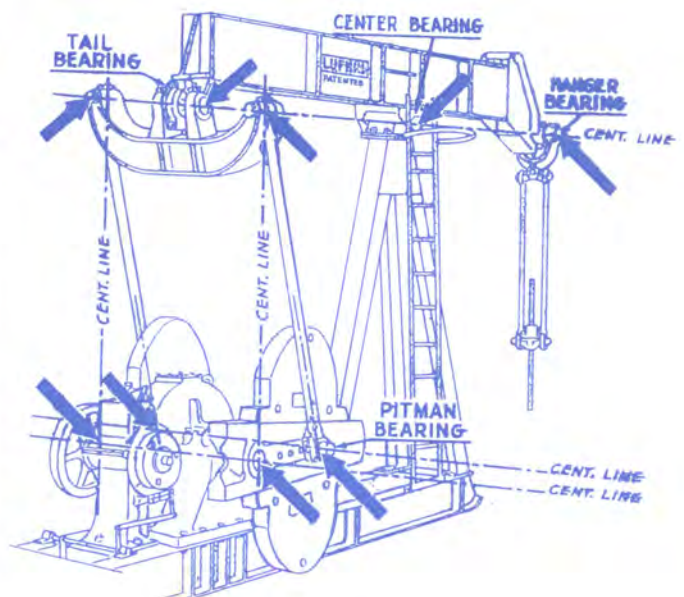
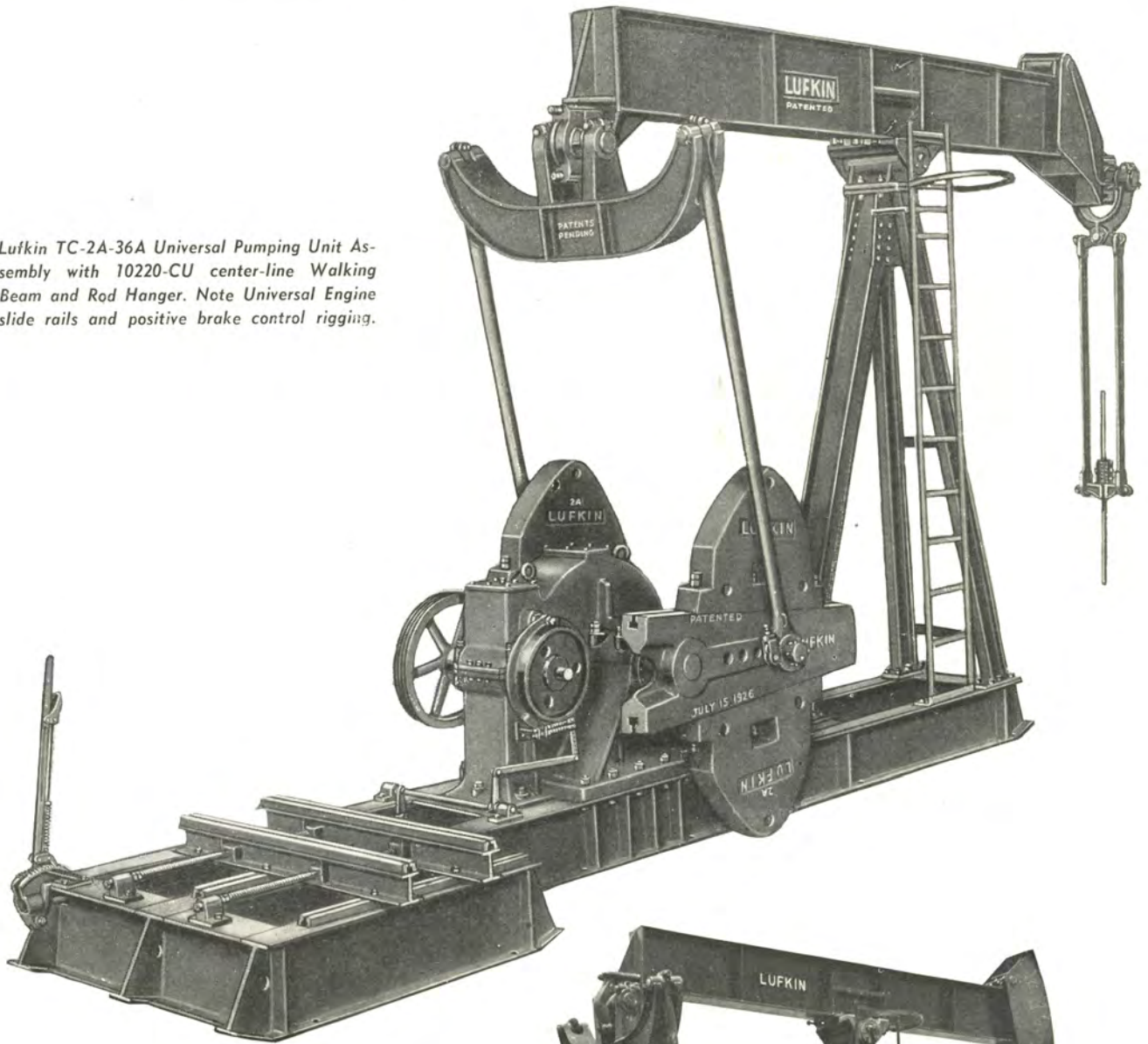


FIGURE 6

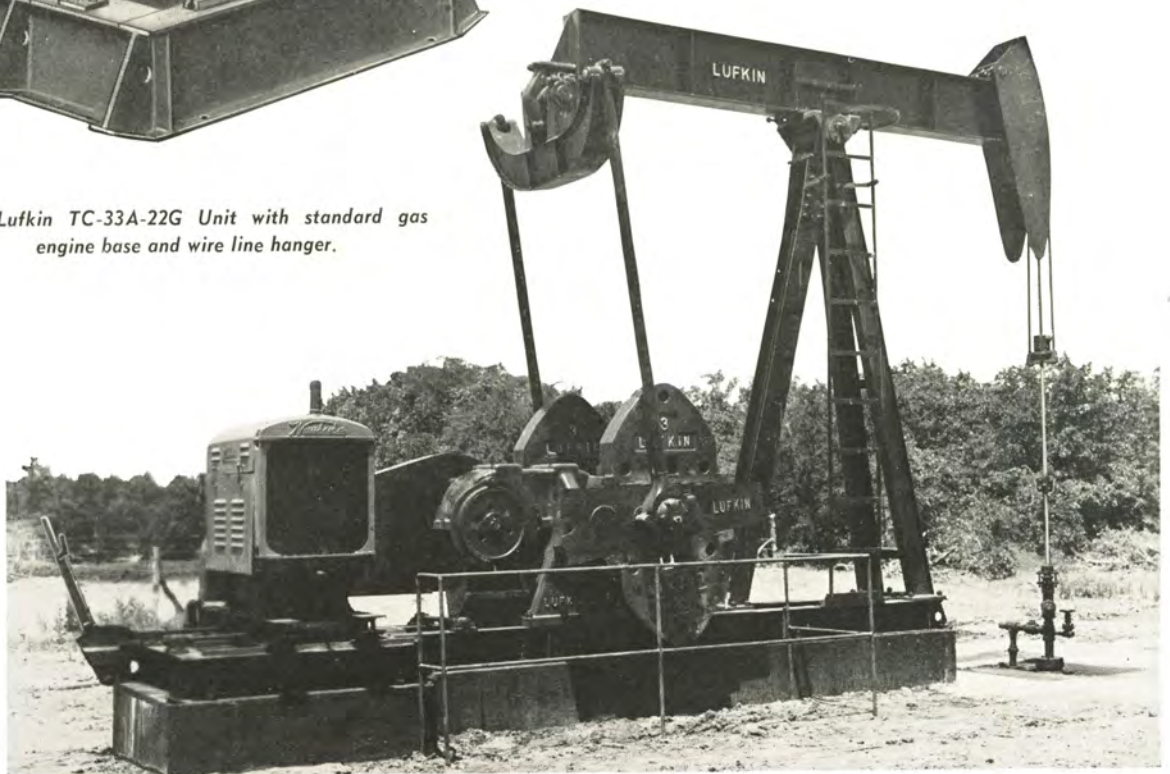
**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**

*Lufkin TC-2A-36A Universal Pumping Unit Assembly with 10220-CU center-line Walking Beam and Rod Hanger. Note Universal Engine slide rails and positive brake control rigging.*



*Lufkin TC-33A-22G Unit with standard gas engine base and wire line hanger.*





**LUFKIN FOUNDRY & MACHINE CO.****LUFKIN, TEXAS****SINGLE REDUCTION GEAR UNITS**

Single reduction gear units are preferred with slow speed and medium speed engines (up to 600 r.p.m.) where over-all ratio can be accommodated. They are built in six sizes.

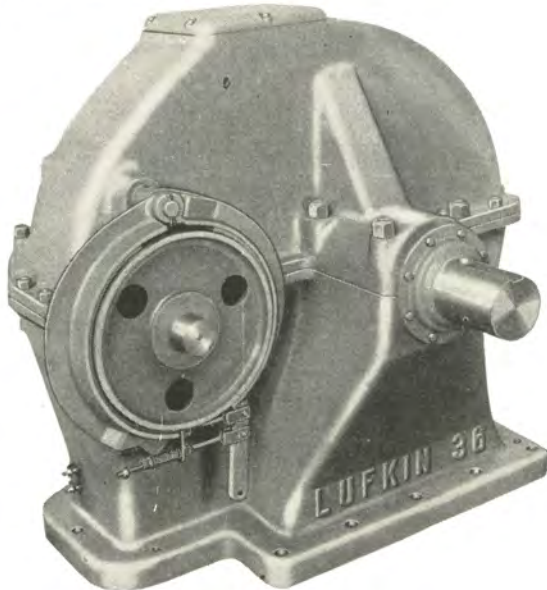


FIGURE 8

**DOUBLE REDUCTION GEAR UNITS**

Double reduction gear units are used with electric motors and multi-cylinder gas engines. They are made in ten sizes.

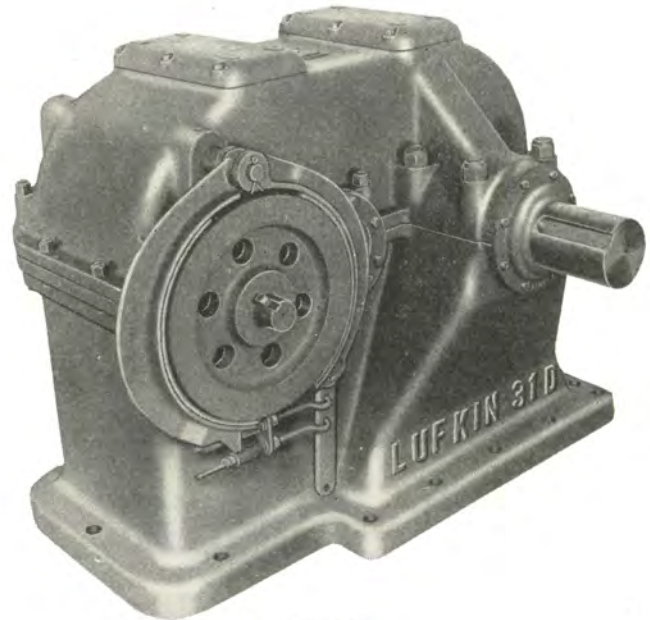


FIGURE 10

LUFKIN ENGINEERS HAVE A RICH BACKGROUND of practical experience in unit operation, and behind their designs is a plant using modern production methods and up-to-date tools where absolute duplicate precision work is maintained.

Our entire product is made in jigs or by template, even to posts and walking beams, to secure correct alignment and absolute duplication of parts.

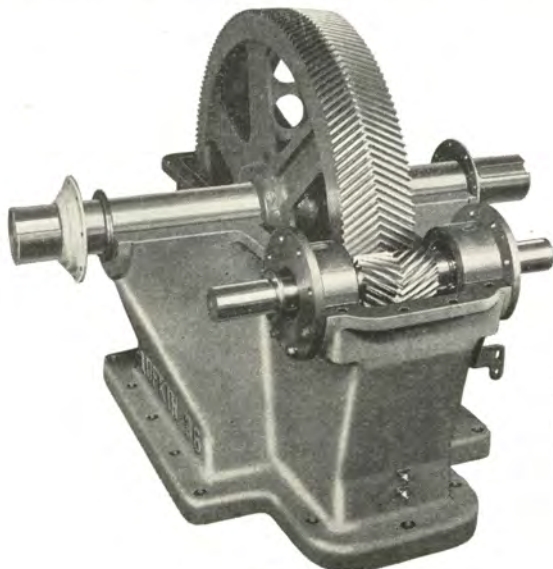


FIGURE 9

*Single Reduction Gear Unit, cover removed*

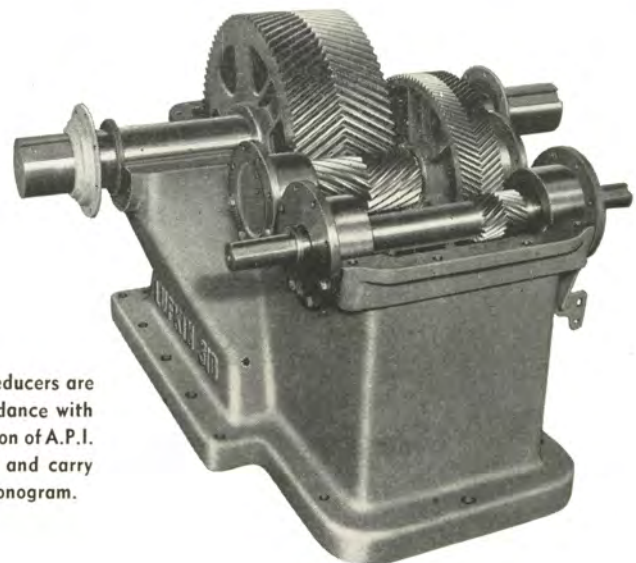


FIGURE 11

*Double Reduction Gear Unit, cover removed*

Lufkin Gear Reducers are rated in accordance with the latest edition of A.P.I. Standard 11-E and carry the A.P.I. monogram.

1. Housings especially built for oil well service, of rugged construction with large factors of safety.
2. Lufkin-Sykes Herringbone Gears, precision cut on our machines, are used exclusively in Lufkin units.
3. Gear Cases are jig bored to same accuracy as gears.
4. All Shafts forged from alloy steel, heat treated and precision ground.
5. Oversize Bronzoid Bearings on crankshafts. Easily renewable.

6. Crankshaft held rigid by Bronzoid hub plates. All pinions float on Hy-Load Hyatt Roller Bearings.
7. No Oil Leaks. Pinion shaft bearings equipped with patented oil seals; main crankshaft with collar oil slinger and drain cover.
8. No Oil Pumps. Lufkin gears operate in oil bath with gear wipers to flood bearings.
9. Clam Shell Brake. No grabbing. Improved ratchet lever and stand, locomotive type.

# LUFKIN FOUNDRY & MACHINE CO.

# LUFKIN, TEXAS

## General Specifications—Lufkin Double Reduction Unit Assemblies TC-0A, 1A, 2A, 33A, 44A

### LUFKIN UNIVERSAL TC-0A-61A UNIT ASSEMBLY OR 456D API SIZE—30,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 24½" x 14" x 160 lbs., 12'-6" and 12'-6" working Centers. API Walking Beam Rating: 24,750 Lbs.	<b>GEARS:</b> Double Reduction. Main Gear, 41.6" x 11"																		
<b>HANGER:</b> Centerline type, Universal, bronze bushed.	<b>RATING:</b> 117 H.P. at 20 S.P.M. 579,000 lb. ins. Peak Torque																		
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 4" Heavy pipe connections, Universal lower bearings.	<b>RATIO:</b> 28.6																		
<b>CENTER BEARING:</b> No. 1AS bronze bushed, 7" x 20" oil bath, dust proof.	<b>CRANKSHAFT:</b> 7"																		
<b>SAMSON POST:</b> No. 13 Tripod, 13'-3" high.	<b>SHEAVE:</b> 34" P.D.-7D Std., 56" P.D. Maximum. 3 1/8" Bore																		
<b>BASE:</b> 16" deep, 50" wide at gear box.	<b>WEIGHT:</b> 41,950 lbs.																		
<b>CRANK:</b> No. 7472, 71½" radius.	<b>STATIC COUNTERBALANCE—LBS.:</b>																		
<b>CRANK PINS:</b> 5½" x 5½", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th>Stroke</th> <th>No. 1 Weights</th> <th>C.I. Auxillary Weights</th> </tr> </thead> <tbody> <tr> <td>34"</td> <td>32,000</td> <td>39,900</td> </tr> <tr> <td>44"</td> <td>24,750</td> <td>30,850</td> </tr> <tr> <td>54"</td> <td>20,150</td> <td>25,100</td> </tr> <tr> <td>64"</td> <td>17,000</td> <td>21,200</td> </tr> <tr> <td>74"</td> <td>14,700</td> <td>18,325</td> </tr> </tbody> </table>	Stroke	No. 1 Weights	C.I. Auxillary Weights	34"	32,000	39,900	44"	24,750	30,850	54"	20,150	25,100	64"	17,000	21,200	74"	14,700	18,325
Stroke	No. 1 Weights	C.I. Auxillary Weights																	
34"	32,000	39,900																	
44"	24,750	30,850																	
54"	20,150	25,100																	
64"	17,000	21,200																	
74"	14,700	18,325																	
<b>TAIL AND HANGER BEARINGS:</b> 4 1/8" x 12" Bronze Bushed.																			
<b>GEAR BOX OIL CAPACITY:</b> 75 Gallons.																			

### LUFKIN UNIVERSAL TC-1A-41C UNIT ASSEMBLY OR 320D API SIZE—25,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 24½" x 14" x 160 lbs., 12'-6" and 12'-6" working centers. API Walking Beam Rating: 24,750 Lbs.	<b>GEARS:</b> Double Reduction. Main Gear, 33.6" x 10"																																		
<b>HANGER:</b> Centerline type, Universal, bronze bushed.	<b>RATING:</b> 65.5 H.P. at 20 S.P.M. 324,000 lb. ins. Peak Torque																																		
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 4" Heavy pipe connections, Universal lower bearings.	<b>RATIO:</b> 30.12																																		
<b>CENTER BEARING:</b> No. 1AS bronze bushed, 7" x 20", oil bath, dust proof.	<b>CRANKSHAFT:</b> 6 1/8"																																		
<b>SAMSON POST:</b> No. 13 Tripod, 13'-3" high.	<b>SHEAVE:</b> 25" P.D.-SC Std., 30" P.D. Alt.; 47 1/4" P.D. Max. 2 1/8" Bore																																		
<b>BASE:</b> 16" deep, 43" wide at gear box.	<b>WEIGHT:</b> 37,100 lbs.																																		
<b>CRANKS:</b> No. 7472, 71½" radius.	<b>STATIC COUNTERBALANCE—LBS.:</b>																																		
<b>CRANK PINS:</b> 5½" x 5½", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 7472 Crank</th> <th colspan="2">No. 7472 Crank (Std.)</th> </tr> <tr> <th>No. 2 Wts.</th> <th>Aux. Wts.</th> <th>No. 1 Wts.</th> <th>Aux. Wts.</th> </tr> </thead> <tbody> <tr> <td>34"</td> <td>28,800</td> <td>35,600</td> <td>32,000</td> <td>39,900</td> </tr> <tr> <td>44"</td> <td>22,200</td> <td>27,500</td> <td>24,750</td> <td>30,850</td> </tr> <tr> <td>54"</td> <td>18,200</td> <td>22,400</td> <td>20,150</td> <td>25,100</td> </tr> <tr> <td>64"</td> <td>15,300</td> <td>19,000</td> <td>17,000</td> <td>21,200</td> </tr> <tr> <td>74"</td> <td>13,040</td> <td>16,250</td> <td>14,700</td> <td>18,325</td> </tr> </tbody> </table>	Stroke	No. 7472 Crank		No. 7472 Crank (Std.)		No. 2 Wts.	Aux. Wts.	No. 1 Wts.	Aux. Wts.	34"	28,800	35,600	32,000	39,900	44"	22,200	27,500	24,750	30,850	54"	18,200	22,400	20,150	25,100	64"	15,300	19,000	17,000	21,200	74"	13,040	16,250	14,700	18,325
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44"	22,200	27,500	24,750	30,850																															
54"	18,200	22,400	20,150	25,100																															
64"	15,300	19,000	17,000	21,200																															
74"	13,040	16,250	14,700	18,325																															
<b>TAIL AND HANGER BEARINGS:</b> 4 1/8" x 12" Bronze Bushed.																																			
<b>GEAR BOX OIL CAPACITY:</b> 55 Gallons.																																			

### LUFKIN UNIVERSAL TC-2A-35A UNIT ASSEMBLY OR 228D API SIZE—20,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 27" x 10" x 102 lbs., 10'-0" and 10'-0" working centers. API Walking Beam Rating: 19,000 Lbs.	<b>GEARS:</b> Double Reduction. Main Gear, 30.3" P.D. 9" Face																																		
<b>HANGER:</b> Centerline type, Universal bronze bushed.	<b>RATING:</b> 46.1 H.P. at 20 S.P.M. 228,000 lb. ins. Peak Torque																																		
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 3" Heavy pipe connections, Universal lower bearings.	<b>RATIO:</b> 28.45																																		
<b>CENTER BEARING:</b> No. 2AS, bronze bushed, 6" x 17", oil bath, dust proof.	<b>CRANKSHAFT:</b> 6"																																		
<b>SAMSON POST:</b> No. 12 Tripod, 12'-1", high.	<b>SHEAVE:</b> 24 1/4" P.D.-6C Std., 30" P.D. Alt.; 41 1/4" P.D. Max. 2 7/8" Bore																																		
<b>BASE:</b> 16" Deep, 37" wide at gear box.	<b>WEIGHT:</b> 27,220 lbs.																																		
<b>CRANKS:</b> No. 6460, 59½" radius.	<b>STATIC COUNTERBALANCE—LBS.:</b>																																		
<b>CRANK PINS:</b> 4 3/4" x 4 3/8", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 2A Wts.</th> <th colspan="2">No. 2 Wts.</th> </tr> <tr> <th>No. 2 Wts.</th> <th>Aux. Wts.</th> <th>No. 2 Wts.</th> <th>Aux. Wts.</th> </tr> </thead> <tbody> <tr> <td>24"</td> <td>25,950</td> <td>31,950</td> <td>28,800</td> <td>35,950</td> </tr> <tr> <td>34"</td> <td>18,300</td> <td>22,550</td> <td>20,350</td> <td>25,350</td> </tr> <tr> <td>44"</td> <td>14,150</td> <td>17,400</td> <td>15,700</td> <td>19,600</td> </tr> <tr> <td>54"</td> <td>11,550</td> <td>14,200</td> <td>12,800</td> <td>15,950</td> </tr> <tr> <td>64"</td> <td>9,750</td> <td>12,000</td> <td>10,800</td> <td>13,500</td> </tr> </tbody> </table>	Stroke	No. 2A Wts.		No. 2 Wts.		No. 2 Wts.	Aux. Wts.	No. 2 Wts.	Aux. Wts.	24"	25,950	31,950	28,800	35,950	34"	18,300	22,550	20,350	25,350	44"	14,150	17,400	15,700	19,600	54"	11,550	14,200	12,800	15,950	64"	9,750	12,000	10,800	13,500
Stroke	No. 2A Wts.		No. 2 Wts.																																
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34"	18,300	22,550	20,350	25,350																															
44"	14,150	17,400	15,700	19,600																															
54"	11,550	14,200	12,800	15,950																															
64"	9,750	12,000	10,800	13,500																															
<b>TAIL AND HANGER BEARINGS:</b> 4 1/8" x 9 1/4" Bronze Bushed.																																			
<b>GEAR BOX OIL CAPACITY:</b> 55 Gallons.																																			

### LUFKIN UNIVERSAL TC-33A-22G UNIT ASSEMBLY OR 160D API SIZE—17,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 21" x 9" x 82 lbs., 8'-0" and 8'-0" working Centers. API Walking Beam Rating: 15,800 Lbs.	<b>GEARS:</b> Double Reduction. Main Gear, 24.5" x 7 5/8"																									
<b>HANGER:</b> Universal centerline type, bronze bushed.	<b>RATING:</b> 33.2 H.P. at 20 S.P.M. 164,500 lb. ins. Peak Torque																									
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 3" Heavy pipe connections, Universal lower bearings.	<b>RATIO:</b> 28.67																									
<b>CENTER BEARING:</b> No. 3AS bronze bushed, 6" x 14", oil bath, dust proof.	<b>CRANKSHAFT:</b> 5 1/8"																									
<b>SAMSON POST:</b> Tripod, 12'-1" high.	<b>SHEAVE:</b> 24 1/4" P.D.-5C Std., 29 1/4" P.D. or 33 1/4" P.D. Alt.; 38" P.D. Max. 2 1/8" Bore																									
<b>BASE:</b> 10" deep, 32" wide at gear box.	<b>WEIGHT:</b> 21,000 lbs.																									
<b>CRANKS:</b> No. 5452, 51½" radius.	<b>STATIC COUNTERBALANCE—LBS.:</b>																									
<b>CRANK PINS:</b> 4 3/4" x 4 5/8", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 3 Weights</th> <th colspan="2">Aux. Weights</th> </tr> </thead> <tbody> <tr> <td>24"</td> <td>17,950</td> <td>17,950</td> <td>24,950</td> <td>24,950</td> </tr> <tr> <td>34"</td> <td>12,650</td> <td>12,650</td> <td>17,500</td> <td>17,500</td> </tr> <tr> <td>44"</td> <td>9,750</td> <td>9,750</td> <td>13,575</td> <td>13,575</td> </tr> <tr> <td>54"</td> <td>7,975</td> <td>7,975</td> <td>11,075</td> <td>11,075</td> </tr> </tbody> </table>	Stroke	No. 3 Weights		Aux. Weights		24"	17,950	17,950	24,950	24,950	34"	12,650	12,650	17,500	17,500	44"	9,750	9,750	13,575	13,575	54"	7,975	7,975	11,075	11,075
Stroke	No. 3 Weights		Aux. Weights																							
	24"	17,950	17,950	24,950	24,950																					
34"	12,650	12,650	17,500	17,500																						
44"	9,750	9,750	13,575	13,575																						
54"	7,975	7,975	11,075	11,075																						
<b>TAIL AND HANGER BEARINGS:</b> 4 1/8" x 9 1/4" bronze bushed.																										
<b>GEAR BOX OIL CAPACITY:</b> 22 Gallons.																										

### LUFKIN UNIVERSAL TC-44A-15A UNIT ASSEMBLY OR 114D API SIZE—15,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 21" x 9" x 82 lbs., 8'-0" and 8'-0" working centers. API Walking Beam Rating: 15,800 Lbs.	<b>GEARS:</b> Double Reduction. Main Gear, 23.7" P.D. 6 1/4" Face																									
<b>HANGER:</b> Universal Centerline Type, bronze bushed.	<b>RATING:</b> 25.1 H.P. at 20 S.P.M. 124,000 lb. ins. Peak Torque																									
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 2 1/2" Heavy pipe connections, Universal lower bearings.	<b>RATIO:</b> 29.4																									
<b>CENTER BEARING:</b> No. 3AS, bronze bushed, 6" x 14", oil bath, dust proof.	<b>CRANKSHAFT:</b> 4 1/8" Diameter																									
<b>SAMSON POST:</b> Tripod, 10'-4" high.	<b>SHEAVE:</b> 19 1/4" P.D.-4C Std., 33 1/4" P.D. Maximum. 1 1/8" Bore																									
<b>BASE:</b> 8" deep, 25" wide at gear box, 19'-7 1/2" long.	<b>WEIGHT:</b> 14,715 lbs.																									
<b>CRANKS:</b> No. 5452, 51½" radius.	<b>STATIC COUNTERBALANCE—LBS.:</b>																									
<b>CRANK PINS:</b> 3 3/4" x 3 3/8", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 3 Weights</th> <th colspan="2">Aux. Weights</th> </tr> </thead> <tbody> <tr> <td>24"</td> <td>17,950</td> <td>17,950</td> <td>24,950</td> <td>24,950</td> </tr> <tr> <td>34"</td> <td>12,650</td> <td>12,650</td> <td>17,500</td> <td>17,500</td> </tr> <tr> <td>44"</td> <td>9,750</td> <td>9,750</td> <td>13,575</td> <td>13,575</td> </tr> <tr> <td>54"</td> <td>7,975</td> <td>7,975</td> <td>11,075</td> <td>11,075</td> </tr> </tbody> </table>	Stroke	No. 3 Weights		Aux. Weights		24"	17,950	17,950	24,950	24,950	34"	12,650	12,650	17,500	17,500	44"	9,750	9,750	13,575	13,575	54"	7,975	7,975	11,075	11,075
Stroke	No. 3 Weights		Aux. Weights																							
	24"	17,950	17,950	24,950	24,950																					
34"	12,650	12,650	17,500	17,500																						
44"	9,750	9,750	13,575	13,575																						
54"	7,975	7,975	11,075	11,075																						
<b>TAIL BEARING:</b> 3 1/8" x 7 1/4", bronze bushed.																										
<b>GEAR BOX OIL CAPACITY:</b> 17 Gallons.																										

# LUFKIN FOUNDRY & MACHINE CO.

# LUFKIN, TEXAS

## General Specifications—Lufkin Single Reduction Unit Assemblies TC-0A, 1A, 2A, 33A, 44A

### LUFKIN UNIVERSAL TC-0A-60A UNIT ASSEMBLY OR 4565 API SIZE—30,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 24½" x 14" x 160 lbs., 12'-6" and 12'-6" working centers. API Walking Beam Rating: 24,750 Lbs.	<b>GEARS:</b> Single Reduction. Main Gear, 49.6" x 12"																		
<b>HANGER:</b> Centerline type, Universal, bronze bushed.	<b>RATING:</b> 97.0 H.P. at 20 S.P.M. 480,000 lb. ins. Peak Torque																		
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 4" Heavy pipe connections, Universal lower bearings.	<b>RATIO:</b> 9.54																		
<b>CENTER BEARING:</b> No. 1AS bronze bushed, 7" x 20" oil bath, dust proof.	<b>CRANKSHAFT:</b> 6 7/16"																		
<b>SAMSON POST:</b> No. 13 Tripod, 13'-3" high.	<b>SHEAVE:</b> 37" P.D.-7D or 14C Std., 37" P.D. Maximum, 3 1/8" Bore																		
<b>BASE:</b> 16" deep, 50" wide at gear box.	<b>WEIGHT:</b> 40,185 lbs.																		
<b>CRANKS:</b> No. 7472, 71½" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>																		
<b>CRANK PINS:</b> 5½" x 5½", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th>Stroke</th> <th>No. 1 Weights</th> <th>C.I. Auxiliary Weights</th> </tr> </thead> <tbody> <tr> <td>34"</td> <td>32,000</td> <td>39,900</td> </tr> <tr> <td>44"</td> <td>24,750</td> <td>30,850</td> </tr> <tr> <td>54"</td> <td>20,150</td> <td>25,100</td> </tr> <tr> <td>64"</td> <td>17,000</td> <td>21,200</td> </tr> <tr> <td>74"</td> <td>14,700</td> <td>18,325</td> </tr> </tbody> </table>	Stroke	No. 1 Weights	C.I. Auxiliary Weights	34"	32,000	39,900	44"	24,750	30,850	54"	20,150	25,100	64"	17,000	21,200	74"	14,700	18,325
Stroke	No. 1 Weights	C.I. Auxiliary Weights																	
34"	32,000	39,900																	
44"	24,750	30,850																	
54"	20,150	25,100																	
64"	17,000	21,200																	
74"	14,700	18,325																	
<b>TAIL AND HANGER BEARINGS:</b> 4 1/8" x 12" Bronze Bushed.																			
<b>GEAR BOX OIL CAPACITY:</b> 11 Gallons.																			

### LUFKIN UNIVERSAL TC-1A-54C UNIT ASSEMBLY OR 3205 API SIZE—25,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 24½" x 14" x 160 lbs., 12'-6" and 12'-6" working centers. API Walking Beam Rating: 24,750 Lbs.	<b>GEARS:</b> Single Reduction. Main Gear, 47" x 10"																																		
<b>HANGER:</b> Centerline type, Universal, bronze bushed.	<b>RATING:</b> 71.0 H.P. at 20 S.P.M. 352,000 lb. ins. Peak Torque																																		
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 4" Heavy pipe connections, Universal lower bearings.	<b>RATIO:</b> 9.4																																		
<b>CENTER BEARING:</b> No. 1AS bronze bushed, 7" x 20", oil bath, dust proof.	<b>CRANKSHAFT:</b> 6 1/16"																																		
<b>SAMSON POST:</b> No. 13 Tripod, 13'-3" high.	<b>SHEAVE:</b> 34" P.D.-12C or 7D Std., 34 1/4" P.D. Max. 3 1/16" Bore																																		
<b>BASE:</b> 16" deep, 43" wide at gear box.	<b>WEIGHT:</b> 37,000 lbs.																																		
<b>CRANKS:</b> No. 7472, 71½" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>																																		
<b>CRANK PINS:</b> 5½" x 5½", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 7472 Crank</th> <th colspan="2">No. 7472 Crank (Std.)</th> </tr> <tr> <th>No. 2 Wts.</th> <th>Aux. Wts.</th> <th>No. 1 Wts.</th> <th>Aux. Wts.</th> </tr> </thead> <tbody> <tr> <td>34"</td> <td>28,800</td> <td>35,600</td> <td>32,000</td> <td>39,900</td> </tr> <tr> <td>44"</td> <td>22,200</td> <td>27,500</td> <td>24,750</td> <td>30,850</td> </tr> <tr> <td>54"</td> <td>18,200</td> <td>22,400</td> <td>20,150</td> <td>25,100</td> </tr> <tr> <td>64"</td> <td>15,300</td> <td>19,000</td> <td>17,000</td> <td>21,200</td> </tr> <tr> <td>74"</td> <td>13,040</td> <td>16,250</td> <td>14,700</td> <td>18,325</td> </tr> </tbody> </table>	Stroke	No. 7472 Crank		No. 7472 Crank (Std.)		No. 2 Wts.	Aux. Wts.	No. 1 Wts.	Aux. Wts.	34"	28,800	35,600	32,000	39,900	44"	22,200	27,500	24,750	30,850	54"	18,200	22,400	20,150	25,100	64"	15,300	19,000	17,000	21,200	74"	13,040	16,250	14,700	18,325
Stroke	No. 7472 Crank		No. 7472 Crank (Std.)																																
	No. 2 Wts.	Aux. Wts.	No. 1 Wts.	Aux. Wts.																															
34"	28,800	35,600	32,000	39,900																															
44"	22,200	27,500	24,750	30,850																															
54"	18,200	22,400	20,150	25,100																															
64"	15,300	19,000	17,000	21,200																															
74"	13,040	16,250	14,700	18,325																															
<b>TAIL AND HANGER BEARINGS:</b> 4 1/8" x 12", bronze bushed.																																			
<b>GEAR BOX OIL CAPACITY:</b> 29 Gallons.																																			

### LUFKIN UNIVERSAL TC-2A-36A UNIT ASSEMBLY OR 2285 API SIZE—20,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 27" x 10" x 102 lbs., 10'-0" and 10'-0" working centers. API Walking Beam Rating: 19,000 Lbs.	<b>GEARS:</b> Single Reduction. Main Gear, 45.4" P.D. 8" Face																																		
<b>HANGER:</b> Centerline type, Universal, bronze bushed.	<b>RATING:</b> 53.3 H.P. at 20 S.P.M. 264,000 lb. ins. Peak Torque																																		
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 3" Heavy pipe connection, Universal lower bearings.	<b>RATIO:</b> 9.94																																		
<b>CENTER BEARING:</b> No. 2AS, bronze bushed, 6" x 17", oil bath, dust proof.	<b>CRANKSHAFT:</b> 6"																																		
<b>SAMSON POST:</b> No. 12 Tripod, 12'-1" high.	<b>SHEAVE:</b> 34" P.D. 9C or 6D Std., 34 1/4" P.D. Maximum, 3 1/8" Bore																																		
<b>BASE:</b> 16" deep, 37" wide at gear box.	<b>WEIGHT:</b> 27,120 lbs.																																		
<b>CRANKS:</b> No. 6460, 59½" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>																																		
<b>CRANK PINS:</b> 4 3/4" x 4 5/8", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 2A Wts.</th> <th colspan="2">Aux. Wts.</th> </tr> <tr> <th>No. 2 Wts.</th> <th>Aux. Wts.</th> <th>No. 2 Wts.</th> <th>Aux. Wts.</th> </tr> </thead> <tbody> <tr> <td>24"</td> <td>25,950</td> <td>31,950</td> <td>28,800</td> <td>35,950</td> </tr> <tr> <td>34"</td> <td>18,300</td> <td>22,550</td> <td>20,350</td> <td>25,350</td> </tr> <tr> <td>44"</td> <td>14,150</td> <td>17,400</td> <td>15,700</td> <td>19,600</td> </tr> <tr> <td>54"</td> <td>11,550</td> <td>14,200</td> <td>12,800</td> <td>15,950</td> </tr> <tr> <td>64"</td> <td>9,750</td> <td>12,000</td> <td>10,800</td> <td>13,500</td> </tr> </tbody> </table>	Stroke	No. 2A Wts.		Aux. Wts.		No. 2 Wts.	Aux. Wts.	No. 2 Wts.	Aux. Wts.	24"	25,950	31,950	28,800	35,950	34"	18,300	22,550	20,350	25,350	44"	14,150	17,400	15,700	19,600	54"	11,550	14,200	12,800	15,950	64"	9,750	12,000	10,800	13,500
Stroke	No. 2A Wts.		Aux. Wts.																																
	No. 2 Wts.	Aux. Wts.	No. 2 Wts.	Aux. Wts.																															
24"	25,950	31,950	28,800	35,950																															
34"	18,300	22,550	20,350	25,350																															
44"	14,150	17,400	15,700	19,600																															
54"	11,550	14,200	12,800	15,950																															
64"	9,750	12,000	10,800	13,500																															
<b>TAIL AND HANGER BEARINGS:</b> 4 1/8" x 9 1/4" Bronze Bushed.																																			
<b>GEAR BOX OIL CAPACITY:</b> 20 Gallons.																																			

### LUFKIN UNIVERSAL TC-33A-18B UNIT ASSEMBLY OR 1605 API SIZE—17,000 Lb. Polish Rod Load Class

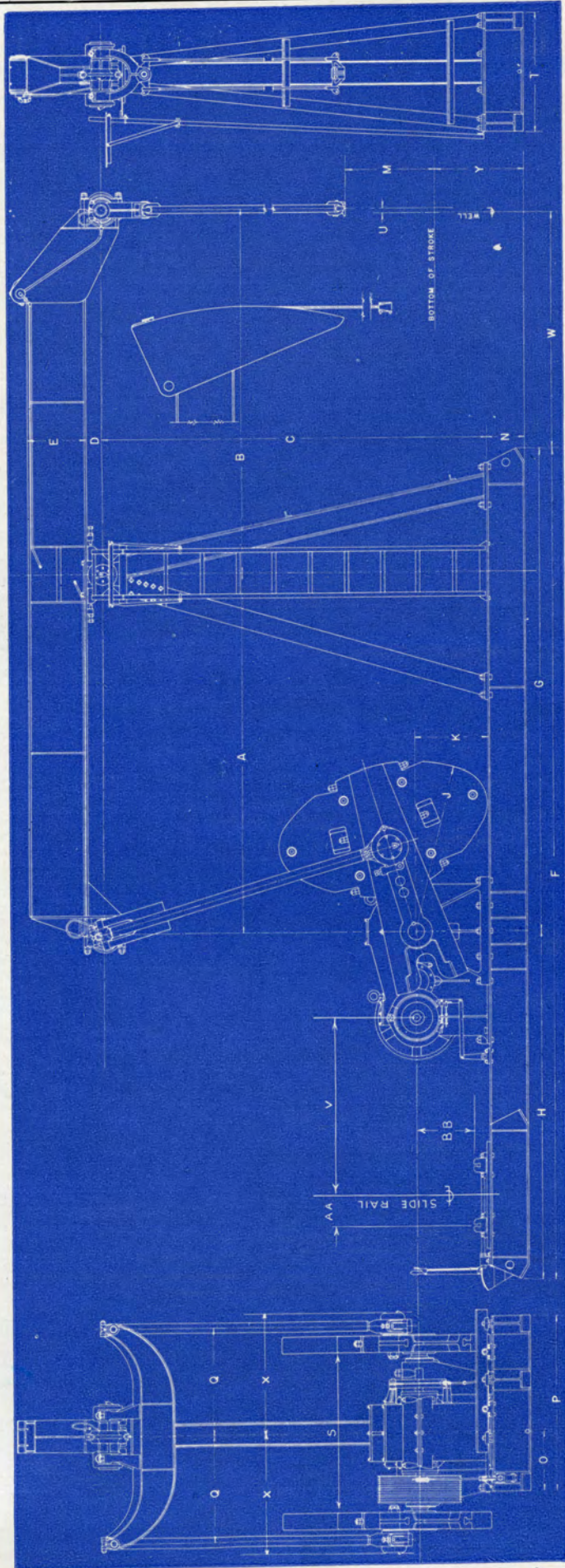
<b>WALKING BEAM:</b> 21" x 9" x 82 lbs., 8'-0" and 8'-0" working centers. API Walking Beam Rating: 15,800 Lbs.	<b>GEARS:</b> Single Reduction. Main Gear, 42" x 6"																													
<b>HANGER:</b> Universal centerline type, bronze bushed.	<b>RATING:</b> 35 H.P. at 20 S.P.M. 173,000 lb. ins. Peak Torque																													
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 3" Heavy pipe connections, Universal lower bearings.	<b>RATIO:</b> 10.5																													
<b>CENTER BEARING:</b> No. 3AS bronze bushed, 6" x 14", oil bath, dust proof.	<b>CRANKSHAFT:</b> 5 7/16"																													
<b>SAMSON POST:</b> Tripod, 12'-1" high.	<b>SHEAVE:</b> 32 1/4" P.D.-6C or 4D Std., 28" P.D. 4D Alt., 32 1/4" P.D. Maximum, 2 1/8" Bore																													
<b>BASE:</b> 10" deep, 32" wide at gear box.	<b>WEIGHT:</b> 21,000 lbs.																													
<b>CRANKS:</b> No. 5452, 51½" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>																													
<b>CRANK PINS:</b> 4 3/4" x 4 5/8", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 3 Weights</th> <th colspan="2">Aux. Weights</th> </tr> <tr> <th>No. 3 Weights</th> <th>Aux. Weights</th> <th>No. 3 Weights</th> <th>Aux. Weights</th> </tr> </thead> <tbody> <tr> <td>24"</td> <td>17,950</td> <td>24,950</td> <td>17,950</td> <td>24,950</td> </tr> <tr> <td>34"</td> <td>12,650</td> <td>17,500</td> <td>12,650</td> <td>17,500</td> </tr> <tr> <td>44"</td> <td>9,750</td> <td>13,575</td> <td>9,750</td> <td>13,575</td> </tr> <tr> <td>54"</td> <td>7,975</td> <td>11,075</td> <td>7,975</td> <td>11,075</td> </tr> </tbody> </table>	Stroke	No. 3 Weights		Aux. Weights		No. 3 Weights	Aux. Weights	No. 3 Weights	Aux. Weights	24"	17,950	24,950	17,950	24,950	34"	12,650	17,500	12,650	17,500	44"	9,750	13,575	9,750	13,575	54"	7,975	11,075	7,975	11,075
Stroke	No. 3 Weights		Aux. Weights																											
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24"	17,950	24,950	17,950	24,950																										
34"	12,650	17,500	12,650	17,500																										
44"	9,750	13,575	9,750	13,575																										
54"	7,975	11,075	7,975	11,075																										
<b>TAIL AND HANGER BEARINGS:</b> 4 1/8" x 9 1/4" bronze bushed.																														
<b>GEAR BOX OIL CAPACITY:</b> 20 Gallons.																														

### LUFKIN UNIVERSAL TC-44A-24A UNIT ASSEMBLY OR 1145 API SIZE—15,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 21" x 9" x 82 lbs., 8'-0" and 8'-0" working centers. API Walking Beam Rating: 15,800 Lbs.	<b>GEARS:</b> Single Reduction. Main Gear, 36.2" P.D. 5 1/2" Face																													
<b>HANGER:</b> Universal Centerline type, bronze bushed.	<b>RATING:</b> 25.9 H.P. at 20 S.P.M. 128,000 lb. ins. Peak Torque																													
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 2 1/2" Heavy pipe connections, Universal lower bearings.	<b>RATIO:</b> 9.67																													
<b>CENTER BEARING:</b> No. 3AS bronze bushed, 6" x 14", oil bath, dust proof.	<b>CRANKSHAFT:</b> 4 1/16" Diameter																													
<b>SAMSON POST:</b> Tripod, 10'-4" high.	<b>SHEAVE:</b> 27" P.D.-6C Std., 27" P.D. Maximum, 2 1/8" Bore																													
<b>BASE:</b> 8" deep, 25" wide at gear box, 19'-7 1/2" long.	<b>WEIGHT:</b> 14,715 lbs.																													
<b>CRANKS:</b> No. 5452, 51½" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>																													
<b>CRANK PINS:</b> 3 3/4" x 3 3/8", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 3 Weights</th> <th colspan="2">Aux. Weights</th> </tr> <tr> <th>No. 3 Weights</th> <th>Aux. Weights</th> <th>No. 3 Weights</th> <th>Aux. Weights</th> </tr> </thead> <tbody> <tr> <td>24"</td> <td>17,950</td> <td>24,950</td> <td>17,950</td> <td>24,950</td> </tr> <tr> <td>34"</td> <td>12,650</td> <td>17,500</td> <td>12,650</td> <td>17,500</td> </tr> <tr> <td>44"</td> <td>9,750</td> <td>13,575</td> <td>9,750</td> <td>13,575</td> </tr> <tr> <td>54"</td> <td>7,975</td> <td>11,075</td> <td>7,975</td> <td>11,075</td> </tr> </tbody> </table>	Stroke	No. 3 Weights		Aux. Weights		No. 3 Weights	Aux. Weights	No. 3 Weights	Aux. Weights	24"	17,950	24,950	17,950	24,950	34"	12,650	17,500	12,650	17,500	44"	9,750	13,575	9,750	13,575	54"	7,975	11,075	7,975	11,075
Stroke	No. 3 Weights		Aux. Weights																											
	No. 3 Weights	Aux. Weights	No. 3 Weights	Aux. Weights																										
24"	17,950	24,950	17,950	24,950																										
34"	12,650	17,500	12,650	17,500																										
44"	9,750	13,575	9,750	13,575																										
54"	7,975	11,075	7,975	11,075																										
<b>TAIL BEARING:</b> 3 1/8" x 7 1/4" bronze bushed.																														
<b>GEAR BOX OIL CAPACITY:</b> 5.5 Gallons.																														

**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**



**FIGURE 12**  
**Dimensions—Standard Lufkin Units TC-OA, 1A, 2A, 33A, and 44A**

UNIT	A		B		C		D		E		F		G		H		J		K		M		N		O		P	
	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.	Single Red.	Double Red.
TC-OA-1625CU	12'-6"	12'-8 1/8"	13'-3"	7"	24 1/2"	30'-0"	16'-10"	13'-2"	5'-11 1/2"	2'-6"	3'-1"	16"	2'-1"	6'-2"														
TC-1A-1625CU	12'-6"	12'-8 1/8"	13'-3"	7"	24 1/2"	28'-0"	16'-9 1/2"	11'-2 1/2"	5'-11 1/2"	2'-4"	3'-1"	16"	1'-9 1/2"	5'-11"														
TC-2A-10220CU	10'-0"	10'-2 1/8"	12'-1"	6"	27"	27'-3"	13'-9"	13'-6"	4'-11 1/2"	2'-3"	2'-8"	16"	1'-6 1/2"	5'-5"														
TC-33A-8216CU	8'-0"	8'-2 3/8"	12'-1"	6"	21"	20'-9"	11'-2"	9'-7"	4'-3 1/2"	2'-3"	2'-3"	10"	1'-4"	4'-8 1/2"														
TC-44A-8216CU	8'-0"	8'-2 3/8"	10'-4"	6"	21"	19'-7 1/2"	11'-3 1/2"	8'-4"	3'-10"	*	2'-0"	8"	1'-0 1/2"	4'-1"														
UNIT	Q		S		T		U		V		W		X		Y		AA		BB									
TC-OA-1625CU	3'-4 1/8"	3'-8 7/8"	4'-10 1/2"	5'-6 1/2"	4'-2"	2 3/8"	7'-6 1/2"	6'-4 1/2"	3'-11 5/8"	3'-11 5/8"	8'-2"	8'-2"	3'-11 5/8"	4'-3 3/8"	2'-6 5/8"	22 3/4"	22 3/4"	22 3/4"	22 3/4"	22 3/4"								
TC-1A-1625CU	3'-3 3/8"	3'-3 3/8"	4'-7 1/2"	4'-7 1/2"	3'-7"	2 3/8"	5'-10"	5'-2"	3'-10 3/8"	3'-10 3/8"	8'-2 1/2"	8'-2 1/2"	3'-10 3/8"	3'-10 3/8"	2'-6 5/8"	22 3/4"	22 3/4"	22 3/4"	22 3/4"	20 1/4"								
TC-2A-10220CU	2'-11 1/8"	2'-11 1/8"	4'-2 1/2"	4'-2 1/2"	3'-1"	2 3/8"	8'-1"	7'-8"	3'-5 1/8"	3'-5 1/8"	6'-3"	6'-3"	3'-5 1/8"	3'-5 1/8"	1'-9 5/8"	22 3/4"	22 3/4"	22 3/4"	22 3/4"	19 1/4"								
TC-33A-8216CU	2'-7 1/8"	2'-7 1/8"	3'-6"	3'-6"	2'-8"	2 5/8"	4'-11 3/8"	4'-8 3/8"	3'-1 1/2"	3'-1 1/2"	4'-10"	4'-10"	3'-1 1/2"	3'-1 1/2"	1'-8 5/8"	22 3/4"	22 3/4"	22 3/4"	22 3/4"	19 1/4"								
TC-44A-8216CU	2'-4 1/8"	2'-4 1/8"	3'-3"	3'-3"	2'-1"	2 5/8"	4'-5"	4'-1"	2'-10 1/8"	2'-10 1/8"	4'-8 1/2"	4'-8 1/2"	2'-10 1/8"	2'-10 1/8"	2'-2 5/8"	17"	17"	17"	17"	†								

\* Dimension "K"—TC-44A-24A, 1'-9".  
 † Dimension "BB"—TC-44A-15A, 10 1/4".  
 The Universal centerline Rod Hanger is standard on all above Units; however, Hinged Horsehead can be furnished if desired.  
 TC-44A-24A, 13 1/4".

**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**

**ALTERNATIVE SETTINGS—LUFKIN UNIT ASSEMBLIES TC-OA, 1A, 2A, 33A AND 44A**

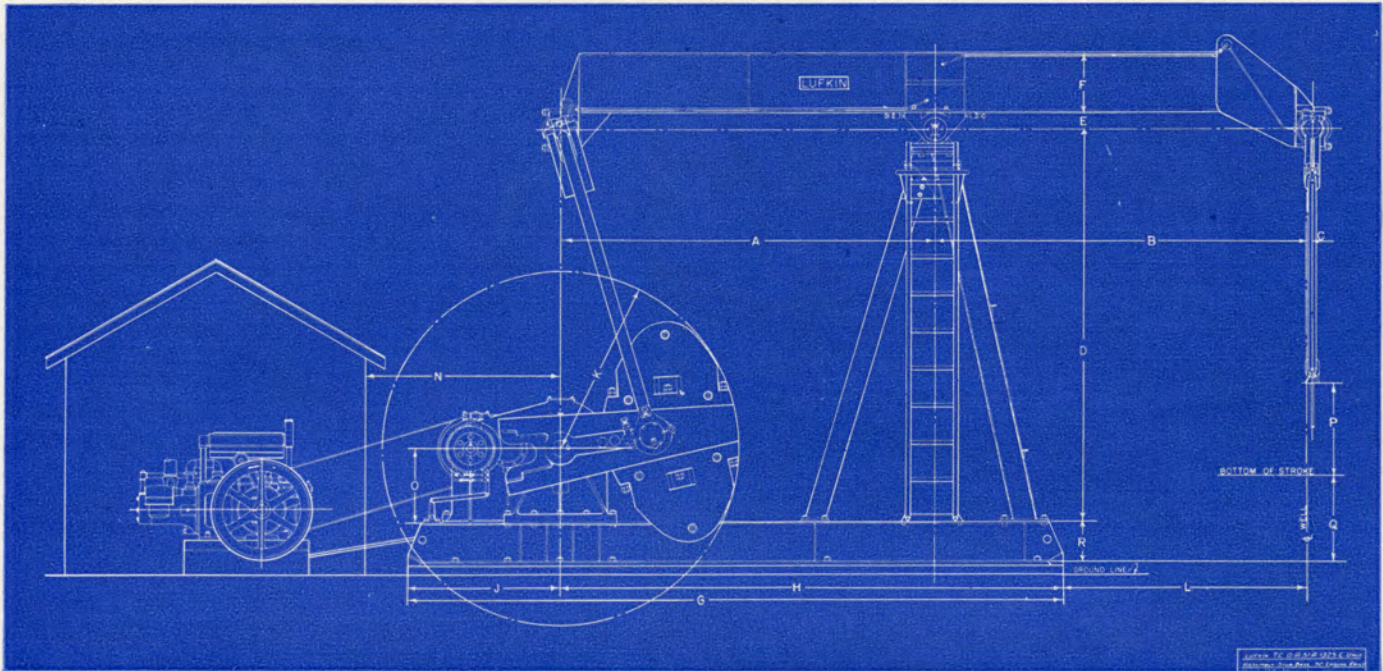


FIGURE 13

Single Reduction TC-0A, 1A, 2A, 33A and 44A with Stub Base and House for Lufkin Cooper-Bessemer Gas Engine

**LUFKIN UNIT ALTERNATIVES TC-0A, 1A, 2A, 33A AND 44A**

**GENERAL DIMENSIONS**

UNIT	A	B	C	D	E	F	G	H	J	K	L	N	O	P	Q	R
TC-0A-1625CU...	12'-6"	12'-6"	2 3/8"	13'-3"	7"	24 1/2"	21'-3"	16'-10"	4'-5"	5'-11 1/2"	8'-2"	6'-6"	2'-6"	3'-1"	2'-6 5/8"	16"
TC-1A-1625CU...	12'-6"	12'-6"	2 3/8"	13'-3"	7"	24 1/2"	21'-11"	16'-9 1/2"	5'-1 1/2"	5'-11 1/2"	8'-2 1/2"	6'-6"	2'-4"	3'-1"	2'-6 5/8"	16"
TC-2A-10220CU..	10'-0"	10'-0"	2 3/8"	12'-1"	6"	27"	18'-0"	13'-9"	4'-3"	4'-11 1/2"	6'-3"	5'-6"	2'-3"	2'-8"	1'-9 5/8"	16"
TC-33A-8216CU..	8'-0"	8'-0"	2 5/8"	12'-1"	6"	21"	14'-8"	11'-2"	3'-6"	4'-3 1/2"	4'-10"	4'-10"	2'-3"	2'-3"	1'-8 5/8"	10"
TC-44A-8216CU..	8'-0"	8'-0"	2 5/8"	10'-4"	6"	21"	14'-1 1/2"	11'-3 1/2"	2'-10"	3'-10"	4'-8 1/2"	4'-4"	*	2'-0"	2'-2 5/8"	8"

\* Dimension "0" TC-44A-15A, 1'-6", TC-44A-24A, 1'-9".

Ask for Certified Print before making foundations.

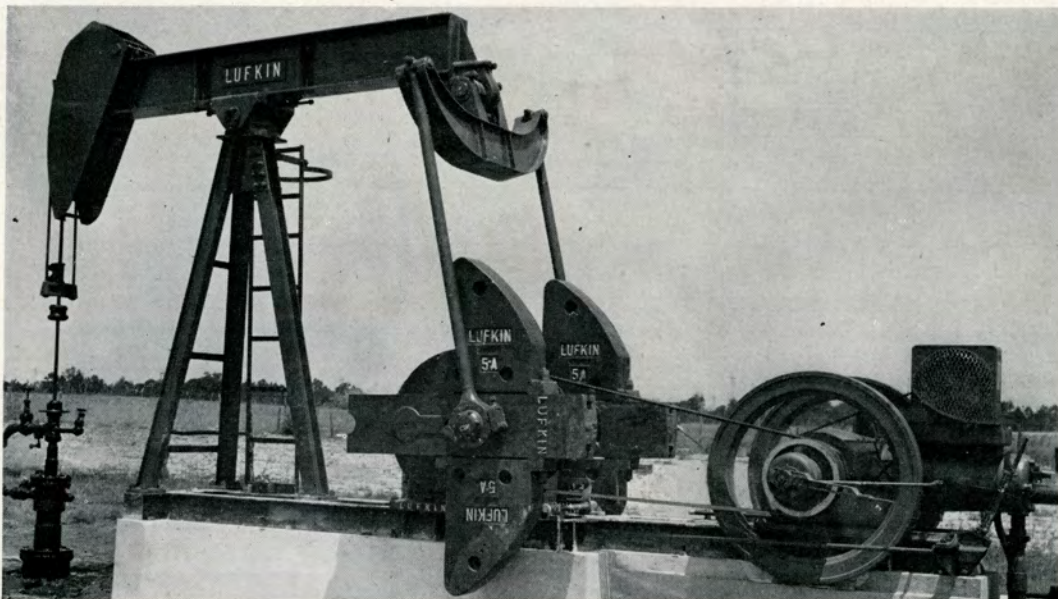


FIGURE 14

Lufkin TC-44-24A unit with jointed type base and single cylinder engine drive. This type base allows the engine to be set considerably lower than the regular full length base with universal rails.

# LUFKIN FOUNDRY & MACHINE CO.

# LUFKIN, TEXAS

## General Specifications—Lufkin Double Reduction Unit Assemblies TC-1, 2, 33 and 44

### LUFKIN UNIVERSAL TC-1-41C UNIT ASSEMBLY OR 320D API SIZE—25,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 24" x 14" x 130 lbs., 10'-0" and 10'-0" working centers. API Walking Beam Rating: 26,650 Lbs.	<b>GEARS.....</b> Double Reduction. Main Gear, 33.6" x 10"			
<b>HANGER:</b> Hinged Horsehead with 1" wire rope on Equalizing Sheave.	<b>RATING.....</b> 65.5 H.P. at 20 S.P.M. 324,000 lbs. ins. Peak Torque			
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 4" Heavy pipe connections. Universal lower bearings.	<b>RATIO.....</b> 30.12			
<b>CENTER BEARING:</b> No. 1AS bronze bushed, 7" x 20" oil bath, dust proof.	<b>CRANKSHAFT.....</b> 6 7/16"			
<b>SAMSON POST:</b> No. 13 Tripod, 13'-3" high.	<b>SHEAVE.....</b> 25" P.D.-8C Std., 30" P.D. Alt.; 47 1/4" P.D. Maximum 2 1/8" Bore			
<b>BASE:</b> 16" deep, 43" wide at gear box.	<b>WEIGHT.....</b> 35,250 lbs.			
<b>CRANKS:</b> 7472, 71 1/2" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>			
<b>CRANK PINS:</b> 5 1/2" x 5 1/2" bronze bushed, oil bath.	<b>Stroke</b>	<b>No. 7472 Cranks</b>	<b>No. 7472 Cranks (Std.)</b>	
<b>TAIL AND HANGER BEARINGS:</b> 4 1/8" x 12" bronze bushed.		<b>No. 2 Wts.</b>	<b>Aux. Wts.</b>	<b>No. 1 Wts.</b>
<b>GEAR BOX OIL CAPACITY:</b> 55 Gallons.	34".....	28,800	35,600	32,000
	44".....	22,200	27,500	24,750
	54".....	18,200	22,400	20,150
	64".....	15,300	19,000	17,000
	74".....	13,040	16,250	14,700
				18,325

### LUFKIN UNIVERSAL TC-2-35A UNIT ASSEMBLY OR 228D API SIZE—20,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 24" x 12" x 100 lbs., 8'-0" and 8'-0" working centers. API Walking Beam Rating: 25,550 lbs.	<b>GEARS.....</b> Double Reduction. Main Gear, 30.3" P.D. 9" Face			
<b>HANGER:</b> Hinged Horsehead with 1" wire rope on Equalizing Sheave.	<b>RATING.....</b> 46.1 H.P. at 20 S.P.M. 228,000 lb. ins. Peak Torque			
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 3" Heavy pipe connections. Universal lower bearings.	<b>RATIO.....</b> 28.45			
<b>CENTER BEARING:</b> No. 2AS, bronze bushed, 6" x 17", oil bath, dust proof.	<b>CRANKSHAFT.....</b> 6"			
<b>SAMSON POST:</b> No. 12 Tripod, 12'-1" high.	<b>SHEAVE.....</b> 24 1/4" P.D.-6C Std., 30" P.D. Alt., 41 1/4" P.D. Max. 2 1/8" Bore			
<b>BASE:</b> 16" deep, 37" wide at gear box, 22'-1" long.	<b>WEIGHT.....</b> 26,550 lbs.			
<b>CRANKS:</b> No. 6460, 59 1/2" Radius.	<b>STATIC COUNTERBALANCE—LBS.</b>			
<b>CRANK PINS:</b> 4 3/4" x 4 5/8" bronze bushed, oil bath.	<b>Stroke</b>	<b>No. 2A Wts.</b>	<b>Aux. Wts.</b>	<b>No. 2 Wts.</b>
<b>TAIL BEARING:</b> 4 1/8" x 9 1/4", bronze bushed.	24".....	25,950	31,950	28,800
<b>GEAR BOX OIL CAPACITY:</b> 55 Gallons.	34".....	18,300	22,550	20,350
	44".....	14,150	17,400	15,700
	54".....	11,550	14,200	12,800
	64".....	9,750	12,000	10,800
				13,500

### LUFKIN UNIVERSAL TC-33-22G UNIT ASSEMBLY OR 160D API SIZE—17,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 18" x 8 3/4" x 77 lbs., 7'-0" and 5'-3 1/4" working centers. API Walking Beam Rating: 17,940 Lbs.	<b>GEARS.....</b> Double Reduction. Main Gear, 24.5" x 7 5/8"			
<b>HANGER:</b> Hinged Horsehead with 1" wire line on Equalizing Sheave.	<b>RATING.....</b> 33.2 H.P. at 20 S.P.M. 164,000 lb. ins. Peak Torque			
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 3" Heavy pipe connections. Universal lower bearings.	<b>RATIO.....</b> 28.67			
<b>CENTER BEARING:</b> No. 3AS, bronze bushed, 6" x 14", oil bath, dust proof.	<b>CRANKSHAFT.....</b> 5 7/16"			
<b>SAMSON POST:</b> Tripod, 10'-4" high.	<b>SHEAVE.....</b> 24 1/4" P.D.-5C Std., 29 1/4" P.D. or 33 1/4" P.D., Alt., 38" P.D. Maximum. 2 3/8" Bore			
<b>BASE:</b> 10" deep, 32" wide at gear box, 18'-6" long.	<b>WEIGHT.....</b> 19,760 lbs.			
<b>CRANKS:</b> No. 4152, 51 1/2" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>			
<b>CRANK PINS:</b> 4 3/4" x 4 5/8", bronze bushed, oil bath.	<b>Stroke</b>	<b>No. 3 Wts.</b>	<b>Aux. Wts.</b>	
<b>TAIL BEARING:</b> 4 1/8" x 9 1/4", bronze bushed.	27.9".....	15,840	21,850	
<b>GEAR BOX OIL CAPACITY:</b> 22 Gallons.	41.2".....	10,720	14,800	
	54.4".....	8,140	11,220	

### LUFKIN UNIVERSAL TC-44-15A UNIT ASSEMBLY OR 114D API SIZE AND TC-44-80D—13,500 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 16" x 8 1/2" x 64 lbs., 6'-0" and 6'-0" working centers. API Walking Beam Rating: 14,060 Lbs.	<b>No. 15A or 114D</b>		<b>No. 80D</b>
<b>HANGER:</b> Hinged Horsehead with 3/8" wire line on Equalizing Sheave.	Double Red. 23.7", 6 1/2" Face		Double Red. 22.2", 5 1/2" Face
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 2 1/2" Heavy pipe connections. Universal lower bearings.	25.1 H.P.—124,000 Lb. In.		16.2 H.P. 80,000 Lb. In.
<b>CENTER BEARING:</b> No. 4AS, bronze bushed, 5" x 10 1/2", oil bath, dust proof.	29.4		29.15
<b>SAMSON POST:</b> Tripod, 8'-9 1/2" high.	4 7/16" Diameter		4 7/16" Diameter
<b>BASE:</b> 8" deep, 25" wide at gear box, 16'-1 1/4" long.	19 1/4" P.D.-4C Std. 33 1/4" P.D. Max.		19 1/4" P.D.-4C Std. 29 1/4" P.D. Max.
<b>CRANKS:</b> No. 4846, 46" radius.	13,940 Lbs.		13,670 Lbs.
<b>CRANK PINS:</b> 3 3/4" x 3 1/2", bronze bushed, oil bath.	<b>STATIC COUNTERBALANCE—LBS.</b>		
<b>TAIL BEARING:</b> 3 1/8" x 7 1/4", bronze bushed.	<b>Stroke</b>	<b>No. 5A Reg. Wts.</b>	<b>Aux. Wts.</b>
<b>GEAR BOX OIL CAPACITY:</b> No. 15A, 17 Gallons; No. 80D, 17 Gallons.	24".....	12,465	16,060
	32".....	9,350	12,050
	40".....	7,480	9,640
	48".....	6,230	8,030

# LUFKIN FOUNDRY & MACHINE CO.

# LUFKIN, TEXAS

## General Specifications—Lufkin Single Reduction Unit Assemblies TC-1, 2, 33 and 44

### LUFKIN UNIVERSAL TC-1-54C UNIT ASSEMBLY OR 320S API SIZE—25,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 24" x 14" x 130 lbs., 10'-0" and 10'-0" working centers. API Walking Beam Rating: 26,650 Lbs.	<b>GEARS</b> ..... Single Reduction. Main Gear, 47" x 10"																																		
<b>HANGER:</b> Hinged Horsehead with 1" Wire Rope on Equalizing Sheave.	<b>RATING</b> ..... 71.0 H.P. at 20 S.P.M. 352,000 lb. ins. Peak Torque																																		
<b>PITMAN:</b> Universal Equalizer with Bearings "in line", 4" Heavy pipe connections, Universal lower bearings.	<b>RATIO</b> ..... 9.4																																		
<b>CENTER BEARING:</b> No. 1AS, bronze bushed, 7" x 20", oil bath, dust proof.	<b>CRANKSHAFT</b> ..... 6 1/8"																																		
<b>SAMSON POST:</b> No. 13 Tripod, 13'-3" high.	<b>SHEAVE</b> ..... 34" P.D.-12C or 7D Std., 34 1/4" P.D. Max. 3 1/8" Bore																																		
<b>BASE:</b> 16" deep, 43" wide at gear box.	<b>WEIGHT</b> ..... 35,150 lbs.																																		
<b>CRANKS:</b> 7472, 71 1/2" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>																																		
<b>CRANK PINS:</b> 5 1/2" x 5 1/2" bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 7472 Crank</th> <th colspan="2">No. 7472 Crank (Std.)</th> </tr> <tr> <th>No. 2 Wts.</th> <th>Aux. Wts.</th> <th>No. 1 Wts.</th> <th>Aux. Wts.</th> </tr> </thead> <tbody> <tr> <td>34".....</td> <td>28,800</td> <td>35,600</td> <td>32,000</td> <td>39,900</td> </tr> <tr> <td>44".....</td> <td>22,200</td> <td>27,500</td> <td>24,750</td> <td>30,850</td> </tr> <tr> <td>54".....</td> <td>18,200</td> <td>22,400</td> <td>20,150</td> <td>25,100</td> </tr> <tr> <td>64".....</td> <td>15,300</td> <td>19,000</td> <td>17,000</td> <td>21,200</td> </tr> <tr> <td>74".....</td> <td>13,040</td> <td>16,250</td> <td>14,700</td> <td>18,325</td> </tr> </tbody> </table>	Stroke	No. 7472 Crank		No. 7472 Crank (Std.)		No. 2 Wts.	Aux. Wts.	No. 1 Wts.	Aux. Wts.	34".....	28,800	35,600	32,000	39,900	44".....	22,200	27,500	24,750	30,850	54".....	18,200	22,400	20,150	25,100	64".....	15,300	19,000	17,000	21,200	74".....	13,040	16,250	14,700	18,325
Stroke	No. 7472 Crank		No. 7472 Crank (Std.)																																
	No. 2 Wts.	Aux. Wts.	No. 1 Wts.	Aux. Wts.																															
34".....	28,800	35,600	32,000	39,900																															
44".....	22,200	27,500	24,750	30,850																															
54".....	18,200	22,400	20,150	25,100																															
64".....	15,300	19,000	17,000	21,200																															
74".....	13,040	16,250	14,700	18,325																															
<b>TAIL AND HANGER BEARINGS:</b> 4 1/8" x 12" bronze bushed.																																			
<b>GEAR BOX OIL CAPACITY:</b> 29 Gallons.																																			

### LUFKIN UNIVERSAL TC-2-36A UNIT ASSEMBLY OR 228S API SIZE—20,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 24" x 12" x 100 lbs., 8'-0" and 8'-0" working centers. API Walking Beam Rating: 25,550	<b>GEARS</b> ..... Single Reduction. Main Gear, 45.4" P.D. 8" Face																																		
<b>HANGER:</b> Hinged Horsehead with 1" wire rope on equalizing Sheave.	<b>RATING</b> ..... 53.3 H.P. at 20 S.P.M. 264,000 lb. ins. Peak Torque																																		
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 3" Heavy pipe connections, Universal lower bearings.	<b>RATIO</b> ..... 9.94																																		
<b>CENTER BEARING:</b> No. 2AS, bronze bushed, 6" x 17", oil bath, dust proof.	<b>CRANKSHAFT</b> ..... 6"																																		
<b>SAMSON POST:</b> No. 12 Tripod, 12'-1" high.	<b>SHEAVE</b> ..... 34" P.D.-9C or 6D Std., 34" P.D. Maximum. 3 1/8" Bore																																		
<b>BASE:</b> 16" deep, 37" wide at gear box, 22'-1" long.	<b>WEIGHT</b> ..... 26,450 lbs.																																		
<b>CRANKS:</b> No. 6460, 59 1/2" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>																																		
<b>CRANK PINS:</b> 4 3/4" x 4 3/4", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 2A Wts.</th> <th colspan="2">No. 2 Wts.</th> </tr> <tr> <th>No. 2 Wts.</th> <th>Aux. Wts.</th> <th>No. 2 Wts.</th> <th>Aux. Wts.</th> </tr> </thead> <tbody> <tr> <td>24".....</td> <td>25,950</td> <td>31,950</td> <td>28,800</td> <td>35,950</td> </tr> <tr> <td>34".....</td> <td>18,300</td> <td>22,550</td> <td>20,350</td> <td>25,350</td> </tr> <tr> <td>44".....</td> <td>14,150</td> <td>17,400</td> <td>15,700</td> <td>19,600</td> </tr> <tr> <td>54".....</td> <td>11,550</td> <td>14,200</td> <td>12,800</td> <td>15,950</td> </tr> <tr> <td>64".....</td> <td>9,750</td> <td>12,000</td> <td>10,800</td> <td>13,500</td> </tr> </tbody> </table>	Stroke	No. 2A Wts.		No. 2 Wts.		No. 2 Wts.	Aux. Wts.	No. 2 Wts.	Aux. Wts.	24".....	25,950	31,950	28,800	35,950	34".....	18,300	22,550	20,350	25,350	44".....	14,150	17,400	15,700	19,600	54".....	11,550	14,200	12,800	15,950	64".....	9,750	12,000	10,800	13,500
Stroke	No. 2A Wts.		No. 2 Wts.																																
	No. 2 Wts.	Aux. Wts.	No. 2 Wts.	Aux. Wts.																															
24".....	25,950	31,950	28,800	35,950																															
34".....	18,300	22,550	20,350	25,350																															
44".....	14,150	17,400	15,700	19,600																															
54".....	11,550	14,200	12,800	15,950																															
64".....	9,750	12,000	10,800	13,500																															
<b>TAIL BEARING:</b> 4 1/8" x 9 1/4", bronze bushed.																																			
<b>GEAR BOX OIL CAPACITY:</b> 20 Gallons.																																			

### LUFKIN UNIVERSAL TC-33-18B UNIT ASSEMBLY OR 160S API SIZE—17,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 18" x 8 3/4" x 77 lbs., 7'-0" and 5'-3 1/4" working centers. API Walking Beam Rating: 17,940 Lbs.	<b>GEARS</b> ..... Single Reduction. Main Gear, 42" x 6"														
<b>HANGER:</b> Hinged Horsehead with 1" wire line on Equalizing Sheave.	<b>RATING</b> ..... 35.0 H.P. at 20 S.P.M. 173,000 lb. ins. Peak Torque														
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 3" Heavy pipe connections, Universal lower bearings.	<b>RATIO</b> ..... 10.5														
<b>CENTER BEARING:</b> No. 3AS, bronze bushed, 6" x 14", oil bath, dust proof.	<b>CRANKSHAFT</b> ..... 5 1/8"														
<b>SAMSON POST:</b> Tripod, 10'-4" high.	<b>SHEAVE</b> ..... 32 1/4" P.D.-6C or 4D Std., 28" P.D.-4D Alt., 32 1/4" P.D. Maximum. 2 1/8" Bore														
<b>BASE:</b> 10" deep, 32" wide at gear box, 18'-6" long.	<b>WEIGHT</b> ..... 19,300 lbs.														
<b>CRANKS:</b> No. 4152, 51 1/2" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>														
<b>CRANK PINS:</b> 4 3/4" x 4 3/4", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 3 Wts.</th> </tr> <tr> <th>No. 3 Wts.</th> <th>Aux. Wts.</th> </tr> </thead> <tbody> <tr> <td>27.9".....</td> <td>15,840</td> <td>21,850</td> </tr> <tr> <td>41.2".....</td> <td>10,720</td> <td>14,800</td> </tr> <tr> <td>54.4".....</td> <td>8,140</td> <td>11,220</td> </tr> </tbody> </table>	Stroke	No. 3 Wts.		No. 3 Wts.	Aux. Wts.	27.9".....	15,840	21,850	41.2".....	10,720	14,800	54.4".....	8,140	11,220
Stroke	No. 3 Wts.														
	No. 3 Wts.	Aux. Wts.													
27.9".....	15,840	21,850													
41.2".....	10,720	14,800													
54.4".....	8,140	11,220													
<b>TAIL BEARING:</b> 4 1/8" x 9 1/4", bronze bushed.															
<b>GEAR BOX OIL CAPACITY:</b> 20 Gallons.															

### LUFKIN UNIVERSAL TC-44-24A UNIT ASSEMBLY OR 114S API SIZE—13,500 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 16" x 8 1/2" x 64 lbs., 6'-0" and 6'-0" working centers. API Walking Beam Rating: 14,060.	<b>GEARS</b> ..... Single Reduction. Main Gear, 36.2" P.D. 5 1/2" Face																	
<b>HANGER:</b> Hinged Horsehead with 3/8" wire line on Equalizing Sheave.	<b>RATING</b> ..... 25.9 H.P. at 20 S.P.M. 128,000 lb. ins. Peak Torque																	
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 2 1/2" Heavy pipe connections, Universal lower bearings.	<b>RATIO</b> ..... 9.67																	
<b>CENTER BEARING:</b> No. 4AS, bronze bushed, 5" x 10 1/2", oil bath, dust proof.	<b>CRANKSHAFT</b> ..... 4 1/8" Diameter																	
<b>SAMSON POST:</b> Tripod, 8'-9 1/2" high.	<b>SHEAVE</b> ..... 27" P.D.-6C Std., 27" P.D. Maximum. 2 1/8" Bore																	
<b>BASE:</b> 8" deep, 25" wide at gear box, 16'-1 1/4" long.	<b>WEIGHT</b> ..... 13,940 lbs.																	
<b>CRANKS:</b> No. 4846, 46" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>																	
<b>CRANK PINS:</b> 3 3/4" x 3 1/2", bronze bushed, oil bath.	<table border="1"> <thead> <tr> <th rowspan="2">Stroke</th> <th colspan="2">No. 5A Reg. Wts.</th> </tr> <tr> <th>No. 5A Reg. Wts.</th> <th>Aux. Wts.</th> </tr> </thead> <tbody> <tr> <td>24".....</td> <td>12,465</td> <td>16,060</td> </tr> <tr> <td>32".....</td> <td>9,350</td> <td>12,050</td> </tr> <tr> <td>40".....</td> <td>7,480</td> <td>9,640</td> </tr> <tr> <td>48".....</td> <td>6,230</td> <td>8,030</td> </tr> </tbody> </table>	Stroke	No. 5A Reg. Wts.		No. 5A Reg. Wts.	Aux. Wts.	24".....	12,465	16,060	32".....	9,350	12,050	40".....	7,480	9,640	48".....	6,230	8,030
Stroke	No. 5A Reg. Wts.																	
	No. 5A Reg. Wts.	Aux. Wts.																
24".....	12,465	16,060																
32".....	9,350	12,050																
40".....	7,480	9,640																
48".....	6,230	8,030																
<b>TAIL BEARING:</b> 3 1/8" x 7 1/4", bronze bushed.																		
<b>GEAR BOX OIL CAPACITY:</b> 5.5 Gallons.																		

# LUFKIN FOUNDRY & MACHINE CO.

# LUFKIN, TEXAS

## General Specifications—Lufkin Unit Assemblies T5A, T6A and T7

### LUFKIN UNIVERSAL T5A-80D DOUBLE REDUCTION UNIT ASSEMBLY—10,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 14" x 8" x 43 lbs., 5'-0" and 5'-0" working centers. API Walking Beam Rating: 10,450 Lbs.	<b>GEARS</b> ..... Double Reduction Main Gear: 22.2" x 5 1/2"												
<b>HANGER:</b> Hinged Horsehead with 3/4" wire line.	<b>RATING</b> ..... 16.2 H.P. at 20 S.P.M. 80,000 lb. ins. Peak Torque												
<b>PITMAN:</b> Universal Cross Pin type Equalizer. Side members 4" I Beam.	<b>RATIO</b> ..... 29.15												
<b>CENTER BEARING:</b> Bronze Bushed, 4 1/8" x 9".	<b>CRANKSHAFT</b> ..... 4 1/8"												
<b>SAMSON POST:</b> Tripod, 8'-0" high.	<b>SHEAVE</b> ..... 19 1/4" P.D.-4C Std. 28" P.D. Maximum 1 1/4" Bore												
<b>BASE:</b> 8" deep, 2'-1 1/2" wide at gear box, 14'-5 1/4" long.	<b>WEIGHT</b> ..... 8,880 lbs.												
<b>CRANK:</b> No. 4242C, 42" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>												
<b>CRANK PINS:</b> 3 3/4" x 3 1/2" oil bath, bronze bushed.	<table border="1"> <tr> <th>Stroke</th> <th>No. 5C Wts.</th> <th>Aux. Wts.</th> </tr> <tr> <td>22"</td> <td>9,225</td> <td>12,230</td> </tr> <tr> <td>32"</td> <td>6,340</td> <td>8,400</td> </tr> <tr> <td>42"</td> <td>4,830</td> <td>6,400</td> </tr> </table>	Stroke	No. 5C Wts.	Aux. Wts.	22"	9,225	12,230	32"	6,340	8,400	42"	4,830	6,400
Stroke	No. 5C Wts.	Aux. Wts.											
22"	9,225	12,230											
32"	6,340	8,400											
42"	4,830	6,400											
<b>TAIL BEARING:</b> 3 1/8" x 6 1/2", bronze bushed.													
<b>GEAR BOX OIL CAPACITY:</b> 17 Gallons.													

### LUFKIN UNIVERSAL T5A-7B DOUBLE REDUCTION UNIT ASSEMBLY OR 57D API SIZE—10,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 14" x 8" x 43 lbs., 5'-0" and 5'-0" working centers. API Walking Beam Rating: 10,450 Lbs.	<b>GEARS</b> ..... Double Reduction Main Gear: 19 1/2" x 5"												
<b>HANGER:</b> Hinged Horsehead with 3/4" wire line.	<b>RATING</b> ..... 11.8 H.P. at 20 S.P.M. 58,000 lb. ins. Peak Torque												
<b>PITMAN:</b> Universal Cross Pin type Equalizer. Side members 4" I Beam.	<b>RATIO</b> ..... 29.32												
<b>CENTER BEARING:</b> Bronze Bushed, 4 1/8" x 9".	<b>CRANKSHAFT</b> ..... 4"												
<b>SAMSON POST:</b> Tripod, 8'-0" high.	<b>SHEAVE</b> ..... 19 1/4" P.D.-3C Std., 24 1/4" P.D. Alt. 27 1/4" P.D. Maximum 1 1/4" Bore												
<b>BASE:</b> 8" deep, 2'-1 1/2" wide at gear box, 14'-5 1/4" long.	<b>WEIGHT</b> ..... 8,500 lbs.												
<b>CRANKS:</b> No. 4242C, 42" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>												
<b>CRANK PINS:</b> 3 3/4" x 3 1/2", oil bath, bronze bushed.	<table border="1"> <tr> <th>Stroke</th> <th>No. 5C Wts.</th> <th>Aux. Wts.</th> </tr> <tr> <td>22"</td> <td>9,225</td> <td>12,230</td> </tr> <tr> <td>32"</td> <td>6,340</td> <td>8,400</td> </tr> <tr> <td>42"</td> <td>4,830</td> <td>6,400</td> </tr> </table>	Stroke	No. 5C Wts.	Aux. Wts.	22"	9,225	12,230	32"	6,340	8,400	42"	4,830	6,400
Stroke	No. 5C Wts.	Aux. Wts.											
22"	9,225	12,230											
32"	6,340	8,400											
42"	4,830	6,400											
<b>TAIL BEARING:</b> 3 1/8" x 6 1/2", bronze bushed.													
<b>GEAR BOX OIL CAPACITY:</b> 12.5 Gallons.													

### LUFKIN UNIVERSAL T5A-16 SINGLE REDUCTION UNIT ASSEMBLY OR 57S API SIZE—10,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 14" x 8" x 43 lbs., 5'-0" and 5'-0" working centers. API Walking Beam Rating: 10,450 Lbs.	<b>GEARS</b> ..... Single Reduction Main Gear: 32 1/2" x 4"												
<b>HANGER:</b> Hinged Horsehead with 3/4" wire line.	<b>RATING</b> ..... 15.5 H.P. at 20 S.P.M. 77,000 lb. ins. Peak Torque												
<b>PITMAN:</b> Universal Cross Pin type Equalizer. Side members 4" I Beam.	<b>RATIO</b> ..... 10												
<b>CENTER BEARING:</b> Bronze bushed, 4 1/8" x 9".	<b>CRANKSHAFT</b> ..... 4"												
<b>SAMSON POST:</b> Tripod, 8'-0" high.	<b>SHEAVE</b> ..... 24" P.D.-5C Std. 24" P.D. Maximum 2 1/8" Bore												
<b>BASE:</b> 8" deep, 2'-1 1/2" wide at gear box, 14'-5 1/4" long.	<b>WEIGHT</b> ..... 8,500 lbs.												
<b>CRANKS:</b> No. 4242C, 42" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>												
<b>CRANK PINS:</b> 3 3/4" x 3 1/2", oil bath, bronze bushed.	<table border="1"> <tr> <th>Stroke</th> <th>No. 5C Wts.</th> <th>Aux. Wts.</th> </tr> <tr> <td>22"</td> <td>9,225</td> <td>12,230</td> </tr> <tr> <td>32"</td> <td>6,340</td> <td>8,400</td> </tr> <tr> <td>42"</td> <td>4,830</td> <td>6,400</td> </tr> </table>	Stroke	No. 5C Wts.	Aux. Wts.	22"	9,225	12,230	32"	6,340	8,400	42"	4,830	6,400
Stroke	No. 5C Wts.	Aux. Wts.											
22"	9,225	12,230											
32"	6,340	8,400											
42"	4,830	6,400											
<b>TAIL BEARING:</b> 3 1/8" x 6 1/2" bronze bushed.													
<b>GEAR BOX OIL CAPACITY:</b> 7.5 Gallons.													

### LUFKIN UNIVERSAL T6A-9A DOUBLE REDUCTION UNIT ASSEMBLY OR 40D API SIZE—8,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 14" x 6 3/4" x 30 lbs., 4'-0" and 4'-0" working Centers. API Walking Beam Rating: 8,708 Lbs.	<b>GEARS</b> ..... Double Reduction Main Gear: 16.8" x 4 3/8"															
<b>HANGER:</b> Hinged Horsehead with 5/8" wire line.	<b>RATING</b> ..... 8.1 H.P. at 20 S.P.M. 40,000 lb. ins. Peak Torque															
<b>PITMAN:</b> Universal Cross Pin type Equalizer. Side members 3" I Beam.	<b>RATIO</b> ..... 29.2															
<b>CENTER BEARING:</b> Bronze bushed, 2 1/8" x 10 1/2".	<b>CRANKSHAFT</b> ..... 4"															
<b>SAMSON POST:</b> Tripod, 6'-2 7/8" high.	<b>SHEAVE</b> ..... 21" P.D.-2C or 4B Std. 23" P.D. Maximum 1 1/4" Bore															
<b>BASE:</b> 8" deep, 12'-3" long, 1'-8" wide at gear box.	<b>WEIGHT</b> ..... 6,915 lbs.															
<b>CRANK:</b> No. 3440, 40" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>															
<b>CRANK PINS:</b> 2 3/4" x 3", oil bath, bronze bushed.	<table border="1"> <tr> <th>Stroke</th> <th>No. 6 Wts.</th> <th>Aux. Wts.</th> </tr> <tr> <td>16"</td> <td>10,060</td> <td>12,670</td> </tr> <tr> <td>22"</td> <td>7,260</td> <td>9,160</td> </tr> <tr> <td>28"</td> <td>5,725</td> <td>7,215</td> </tr> <tr> <td>34"</td> <td>4,700</td> <td>5,930</td> </tr> </table>	Stroke	No. 6 Wts.	Aux. Wts.	16"	10,060	12,670	22"	7,260	9,160	28"	5,725	7,215	34"	4,700	5,930
Stroke	No. 6 Wts.	Aux. Wts.														
16"	10,060	12,670														
22"	7,260	9,160														
28"	5,725	7,215														
34"	4,700	5,930														
<b>TAIL BEARING:</b> 3 1/8" x 6 1/2", bronze bushed.																
<b>GEAR BOX OIL CAPACITY:</b> 7 Gallons.																

### LUFKIN UNIVERSAL T7-3A DOUBLE REDUCTION UNIT ASSEMBLY OR 25D API SIZE—6,000 Lb. Polish Rod Load Class

<b>WALKING BEAM:</b> 10" x 5 3/4" x 25 lbs., 3'-6" and 3'-6" working centers. API Walking Beam Rating: 6,285 Lbs.	<b>GEARS</b> ..... Double Reduction Main Gear: 13.5" x 4"												
<b>HANGER:</b> Hinged Horsehead with 5/8" wire line.	<b>RATING</b> ..... 5.2 H.P. at 20 S.P.M. 26,000 lb. ins. Peak Torque												
<b>PITMAN:</b> Universal Cross Pin type Equalizer. Side members 3" I Beam.	<b>RATIO</b> ..... 28.9												
<b>CENTER BEARING:</b> Bronze bushed, 2 1/8" x 10 1/2".	<b>CRANKSHAFT</b> ..... 3"												
<b>SAMSON POST:</b> Tripod, 6'-3 3/8" high.	<b>SHEAVE</b> ..... 18" P.D.-2B or 3A Std. 18" P.D. Maximum 1 3/8" Bore												
<b>BASE:</b> 6 1/4" deep, 11'-0" long, 1'-5" wide at gear box.	<b>WEIGHT</b> ..... 4,600 lbs.												
<b>CRANK:</b> No. 2432, 32" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>												
<b>CRANK PINS:</b> 2 3/4" x 3", oil bath, bronze bushed.	<table border="1"> <tr> <th>Stroke</th> <th>No. 7 Wts.</th> <th>Aux. Wts.</th> </tr> <tr> <td>12"</td> <td>6,200</td> <td>8,200</td> </tr> <tr> <td>18"</td> <td>4,125</td> <td>5,465</td> </tr> <tr> <td>24"</td> <td>3,100</td> <td>4,100</td> </tr> </table>	Stroke	No. 7 Wts.	Aux. Wts.	12"	6,200	8,200	18"	4,125	5,465	24"	3,100	4,100
Stroke	No. 7 Wts.	Aux. Wts.											
12"	6,200	8,200											
18"	4,125	5,465											
24"	3,100	4,100											
<b>TAIL BEARING:</b> 2 1/8" x 6 1/2", bronze bushed.													
<b>GEAR BOX OIL CAPACITY:</b> 4 Gallons.													



**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**

**Dimensions—Standard Lufkin Units T5A, T6A and T7**

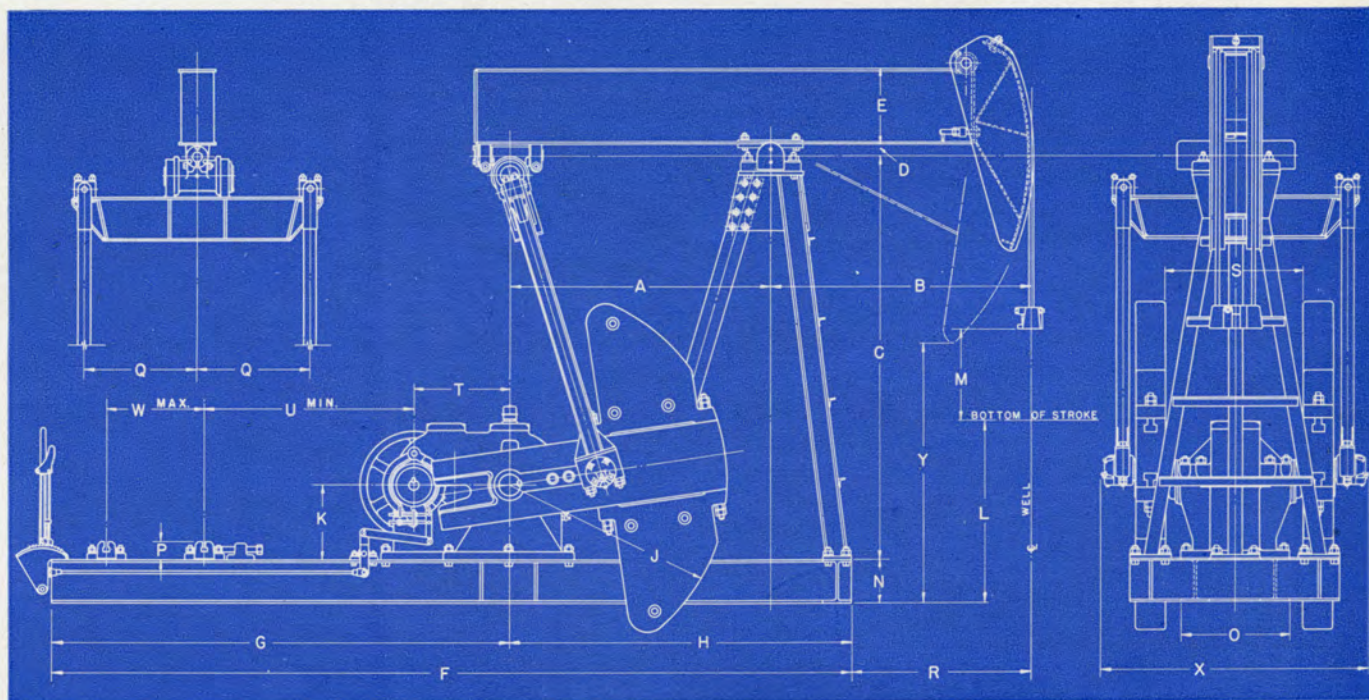


FIGURE 18

Unit	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	W	X	Y
T5A-80D	5'-0"	5'-0"	8'-0"	4 $\frac{3}{4}$ "	14"	15'-6"	8'-6 $\frac{3}{4}$ "	6'-11 $\frac{1}{2}$ "	3'-6"	18"	3'-5 $\frac{3}{4}$ "	21"	8"	2'-1 $\frac{1}{2}$ "	4 $\frac{7}{8}$ "	2'-5"	3'-0 $\frac{1}{2}$ "	3'-3 $\frac{1}{2}$ "	1'-10"	2'-8 $\frac{1}{2}$ "	3'-3 $\frac{7}{8}$ "	5'-5"	5'-3 $\frac{5}{8}$ "
T5A-7B	5'-0"	5'-0"	8'-0"	4 $\frac{3}{4}$ "	14"	15'-6"	8'-6 $\frac{3}{4}$ "	6'-11 $\frac{1}{2}$ "	3'-6"	18"	3'-5 $\frac{3}{4}$ "	21"	8"	2'-1 $\frac{1}{2}$ "	4 $\frac{7}{8}$ "	2'-1 $\frac{1}{2}$ "	3'-0 $\frac{1}{2}$ "	2'-8 $\frac{1}{2}$ "	1'-8"	2'-10 $\frac{1}{2}$ "	3'-3 $\frac{7}{8}$ "	4'-10"	5'-3 $\frac{5}{8}$ "
T5A-16	5'-0"	5'-0"	8'-0"	4 $\frac{3}{4}$ "	14"	15'-6"	8'-6 $\frac{3}{4}$ "	6'-11 $\frac{1}{2}$ "	3'-6"	18"	3'-5 $\frac{3}{4}$ "	21"	8"	2'-1 $\frac{1}{2}$ "	4 $\frac{7}{8}$ "	2'-1 $\frac{1}{2}$ "	3'-0 $\frac{1}{2}$ "	2'-8 $\frac{1}{2}$ "	1'-5 $\frac{7}{8}$ "	3'-0 $\frac{5}{8}$ "	3'-3 $\frac{7}{8}$ "	4'-10"	5'-3 $\frac{5}{8}$ "
T6A-9A	4'-0"	4'-0"	6'-2 $\frac{1}{2}$ "	2 $\frac{1}{4}$ "	14"	13'-6"	8'-3"	5'-3"	3'-4"	14"	2'-7 $\frac{1}{2}$ "	17"	8"	1'-8"	3 $\frac{3}{8}$ "	1'-0 $\frac{3}{4}$ "	2'-0"	2'-3 $\frac{3}{4}$ "	1'-5 $\frac{1}{2}$ "	2'-4"	4'-2"	4'-3 $\frac{1}{2}$ "	4'-3"
T7-3A	3'-6"	3'-6"	6'-3 $\frac{3}{8}$ "	2 $\frac{1}{4}$ "	10"	11'-0"	6'-4"	4'-8"	2'-8"	14"	3'-5 $\frac{3}{8}$ "	12"	6 $\frac{1}{4}$ "	1'-5"	3 $\frac{3}{8}$ "	1'-7 $\frac{5}{8}$ "	2'-4"	2'-1 $\frac{1}{2}$ "	1'-1 $\frac{1}{8}$ "	2'-0 $\frac{3}{8}$ "	2'-7"	3'-10 $\frac{3}{8}$ "	4'-0 $\frac{3}{8}$ "

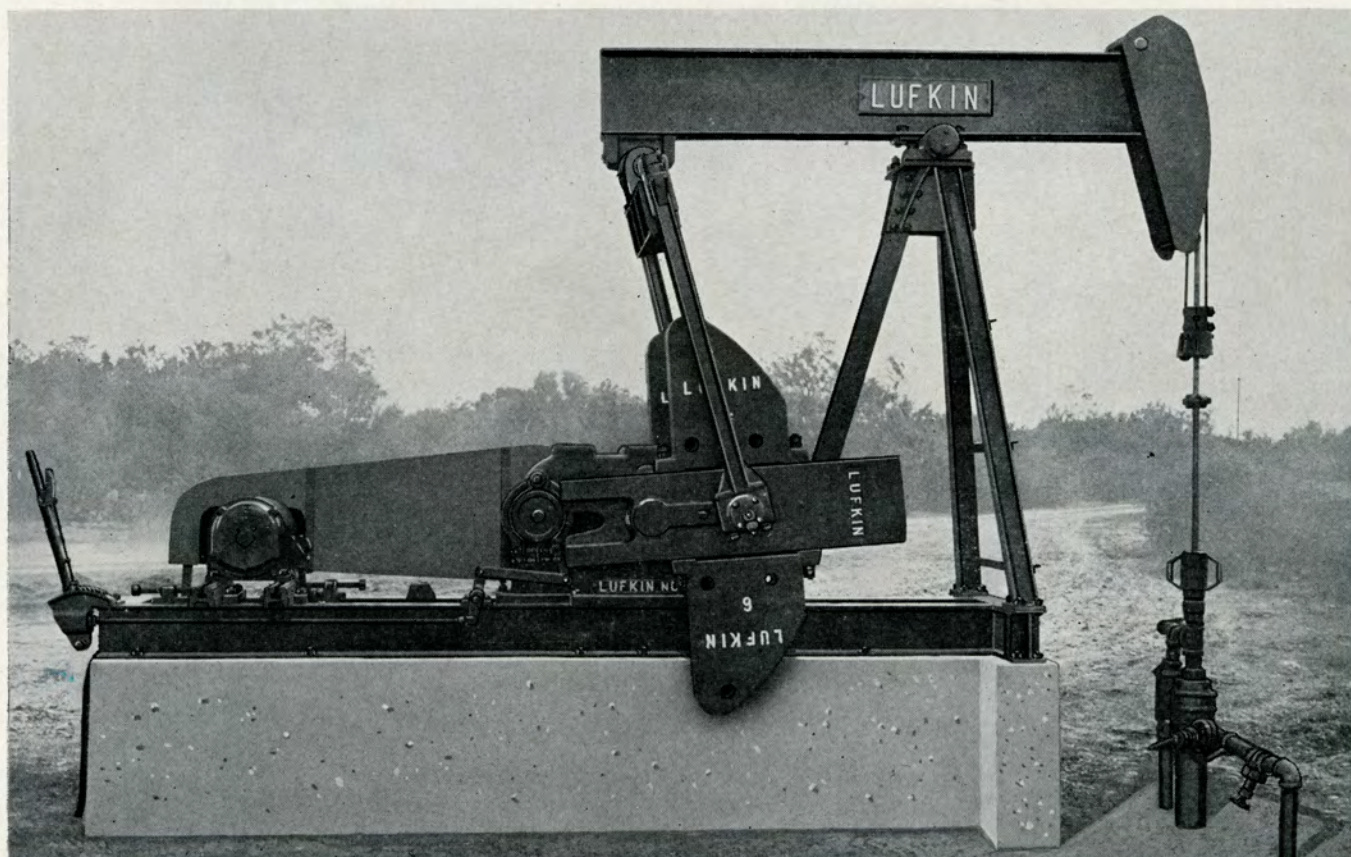
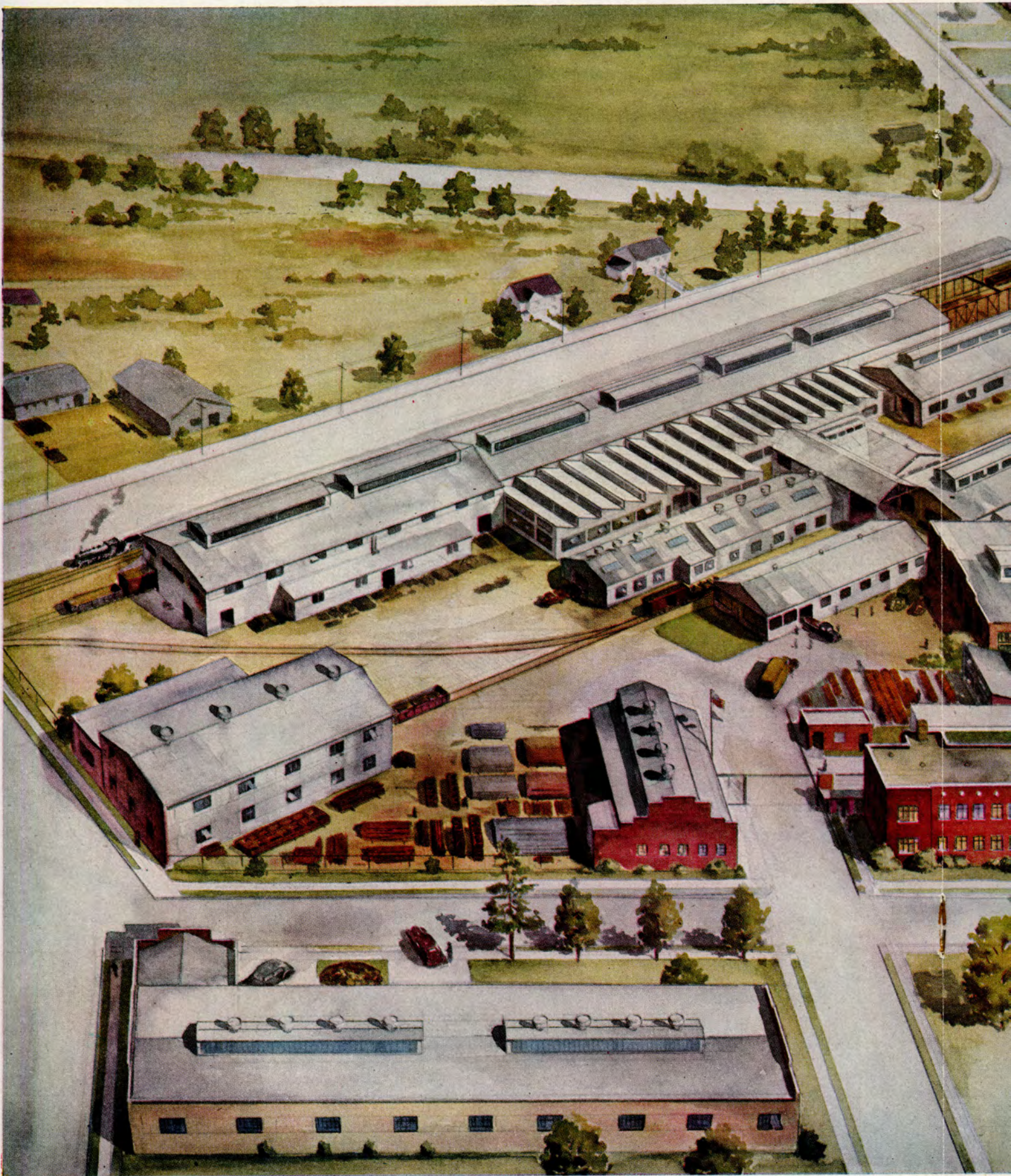


FIGURE 19

**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**



# LUFKIN FOUNDRY & MACHINE CO.

# LUFKIN, TEXAS



## *Lufkin Foundry & Machine Company*

MANUFACTURERS OF

- PUMPING UNITS • GAS ENGINES • COMPRESSORS • REDUCTION GEARS
- SPEED INCREASERS • PAPER MILL MACHINERY • ALLOY CASTINGS
- COMMERCIAL TRUCK TRAILERS • TRAILER AND TRACTOR WINCHES

DISTRIBUTORS OF

MILL, INDUSTRIAL AND AUTOMOTIVE SUPPLIES, EQUIPMENT AND PARTS

**LUFKIN SIMPLIFIED LONG STROKE UNITS**

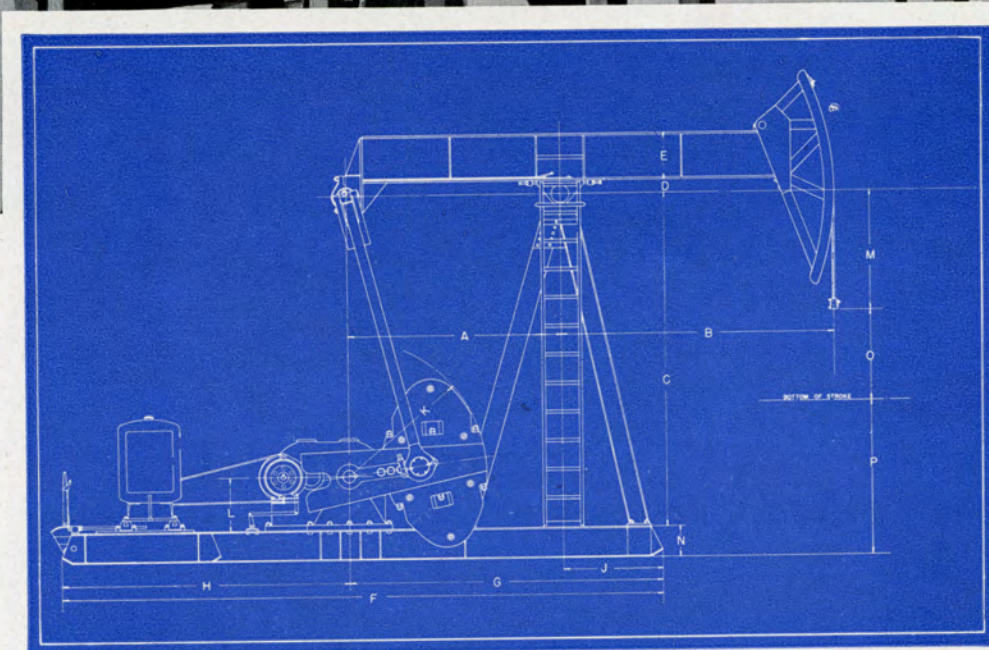
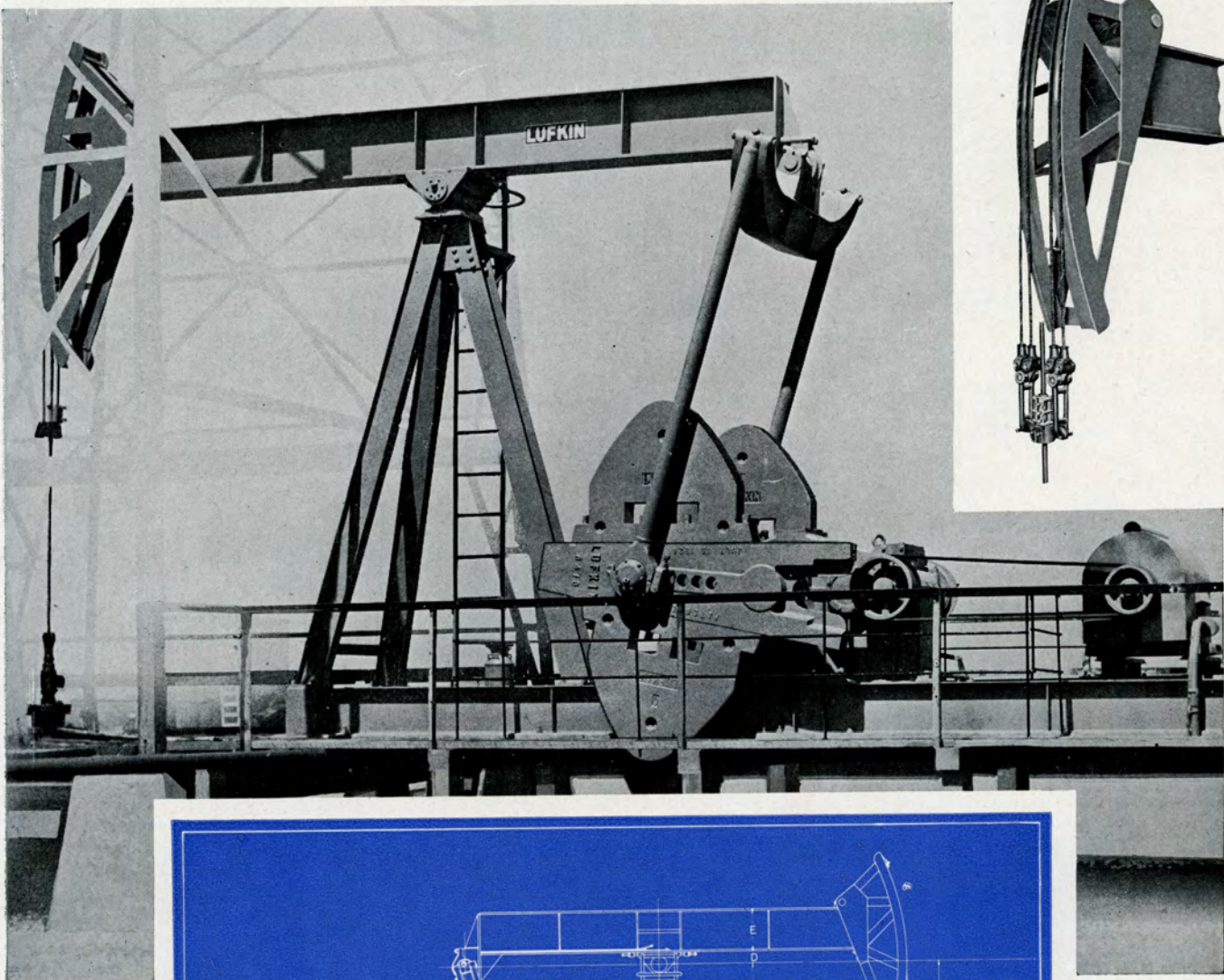


FIGURE 20

**GENERAL DIMENSIONS LUFKIN LONG STROKE UNITS**

UNIT	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
TC-OL-61A.....	10'-11 $\frac{1}{4}$ "	14'-0 $\frac{3}{4}$ "	14'-6"	7"	30"	28'-5"	15'-1"	13'-4"	4'-1 $\frac{3}{4}$ "	78"	2'-6"	5'-7"	16"	54"	5'-9"
TC-OOL-71A....	11'-9"	15'-0"	16'-0"	9"	33"	30'-9"	16'-5"	14'-4"	4'-8"	92"	3'-0"	7'-1"	21"	60"	5'-8"

**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**

**LUFKIN SIMPLIFIED LONG STROKE UNIT**

Lufkin Long Stroke Units were engineered and built expressly to

1. Handle extremely large volumes of fluid from nominal depths.
2. Handle moderate fluid volume from extreme depths.
3. Reduce peak loading and minimize sucker rod failures.
4. Increase pump volumetric efficiency when handling gassy fluid.

The ever increasing popularity of Lufkin Long Stroke Pumping Units is responsible for our stocking these units for immediate delivery. They are an economically sound investment and fundamentally sound in their performance. They make a tough job easy; i.e., they are capable of producing greater

volumes of fluid from a given depth with a given unit rod stress.

Ten years of long stroke pumping experience on the toughest of pumping wells is our proof of a sound performance record and their increasing popularity is evidence of successful principle.

Complete analysis of test data on most wells pumped by long stroke units indicate the correct size and balance of gear box and walking beam assembly on our number 61A unit. On severe cases requiring 1 1/8" sucker rods we offer our ten foot stroke unit No. 71A which is the "Big Bertha" of the industry. It is the answer to the ultimate in sucker rod production.

Of identical design with our smaller twin crank units, these long-strokers provide simplicity, ease of counter-balance adjustment, smoothness of operation, and require practically no attention.

**GENERAL SPECIFICATIONS**

**Lufkin Long Stroke Double Reduction Unit Assemblies TC-OOL and TC-OL**

**Lufkin TC-OOL-71A Unit Assembly or 640D API Size**

<b>WALKING BEAM:</b> 33" x 15 3/4" x 200 lbs., 15'-0" and 11'-9" working centers. API Walking Beam Rating: 33,900 Lbs.	<b>GEARS.....</b> Double Reduction Main Gear: 50.4" x 12"		
<b>HANGER:</b> Hinged Horsehead with four 1" wire lines. Special load-equalizing device.	<b>RATING.....</b>	171.8 H.P. at 20 S.P.M. 850,000 lb. ins. Peak Torque	
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 5" Extra Heavy pipe.	<b>RATIO.....</b>	28.72	
<b>CENTER BEARING:</b> Bronze Bushed, 7 1/2" x 22 1/2", oil bath, dust proof.	<b>CRANKSHAFT.....</b>	7 1/8"	
<b>SAMSON POST:</b> Tripod, 16'-0" high.	<b>SHEAVE.....</b>	35"-10D Std. 66" Maximum 4 1/8" Bore	
<b>BASE:</b> 21" deep, 60 1/2" wide at gear box, 30'-9" long.	<b>WEIGHT.....</b>	70,000 lbs.	
<b>CRANKS:</b> No. 9492, 92" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>		
<b>CRANK PINS:</b> 7" x 6 1/2" Bronze bushed, oil bath.	<b>Stroke</b>	<b>No. 0 Weights</b>	<b>With Aux. Wts.</b>
<b>TAIL BEARING:</b> 5 1/8" x 13 1/2", Bronze Bushed.	43.4".....	55,900	67,000
<b>GEAR BOX OIL CAPACITY:</b> 165 Gallons.	58.7".....	40,400	49,600
	74.0".....	32,000	39,300
	89.3".....	27,550	32,600
	104.6".....	22,650	27,800
	120.0".....	19,750	24,300

**Lufkin TC-OL-61A Unit Assembly or 456D API Size**

<b>WALKING BEAM:</b> 30" x 15" x 172 lbs., 14'-0 3/4" and 10'-11 1/4" working centers. API Walking Beam Rating: 30,945 Lbs.	<b>GEARS.....</b> Double Reduction Main Gear: 41.6" x 11"		
<b>HANGER:</b> Hinged Horsehead with 1" wire lines.	<b>RATING.....</b>	117 H.P. at 20 S.P.M. 579,000 lb. ins. Peak Torque	
<b>PITMAN:</b> Universal Equalizer with bearings "in line", 5" Extra Heavy pipe.	<b>RATIO.....</b>	28.6	
<b>CENTER BEARING:</b> No. 1AS bronze bushed, 7" x 20", oil bath, dust proof.	<b>CRANKSHAFT.....</b>	7"	
<b>SAMSON POST:</b> Tripod, 14'-6" high.	<b>SHEAVE.....</b>	34"-7D Std. 56" Maximum 3 1/8" Bore	
<b>BASE:</b> 16" deep, 50" wide at gear box, 28'-5" long.	<b>WEIGHT.....</b>	49,100 lbs.	
<b>CRANKS:</b> No. 8478, 78" radius.	<b>STATIC COUNTERBALANCE—LBS.</b>		
<b>CRANK PINS:</b> 7" x 6 1/2", Bronze bushed, oil bath.	<b>Stroke</b>	<b>No. 0 Weights</b>	<b>With Aux. Wts.</b>
<b>TAIL BEARING:</b> 4 1/8" x 12", Bronze bushed.	46.4".....	35,250	44,530
<b>GEAR BOX OIL CAPACITY:</b> 75 Gallons.	61.9".....	26,440	33,390
	77.4".....	21,150	26,720
	92.9".....	17,620	22,260
	108.4".....	15,110	19,080

**LUBRICATION INSTRUCTIONS****LUFKIN PUMPING UNITS**

It is very important to the successful and satisfactory operation of a pumping unit that careful attention be given to proper lubrication.

The Gear Box and all bearings are shipped dry and must be lubricated before starting.

Do not use any lubricant containing sulphur or sulphurized compounds.

**GEAR BOX:** For temperatures between 10° F. and 100° F. use an SAE 90 Transmission Oil having a pour point of 0° F. or lower. (This is a straight mineral gear oil and is not a motor oil or extreme pressure lubricant. It has a viscosity comparable to SAE 40 or SAE 50 motor oil.)

In the event the SAE 90 Transmission Oil is not accessible a good quality SAE 40 or SAE 50 Motor Oil may be used as a substitute; however, care must be taken to use an oil having a pour point at least 10° F. below the minimum outside temperature.

Maintain the oil level above the bottom pet cock but do not fill the gear box above the top pet cock.

**PITMAN BEARING:** Use the same oil as in the gear box.

**CENTER BEARING:** Use an SAE 140 Extreme Pressure Lubricant having a pour point of 5° F. or lower.

**HANGER and EQUALIZER BEARINGS:** Use an SAE 140 Extreme Pressure Lubricant having a pour point of 5° F. or lower.

Care must always be taken to use a lubricant having a pour point at least 10° F. lower than the outside temperature.

The several points requiring lubrication should be checked at regular intervals to insure that proper oil levels are maintained. For 24 hour service change oil semi-annually; for intermittent service change annually.

The above instructions are for average operating conditions. For unusual conditions of exceptionally heavy well loads and extremely cold weather lubrication should be watched more closely and one of our field men should be consulted for individual recommendations.

**PORTABLE TYPE UNITS**

FIGURE 21

A very popular portable assembly requiring practically no foundation. It may be skidded from one location to another without "take-down" time or reassembly. While illustration is of medium size unit, all sizes of Lufkin units are easily adaptable to this type installation.

**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**

**LUFKIN UNIVERSAL CENTERLINE  
PITMAN EQUALIZER**

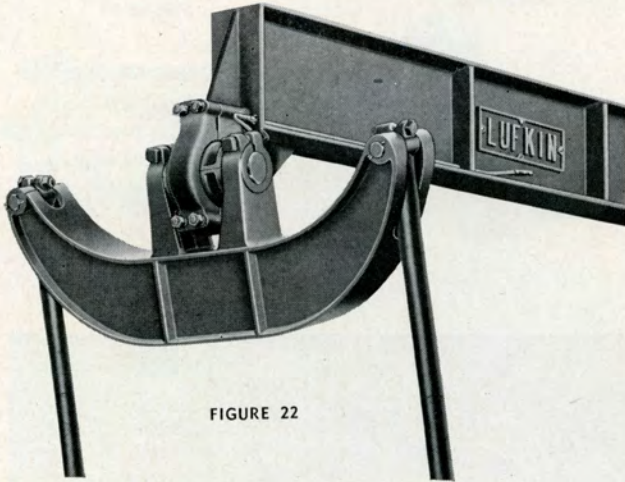


FIGURE 22

**LUFKIN UNIVERSAL CENTERLINE  
ROD HANGER**

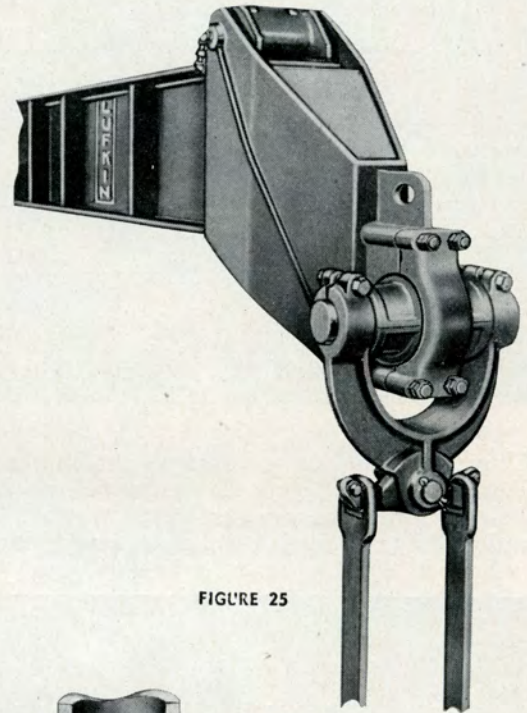


FIGURE 25

**LUFKIN  
WIRE LINE  
HANGER**

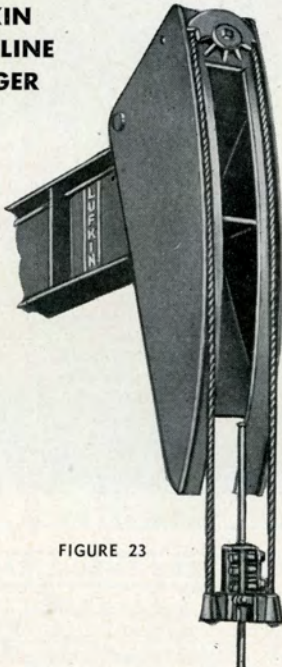


FIGURE 23

**OIL TIGHT—BRONZE BUSHED  
CENTER BEARING**

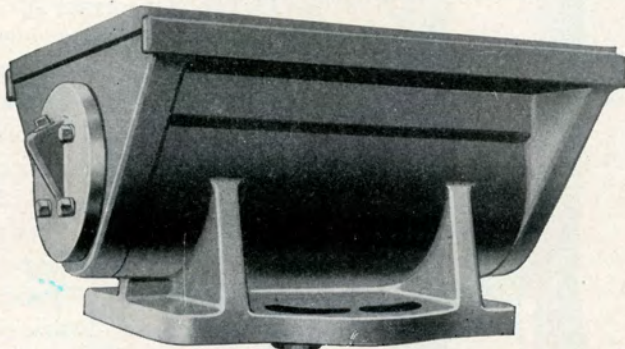


FIGURE 24

Series "AS" Center Bearings are full Bronzoid bushed, with patent oil seals and are designed to allow beam to headache to about 40° either front or back and as usual with Lufkin center bearings, beams can be swung sideways about 25° from center line. We believe this is a superior bearing in every respect, being dust proof, oil tight with renewable bronzoid bushing. They have ample bearing surface.

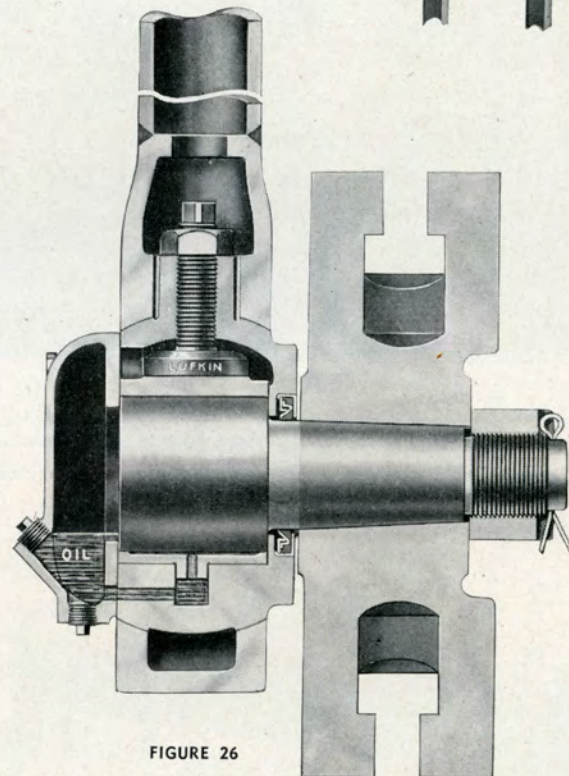


FIGURE 26

General characteristics of the new "Universal" pitman are:

1. One-third more bearing surface
2. Bronzoid Bearings top and bottom, with adjustable top bearing.
3. Patented oil seal—no leaks. No head of oil against seal.
4. Both the interior of the strap and the exterior of the pitman box are machined, and thus insure alignment without possibility of binding.
5. The pitman bearing is adjustable when strap or shackle is removed, and may be tested by hand before shackle is re-applied.
6. Lufkin Universal pitmans are designed to pull or push—no lost motion.
7. Journal box is semi-steel; straps and shackles are of cast steel welded to extra heavy tubing.
8. Crank pins are forged alloy steel turned and ground.

**ROLLER BEARING PITMANS ARE FURNISHED WHEN DESIRED AT SLIGHT EXTRA COST.**

**UNIVERSAL RAILS—FOR MOTORS OR GAS ENGINES**

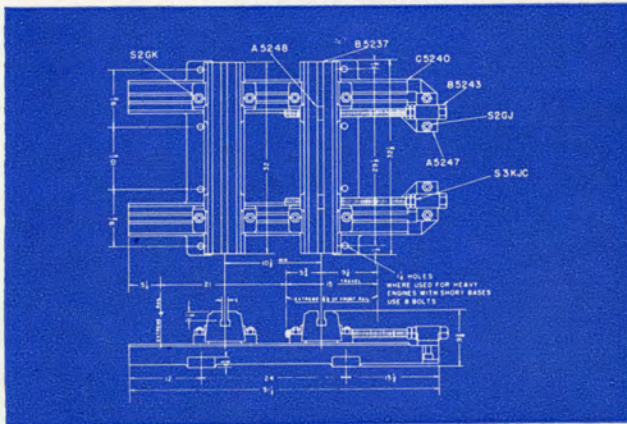


FIGURE 27

Universal rails are of heavy cast iron with machined tongue and groove fits, which with double adjusting screws assure perfect alignment. The substantial design of these rails assist in the elimination of vibration of all types of prime movers.

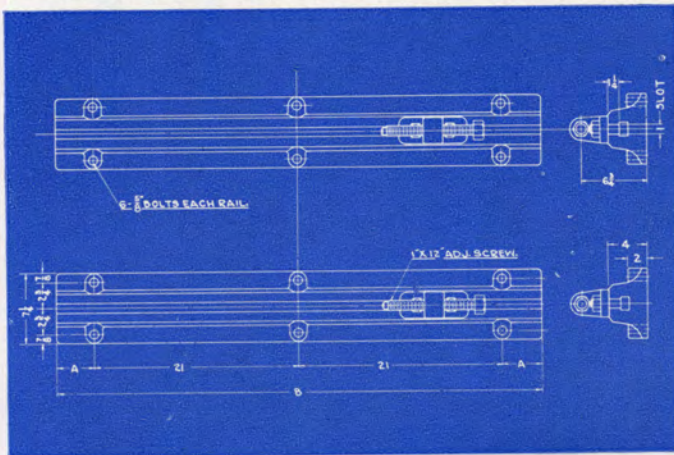


FIGURE 28

50" Rails    A    B  
 60" Rails    9"    60" (Required for GSDH Engine)

*Dimensions of plain engine rail with adjusting screws for two cylinder vertical engines and horizontal engines.*

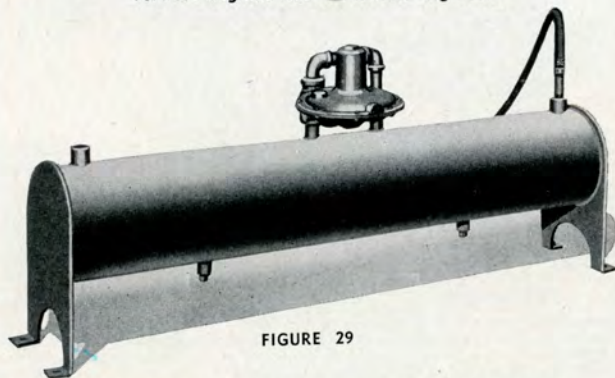


FIGURE 29

**VOLUME TANK AND REGULATOR FOR GAS ENGINES**

Double chamber volume tanks for gas engines are furnished in two sizes. Both are equipped with Fisher regulators and dial cocks. The smaller size is for multi-cylinder gas engines and is 8" diameter by 48" long with partition in center. It has hose connection to engine. The larger size is recommended for Lufkin Cooper-Bessemer engines and is 14" diameter by 42" long. It has two regulators and a volume chamber of 2.5 cu. ft.

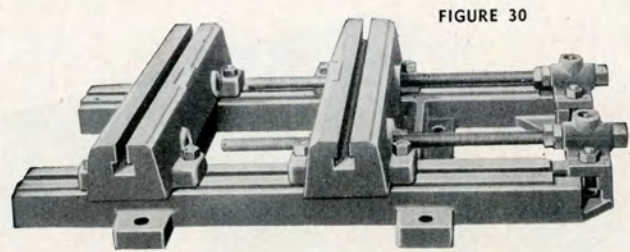


FIGURE 30

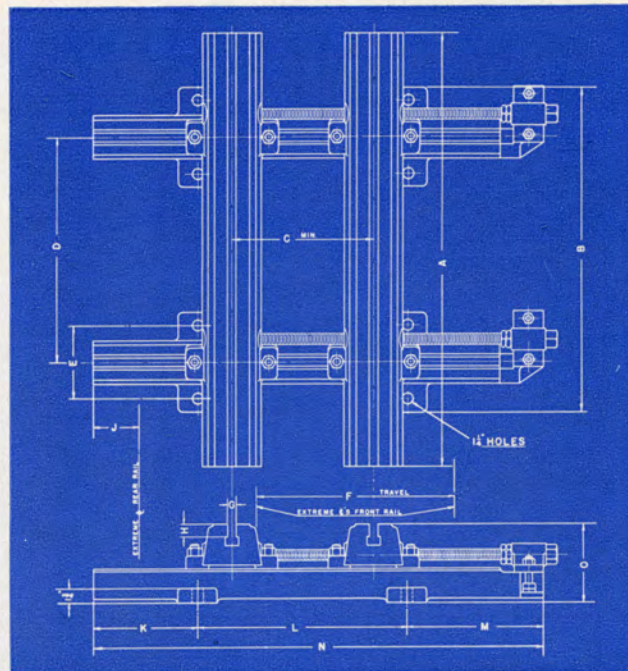


FIGURE 31

UNIVERSAL GAS ENGINE RAILS														
DESCRIPTION	A	B	C	D	E	F	G	H	J	K	L	M	N	O
50" ENG. RAILS	50"	37 1/2"	10 1/2"	26"	8 1/2"	23 1/2"	1"	1 1/2"	5 1/4"	12"	24"	15 1/2"	51 1/2"	9 1/2"
69" ENG. RAILS	69"	47 1/2"	10 1/2"	36"	8 1/2"	38 1/2"	1"	1 1/2"	5 1/4"	12"	36"	15 1/2"	63 1/2"	9 1/2"

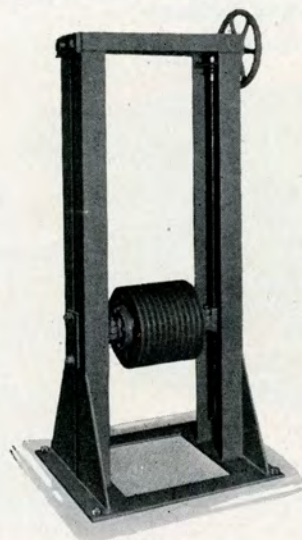


FIGURE 32

Lufkin Universal Belt Tightener is of all welded rigid construction. The sheave is raised or lowered by a hand wheel through machined miter gears to screws which turn in floating bronze nuts. The idler sheave is equipped with Timken Anti-friction bearings. One man can adjust this tightener easily and quickly by simply turning the hand wheel.



**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**

**LUFKIN TRACTOR WINCHES**

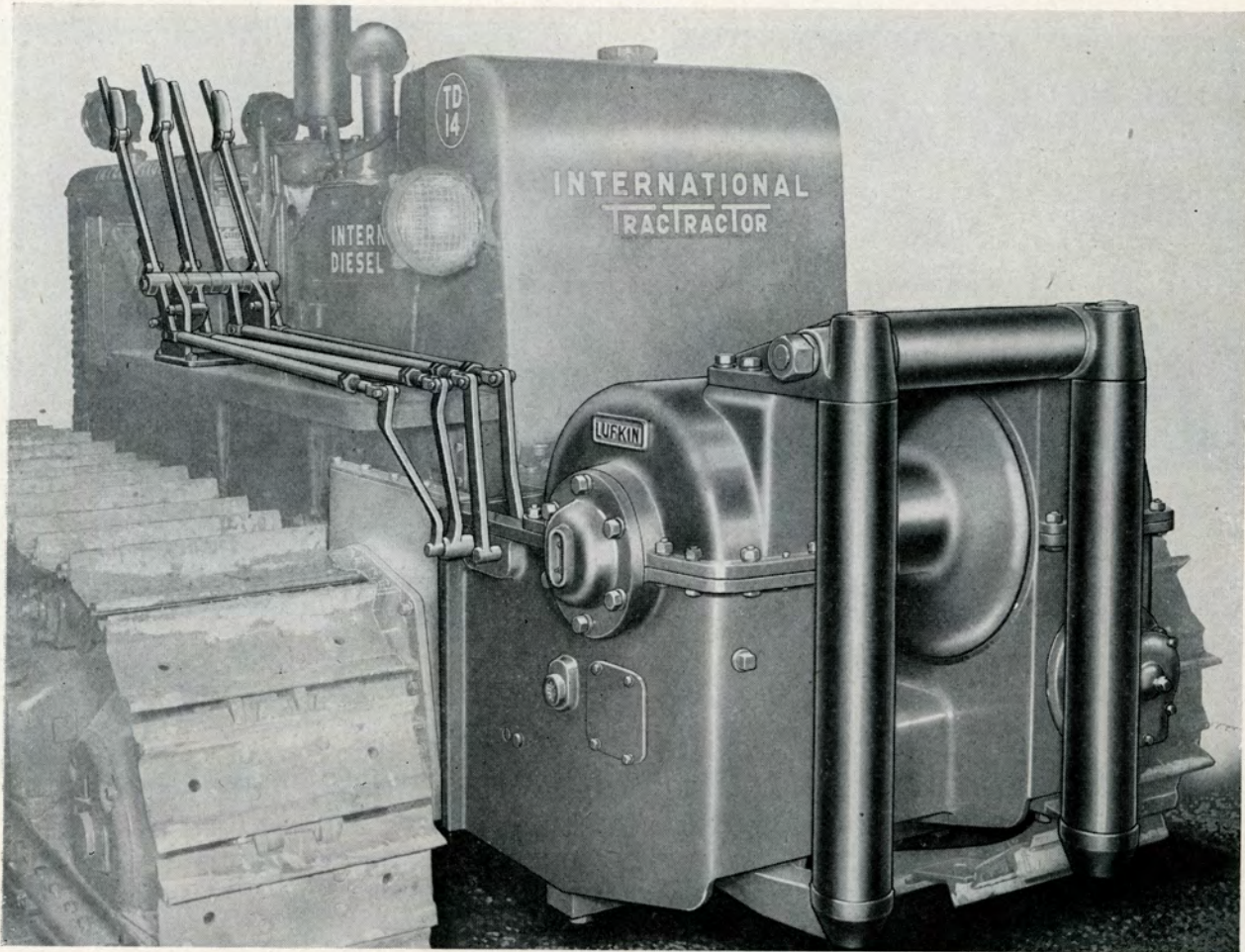


FIGURE 33

*The Models 60 and 125 winches are especially designed for oil field and other similar heavy duty service. Extremely rugged construction and a wide operating range make them well suited for heavy moving jobs.*

**LUFKIN TRACTOR WINCHES**

	Model 125	Model 60
Line Pull, lbs. ....	125,000	60,000
Drum Center to Ground .....	47"	38"
Drum Center to Tractor .....	28"	21 1/4"
Overall Length .....	51"	38 1/2"
Drum Diameter .....	8 3/4"	8"
Drum Flange Diameter .....	22 1/8"	20"
Drum Length .....	17"	16"
Cable Capacity:		
5/8" .....	....	1109'
3/4" .....	....	769'
7/8" .....	681'	516'
1" .....	534'	....
1 1/2" .....	403'	....
Line Speeds f.p.m.* (First Layer):		
Forward—High .....	55	73
Forward—Low .....	24	25
Reverse—High .....	64	79
Reverse—Low .....	27	27
Weight, lbs. ....	4300	2800
Built for installation on .....	International TD18 & TD24 Wide Tread Crawler Tractors	International TD14 Wide Tread Crawler Tractor

\* Line speeds shown are based on 1200 r.p.m. power take-off shaft speed for the Model 125 and 1350 r.p.m. power take-off shaft speed for the Model 60.

# LUFKIN FOUNDRY & MACHINE CO.

# LUFKIN, TEXAS

## LUFKIN GEAR REDUCERS AND SPEED INCREASERS

Illustrated below are typical examples of standard and special Gear Reducers and Speed Increasers. Consult our nearest representative or our Home Office concerning your Herringbone, Helical, Spur or

Worm gear requirements. A complete Standard line of Single and Double Reduction Gear Reducers and Single Reduction Speed Increasers are available.

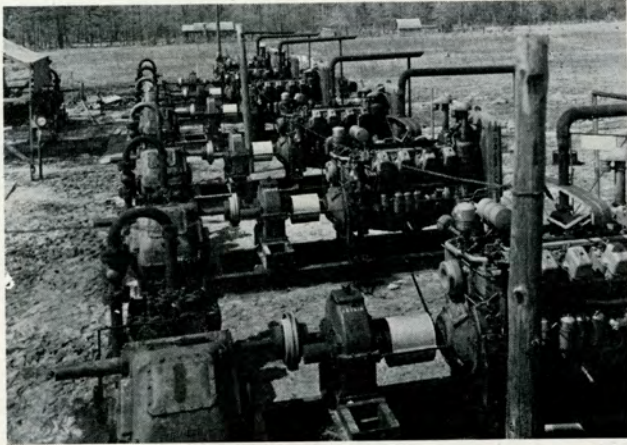


FIGURE 34

*Lufkin Speed Reducers; typical booster station installation.*

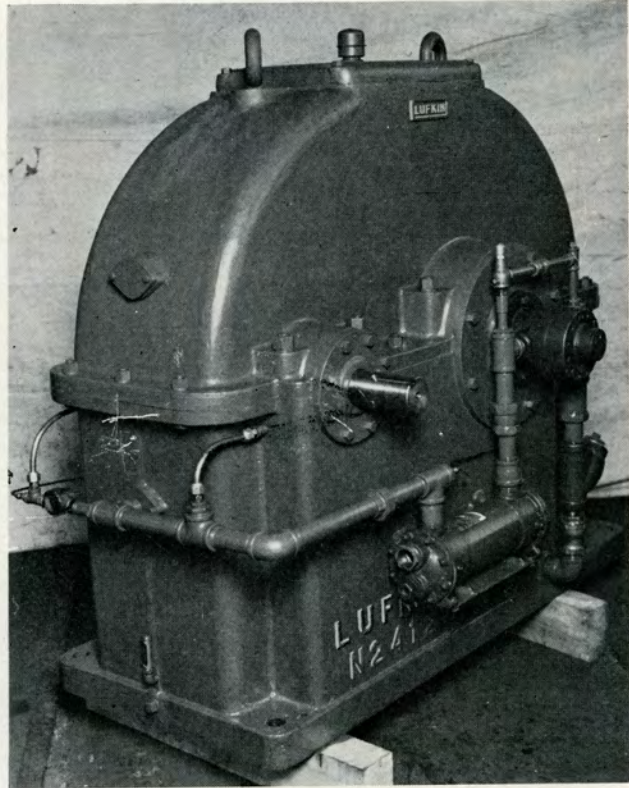


FIGURE 35

*Lufkin N-2412 Speed Increaser commonly used for pump station main drive installations.*

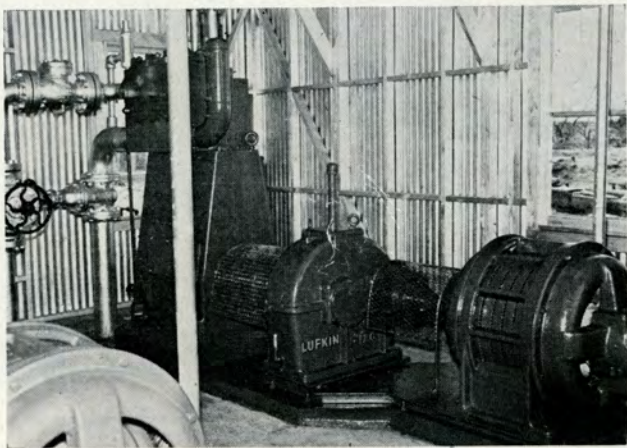


FIGURE 36

*Lufkin S-126 Speed Reducer with electric motor drive. An Oklahoma salt water disposal installation.*

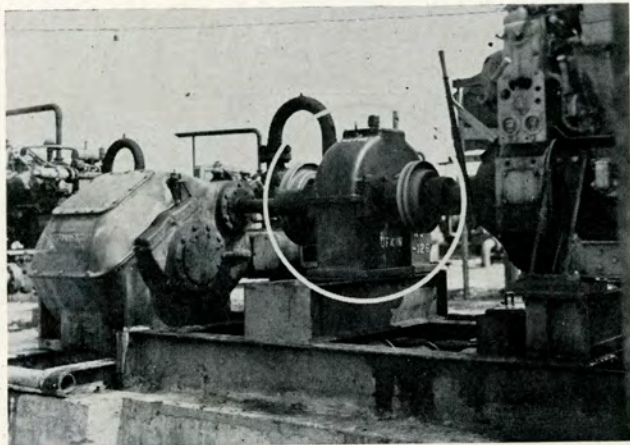


FIGURE 37

*Lufkin S-126 Speed Reducer. Standard booster station application.*

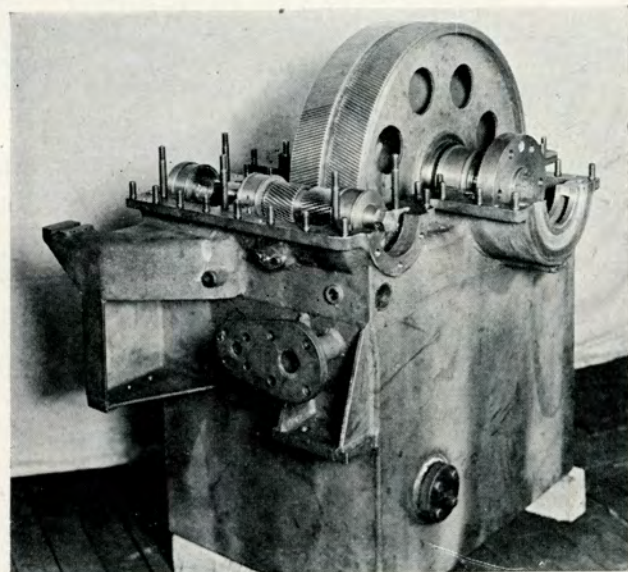


FIGURE 38

*240 KW Turbo-Electric Lighting Set Gear Reducer Unit for Destroyer Escorts. Pinion Speed 10,000 r.p.m.*

**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**

WRITE FOR GEAR CATALOG covering single and double reduction herringbone gear reducers Types S and D in sizes ranging from 3 to 1,000 horsepower and ratios from 1.25 up to 75:1; also Type N

High Speed Reducers and Speed Increaseers in a complete range of sizes and ratios especially designed for pipe line pumping service.

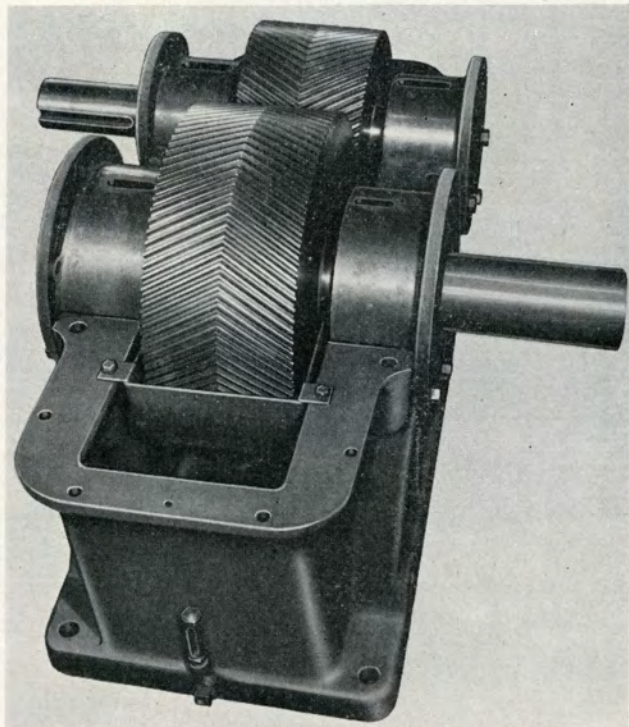


FIGURE 39  
*Medium Speed Gear Reducer, Type M, with oil pan, for speeds higher than standard.*

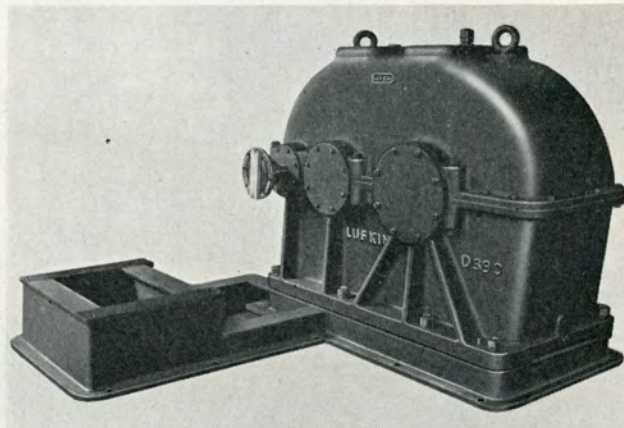


FIGURE 40  
*Large Double Reduction Gear Reducer for paper mill in Georgia.*

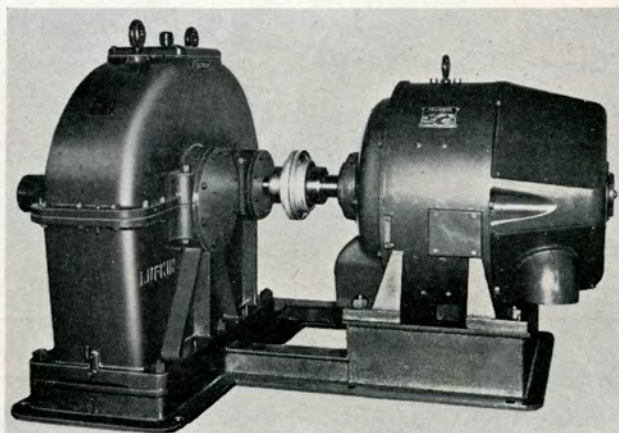


FIGURE 41  
*Single Reduction Gear Reducer for Texas paper mill.*

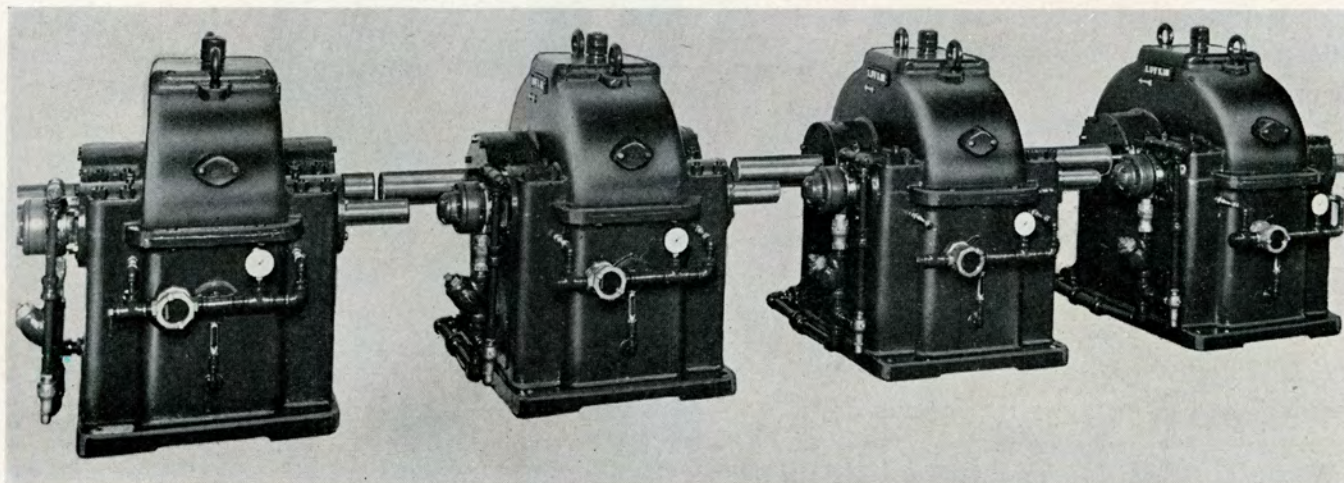


FIGURE 42  
*Four of a group of twelve identical N128 Speed Increaseers, 850 Hp., for pump station service, going to major pipe line company.*

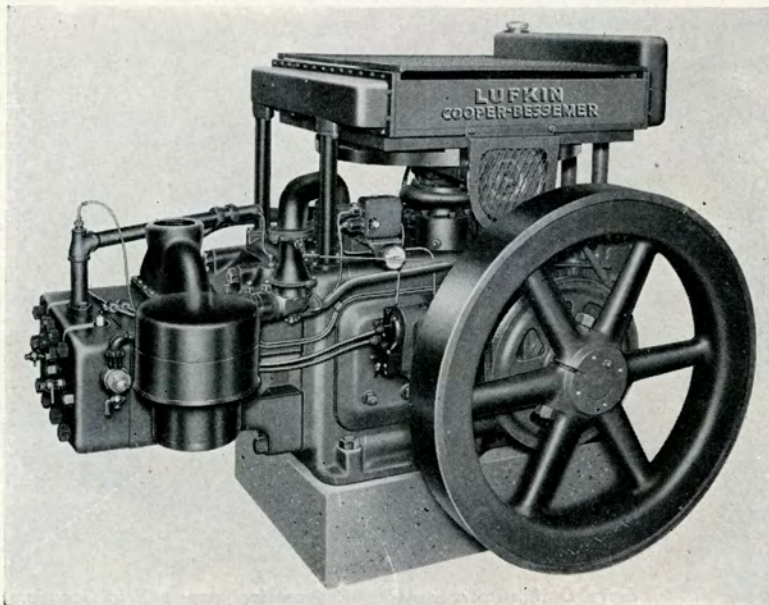
**LUFKIN COOPER-BESSEMER HORIZONTAL**

FIGURE 43

The GSDH engine is furnished as a complete power unit including radiator, fan and water pump, air filter, air starting valve, clutch, magneto and cylinder lubricator. A combination oil and water safety control and an overspeed safety control can be furnished as extra equipment.

This engine is furnished with clutch as standard equipment, but can be furnished less the clutch for pump or generator drive. It can be mounted on skids with other equipment making a self-contained portable unit for many applications.

---

*For Brief Specifications, Horsepower and Speed Ratings See Following Pages*

---

The GSDH engine is equipped with horizontally mounted radiator providing non-directional, more efficient cooling and rigidity of mounting.

The engine is furnished standard with dry pistons; however, oil cooled pistons are optional and when used, the oil cooler is built into the radiator and cooled by the fan.

Full pressure lubrication provides positive lubrication to crossheads, cylinders and all moving parts including water pump and fan.

Write for GSDH Engine Bulletin No. 46E.

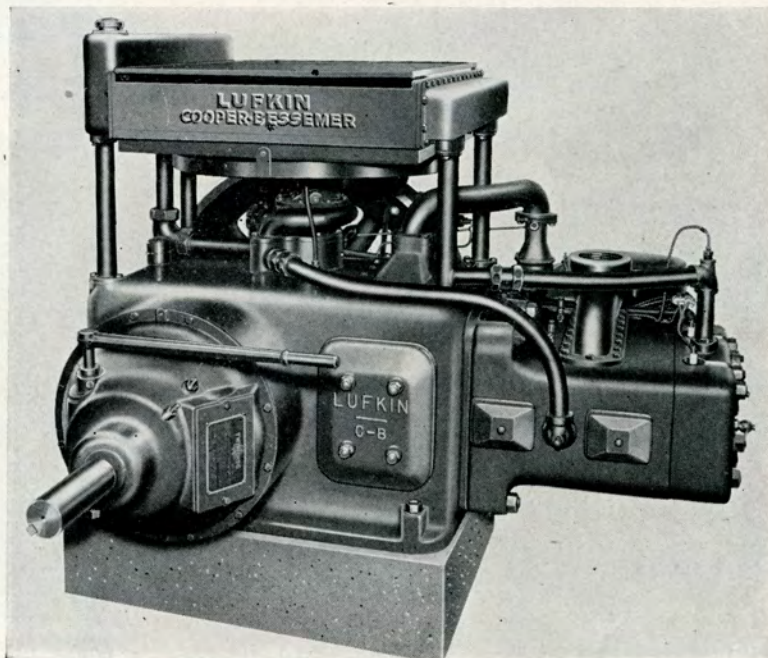


FIGURE 44

**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**

**GSDH 2-CYCLE 2-CYLINDER GAS AND OIL ENGINES**

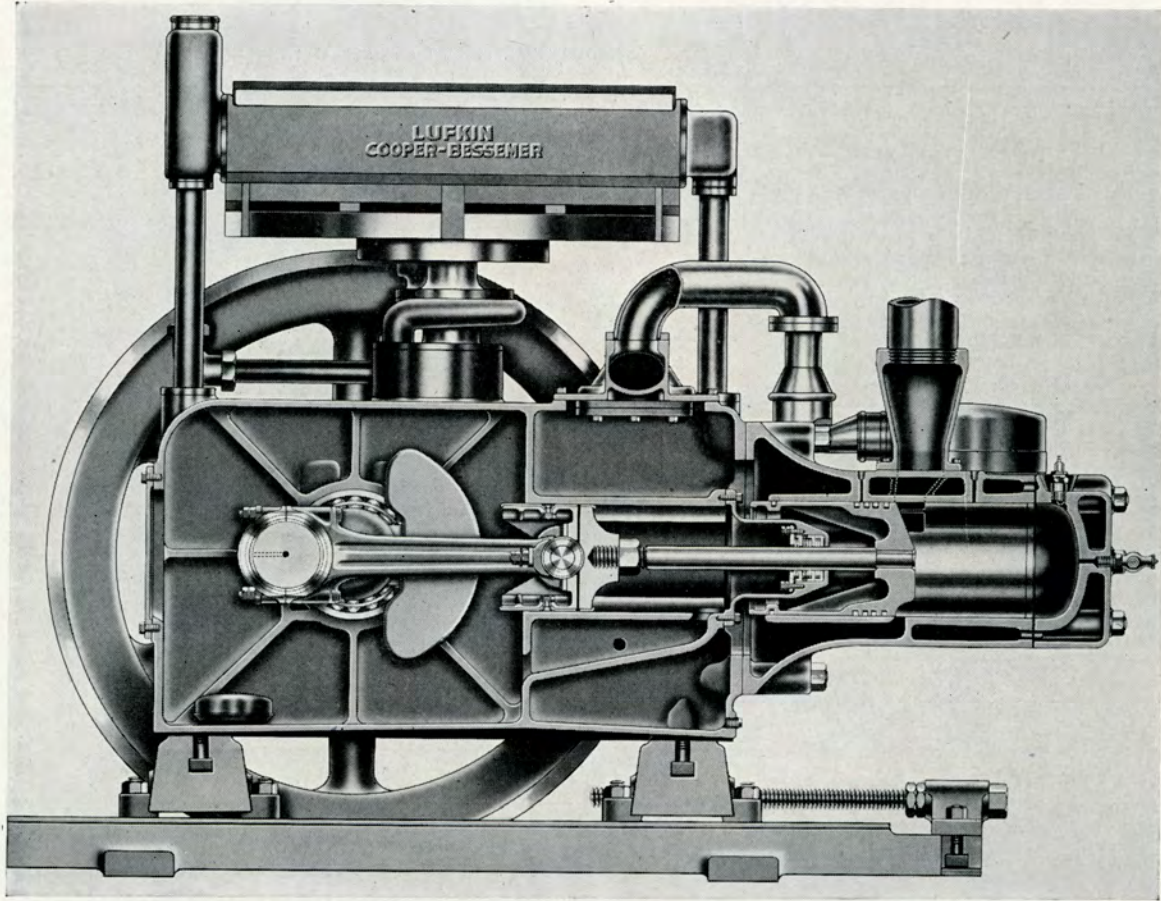


FIGURE 45

**HERE'S THE ENGINE YOU WILL WANT AND THE REASONS WHY**

Horizontal Mounted Radiator for Rigidity and Non-Directional Cooling, Fan and Water Pump Pressure Lubricated.

Horizontal Two-Cylinder Two-Cycle Design Assures Smoother Performance and Easy Maintenance.

Streamlined Scavenging and Top Exhaust for More Power and Easy Installation.

Wide Sturdy Rigid One-Piece Base with Crosshead Guides Integral.

Full Pressure Lubrication to Crankpins, Crosshead, Auxiliary Drive and Accessories.

Die Forged Alloy Steel Connecting Rods with Precision Thin Wall Type Crankpin Bearings.

Pistons Designed for Uniform Heat Flow and Long Life. Fitted with Four Compression and One Oil Ring. Oil Cooled Pistons Optional.

Patented Saddle Type Crosshead Pin Provides More Bearing Area. Crossheads Fitted with Die Formed Bronze Shoes and Pin Bushings. Renewable in Field.

Crankshaft with Counterweights Forged Integral Carried on Tapered Roller Main Bearings for Smoother Operation and Long Trouble-Free Service.

Cylinder Block and Head Provided with Large Clean-out Openings, Water Cooled Exhaust Ports and Positive Circulation of Water Around Sparkplugs and Relief Valves.

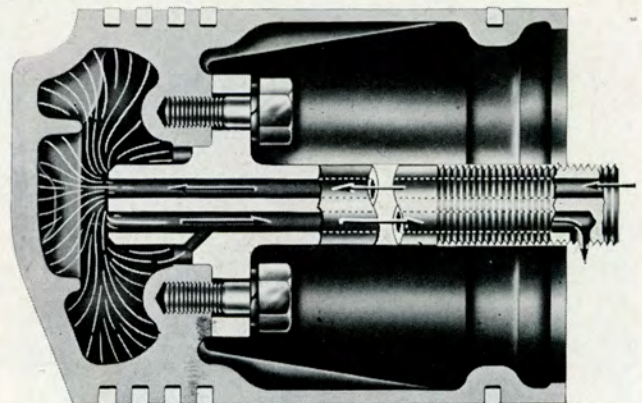


FIGURE 46

Section Oil Cooled Piston—Optional.

**LUFKIN FOUNDRY & MACHINE CO.**

**LUFKIN, TEXAS**

**BRIEF SPECIFICATIONS LUFKIN COOPER-BESSEMER ENGINES**

	GSDH	GSD	GSC
Type.....	Horizontal	Vertical	Vertical
Bore, (Inches).....	7½	7½	5½
Stroke, (Inches).....	9	9	7
Number Cylinders.....	2	2	2
Recommended Speed Range, R.P.M.....	400-600	400-600	400-850
Rated B.H.P. at Above Speeds.....	40-60	40-60	25-35
Piston Speed (Ft./Min.).....	600-900	600-900	467-950
Type Main Bearing (Tapered Roller).....	Yes	Yes	Yes
Diameter Main Bearing, (Inches).....	4½	4½	3⅞
Type Crankpin Bearing (Precision).....	Yes	Yes	Yes
Diameter Crankpin (Inches).....	4½	4½	3¾
Length Crankpin (Inches).....	3½	3½	2⅞
Diameter Crosshead Pin (Inches).....	2¾	2¾	2½
Proj. Area Crosshead Pin (Square Inches).....	13.75	13.75	11.6
Proj. Area Crosshead Shoes (Square Inches).....	60	60	35
Diameter Piston Rod (Inches).....	1½	1½	1¼
Diameter Flywheel (Inches).....	40	40	29
Weight Flywheel (Lbs.).....	800	800	530
Flywheel WR2 lbs. ft.2.....	1580	1580	460
Clutch, Twin Disc.....	B-114	B-114	B-111
Size Exhaust Pipe (Inches).....	4	4	4
Rotation Facing Flywheel (Clockwise).....	Yes	Yes	Yes
Overall Length, Horizontal, (Inches).....	69	.....	.....
Overall Length, Vertical, (Inches).....	.....	71½	59
Overall Width, (Inches).....	68½	45¾	34
Height Above Foundation, (Inches).....	48½	72	54½
Weight, (Lbs.).....	4500	4400	2700
Foundation Bolts (No. and Size).....	4-1	4-1	4-⅞

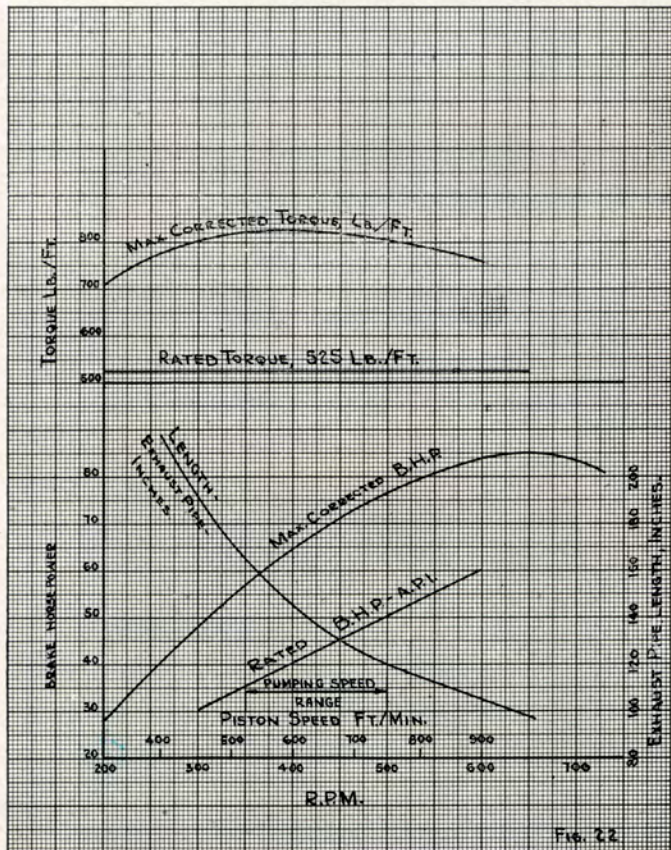


FIGURE 47

Performance Curves GSDH and GSD Gas Engines

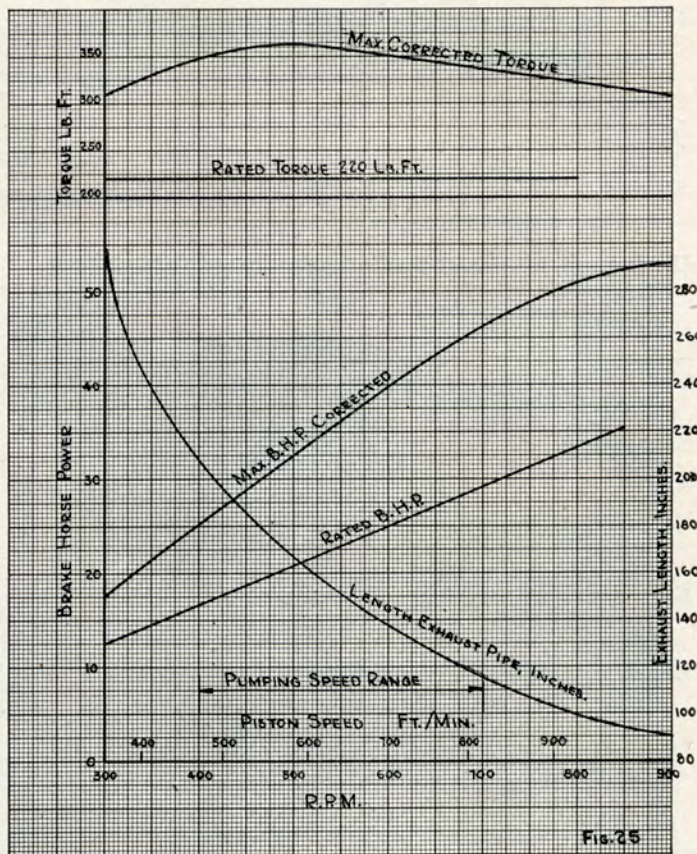


FIGURE 48

Performance Curves GSC Gas Engine

**LUFKIN FOUNDRY & MACHINE CO.****LUFKIN, TEXAS****LUFKIN COOPER-BESSEMER VERTICAL  
TWO-CYCLE TWO-CYLINDER GAS ENGINES****GSD 40-60 HP ENGINE**

The GSD engine has proven itself over many years of reliable trouble-free service. Its two-cycle design makes for simplicity; large cover plates provide easy accessibility; its crosshead construction and metallic packing eliminate all of the difficulties of trunk type piston engines, making it ideally adapted to sour gases by preventing contamination of lubricating oil. Its full pressure lubrication to all vital parts assures long uninterrupted service. Its roller bearing counterbalanced crankshaft provides smoothness and long life.

The GSD engine is conservatively rated 40 HP at 400 RPM with speed range of 400 to 600 RPM. Standard Equipment includes gear driven oil pump and governor, oil filter, air filter, magneto, clutch, air starter valve, radiator and fan, making a complete power unit. It can be furnished without radiator when desired.

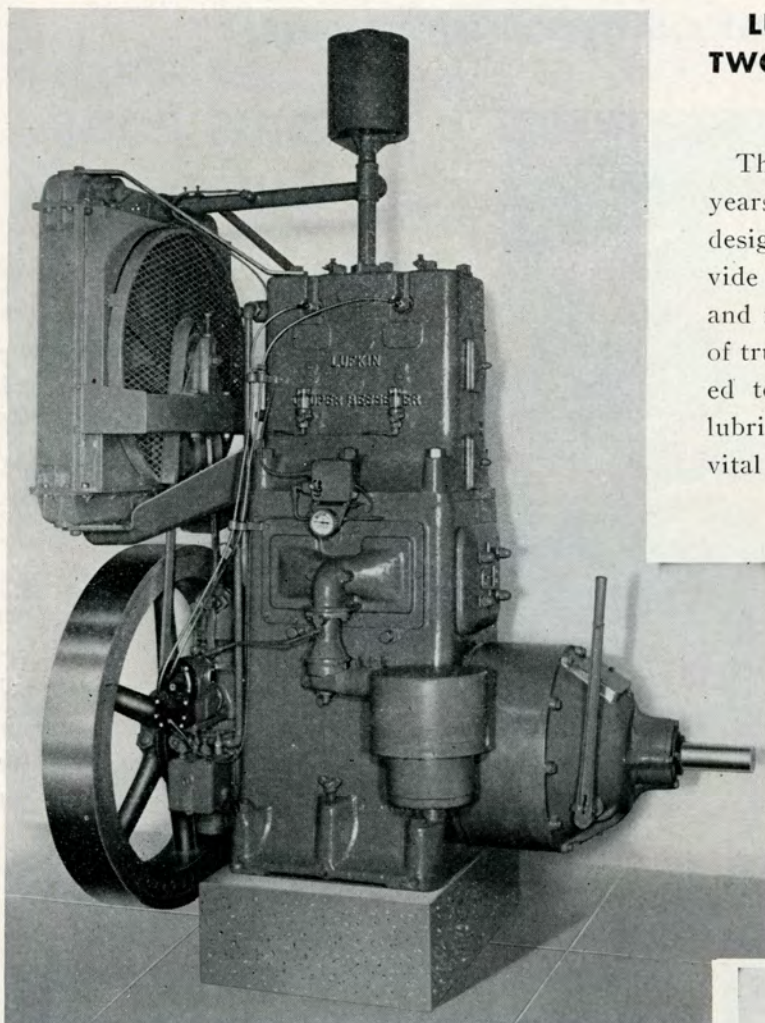


FIGURE 49  
GSD 40-60 HP Engine

**GSC 25-35 HP ENGINE**

The GSC engine like its big brother is built for long-life operation and accessibility of parts.

These features make it an engine that is wanted in the oil field: two-cycle, two-cylinder design for smoothness; roller bearing crankshaft; full pressure lubrication; crosshead construction; metallic packing; streamlined scavenging for more power; gear driven governor and magneto; clutch, water pump and fan—all go to make a complete power unit easily installed on pumping unit skids.

The GSC engine is rated 25 HP at 600 RPM, 35 HP at 850 RPM. Normal pumping speed is 400 to 700 RPM.

Standard equipment includes: gear driven oil pump and governor, oil filter, air filter, magneto, clutch, water pump, radiator and fan.

Write for Descriptive Bulletin.

*For Brief Specifications and Rating See Opposite Page*

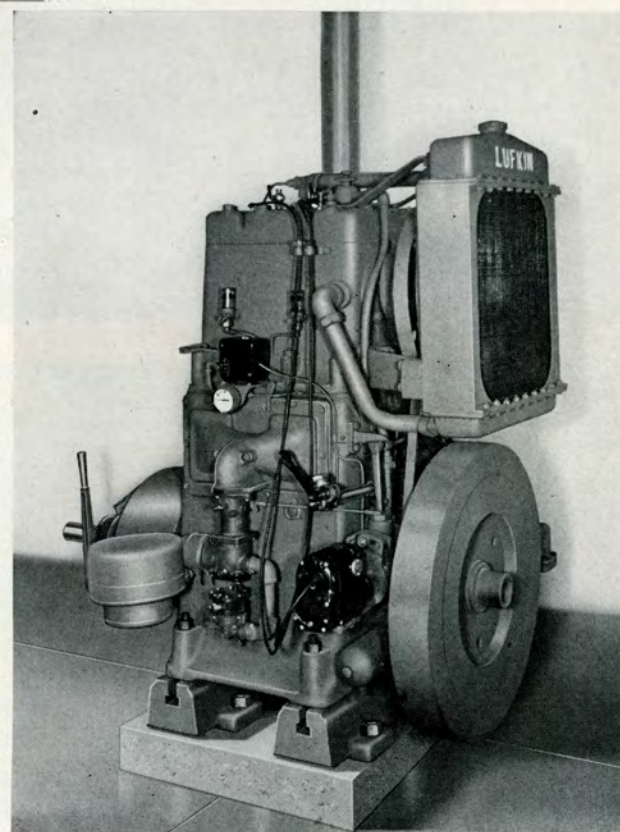


FIGURE 50  
GSC 25-35 HP Engine

**LUFKIN PIPE, POLE, FLOAT AND CUSTOM BUILT TRAILERS**

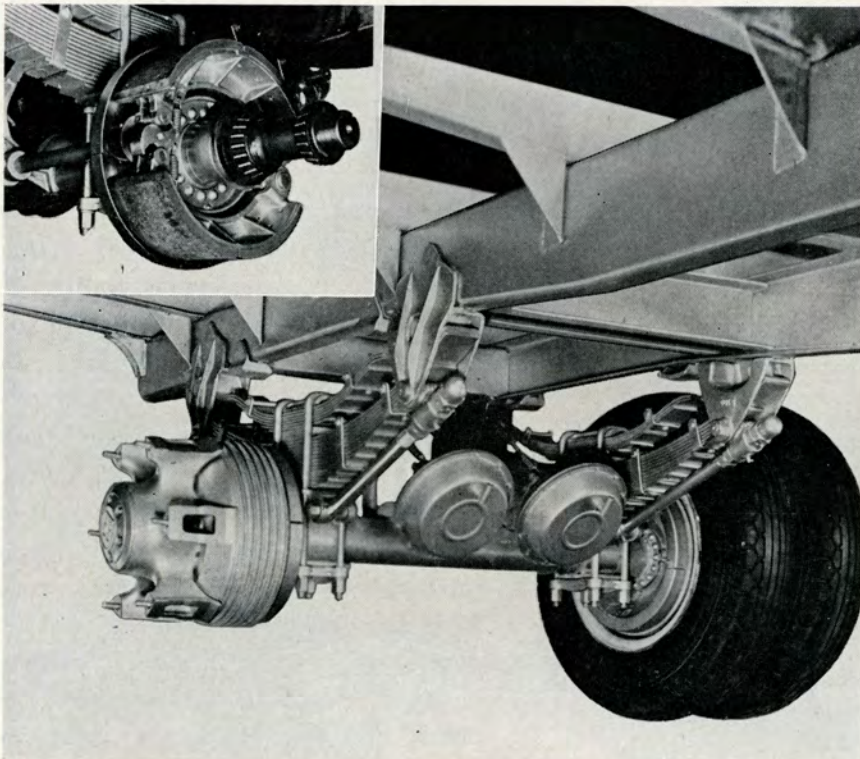


FIGURE 51

**RADIUS RODS  
... pull the load**

The major task of radius rods is to pull the load. All torsional strains are absorbed by Lufkin's two-way oscillating, universal action radius rod knuckle. Brake torque, the cause of much spring breakage, is absorbed by radius rods.

Perfect axle alignment can be obtained and maintained with Lufkin's adjustable radius rods. Keeping axle in alignment eliminates side drag, resulting in maximum tire mileage and a minimum pulling power demand. Less power demand means longer truck life. Spring hangers are welded to frame.



FIGURE 52

*These van type trailers are your answer to retail delivery service of tires, batteries, oils, lubricants and accessories.*



FIGURE 53

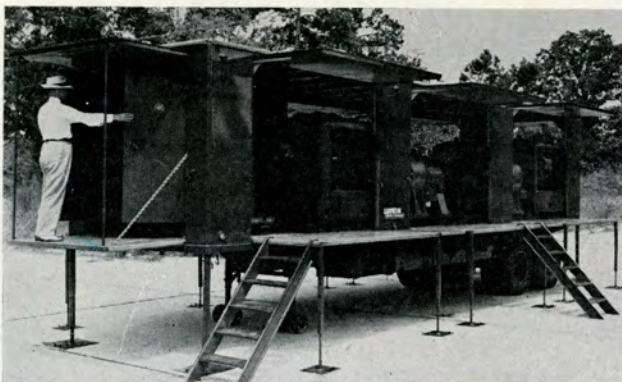


FIGURE 54

*Special built well servicing trailers for heavy engines, mobile light plants and many other field on-the-job uses.*



FIGURE 55



# LUFKIN FOUNDRY & MACHINE CO.

# LUFKIN, TEXAS

## LUFKIN PIPE, POLE, FLOAT AND VAN TRAILERS

Lufkin Truck-Trailers and bodies offer users the latest improvement in design, construction and engineering.

Look, for instance, at these special Lufkin features: rubber-bushed, forged radius rods, maintaining constant and positive axle alignment; free-flowing, extra-heavy springs (no shackle bolts to wear out); and Lufkin's exclusive channel-shaped side bracing. These are typical of the many advancements to be found in sturdy Lufkin-built models.

It takes special "know-how" to produce a job light enough to allow you maximum payload weight, yet strong

enough to give you dependable year-in, year-out service with minimum upkeep cost.

This "know-how" Lufkin has developed through years of experience, in the South's largest, most modern truck-trailer factory, shown above, trained transportation men, both technical and practical men, engineer and manufacturer Lufkin Truck-Trailers. New production methods, new steels, new fixtures contribute to the dependability.

You can depend on "Lufkins" to haul profitable capacity loads, day after day, with unfailing reliability.

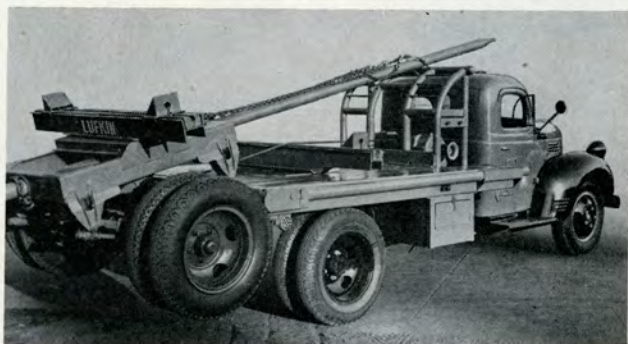


FIGURE 56  
Self-loading oil field truck bed complete.



FIGURE 57  
Model T170F: Tandem Self Loading Float.

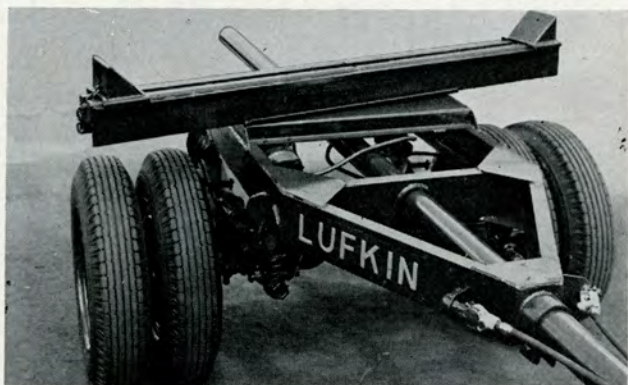


FIGURE 58  
Model 170P: Heavy duty single axle pipe trailer.



FIGURE 59  
Model T170P: Heavy Duty Tandem Pipe Trailer.

LEFT:

Portable Laboratory for Oil-well logging service, like all Lufkin all-steel vans and bodies, is modern in design and construction and is made to special size and finish. Modern streamlining adds to the beauty of this truck body and to the prestige of its owner.

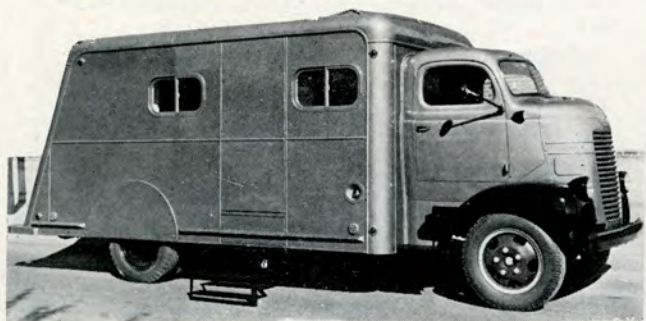


FIGURE 60

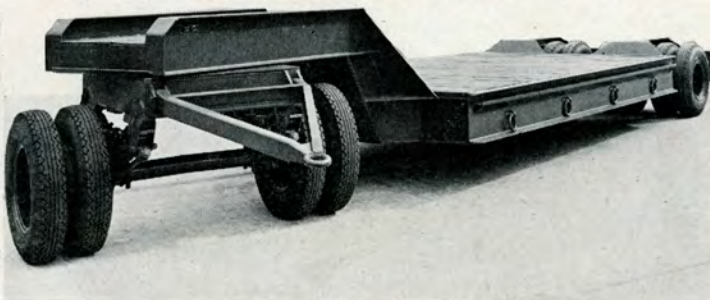


FIGURE 62

ABOVE: A 50,000 pound capacity Low Bed Machinery Trailer. OUR AIM is to build a BETTER TRAILER at a LOWER COST. OUR JOB is to solve your Transportation problems.

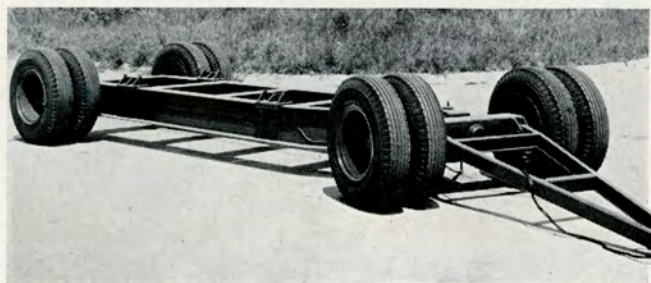


FIGURE 61

LEFT: Another Lufkin custom built trailer, designed and constructed for transporting oil-well pulling units to the job. Modern manufacturing facilities and skilled craftsmanship guarantee quality equipment at a minimum of cost.

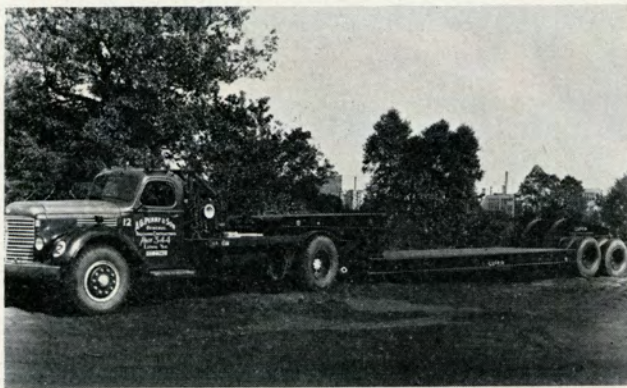
**LUFKIN'S "NEW DEPARTURE EASY LOADING" LOWBOY HEAVY MACHINERY TRAILERS  
25 TON & 50 TON CAPACITY MODELS**

The Lufkin Line is constantly in search of new ideas and ways of accomplishing a job. This is just another item which has been developed for your convenience. Our continuous endeavor to build things outstandingly well has led to this development.

This folding nose new departure lowboy trailer is exclusive. You can load it from either side or from

the front. The nose goose-neck is hinged on equalizers permitting it to fold down to ground level providing a loading ramp. You can load **this trailer** in ten to thirty minutes whereas it takes from forty-five minutes to two hours to load a conventional type. This is progress.

Detailed specifications furnished upon request.



**FIGURE 63**  
*The Lufkin New Departure, Easy Loading Low-Boy, Heavy Machinery Hauler.*



**FIGURE 64**  
*Nose Goose Neck folded down to ground level for loading.*



**FIGURE 65**  
*Backing trailer to put Goose Neck into rigid position.*



**FIGURE 66**  
*"Ready to Ride." This heavy machinery hauler may be loaded in ten to thirty minutes.*

**LUFKIN ALLOY IRON CASTINGS**

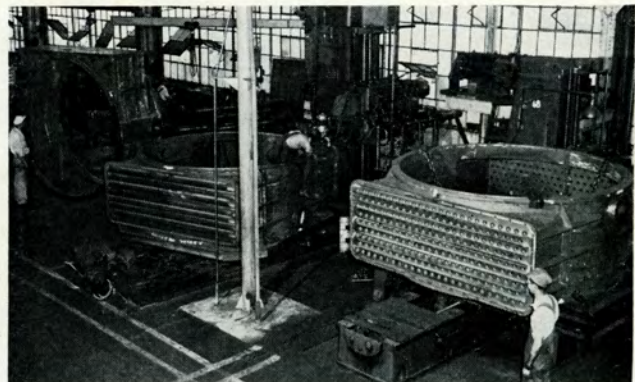
*Controlled Specification Iron*



*Partially completed new gray iron foundry No. 2 which will be in complete operation January 1, 1948, having dual cupola operation with capacity of 150 tons per day. Modern in every respect with emphasis on metallurgically controlled cupola charging for high strength, fine grain iron. Your casting requirements on all sizes from a fraction of a pound up to fifty thousand pounds each can be shipped with unusual promptness.*



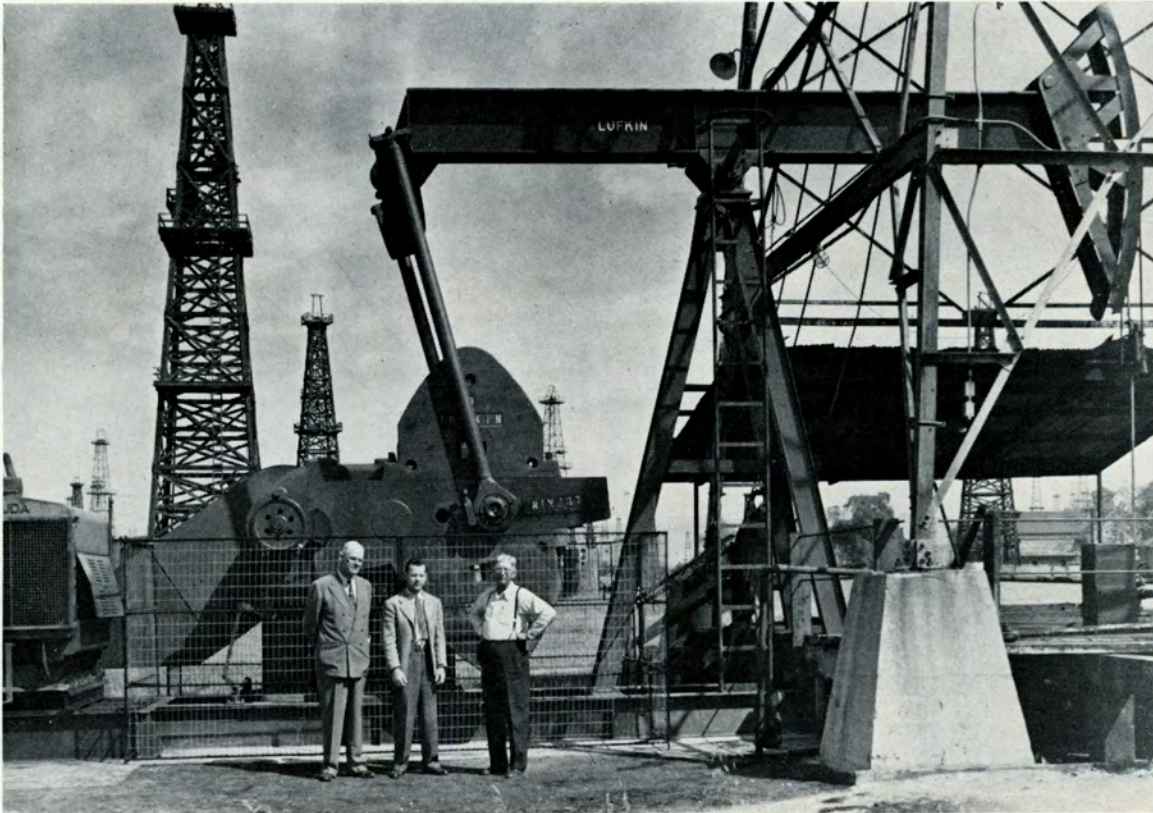
**FIGURE 67**  
*Die castings made of special alloy for presses up to 5000 tons capacity.*



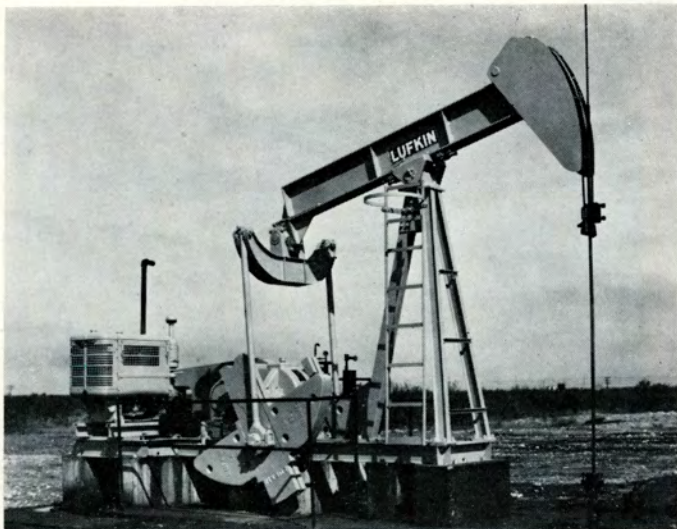
**FIGURE 68**  
*Chemical tower for a southern alkali plant. Sections are 9-foot diameter weighing 16,000 lbs. each.*

# LUFKIN INSTALLATIONS

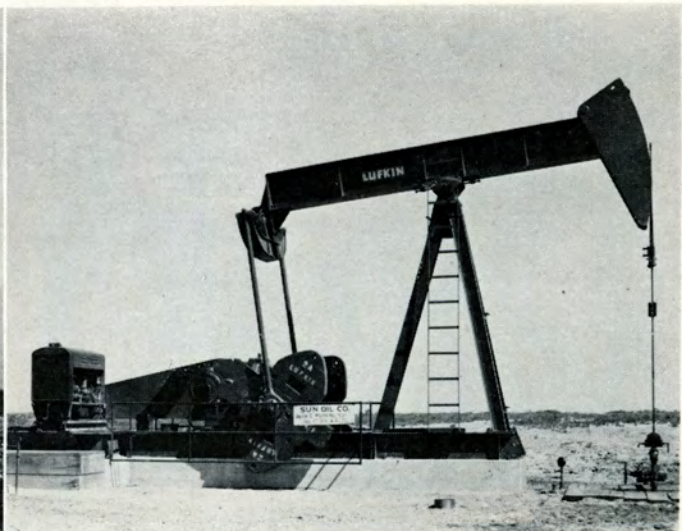
TYPICAL OF THE MORE THAN TWENTY THOUSAND LUFKIN PUMPING UNITS NOW GIVING SATISFACTORY SERVICE



*Lufkin Long Stroke TC-OL-61A Pumping Unit on Sub-base, 108" Stroke, operating in California.*



*Lufkin TC-44-15A Pumping Unit.*



*Lufkin TC-2A-35A Pumping Unit.*



# LUFKIN

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**EQUIPMENT OF ADVANCED DESIGN**

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