CATALOG 63

LUFKIN API PUMPING UNITS

LUFKIN FOUNDRY & MACHINE COMPANY • LUFKIN, TEXAS

LUFKIN EQUIPMENT OF ADVANCED DESIGN

LUFKIN **LUFKIN FOUNDRY & MACHINE CO.** **LUFKIN, TEXAS**

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SINGLE REDUCTION, DOUBLE REDUCTION AND TRIPLE REDUCTION GEAR UNITS ARE AVAILABLE FOR EVERY PUMPING NEED

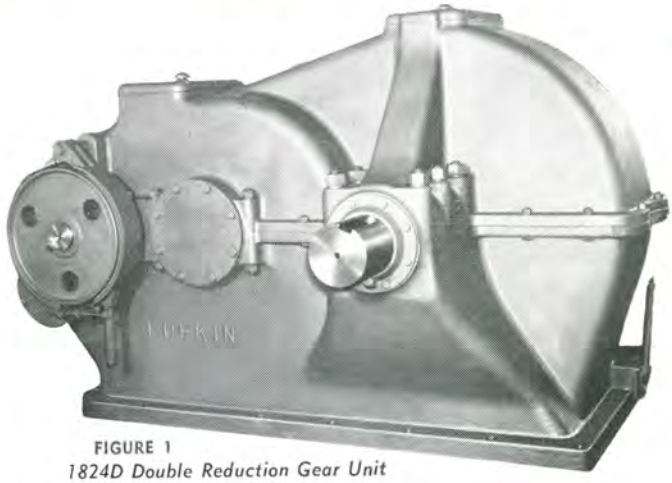

FIGURE 1
1824D Double Reduction Gear Unit

1. Housing 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. Heat treated alloy steel gears are furnished as standard on the 57D and larger reducers. Heat treated nodular (or ductile) iron gears are furnished as standard on the 40D and smaller. Nodular iron gears can be furnished in sizes larger than the 40D. Consult your Lufkin representative.

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 High Lead Bearings on crankshafts. Easily renewable but seldom requiring replacement.

6. Crankshaft held rigid by bronze hub plates. All pinions float on Straight Roller Bearings.

7. No Oil Pumps. Lufkin gears operate in oil bath with gear wipers to flood bearings.

8. Clam Shell Brake. No grabbing. Improved ratchet lever and stand, locomotive type.

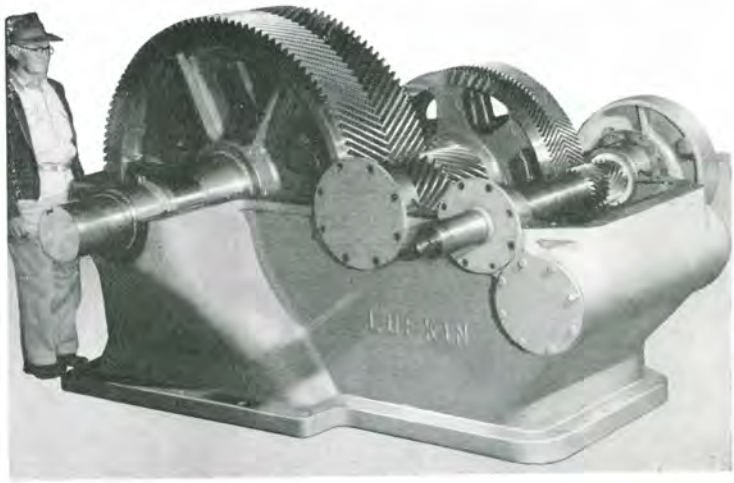

FIGURE 2
1824D Double Reduction Gear Unit, cover removed

EXPLANATION OF PUMPING UNIT DESIGNATIONS

C - 228 D-246 - 74

Type Pumping Unit:
A—Air Counterbalance
B—Beam Counterbalance
C—Trout Crank Counterbalance
CB—Combination Beam and Crank Counterbalance
M—Mark II Unitorque

Peak Torque Rating In Thousands Of Inch Pounds

Polished Rod Load Rating In Hundreds of Pounds

D—Double Reduction Gear Reducer
S—Single Reduction Gear Reducer
T—Triple Reduction Gear Reducer

Stroke Length In Inches

INSTRUCTIONS FOR ORDERING SPARE PARTS

WHEN ORDERING SPARE PARTS, THE DESIGNATION AND SERIAL NUMBER OF THE UNIT MUST BE GIVEN. This information is necessary in addition to the description of the part, part number, etc. By supplying all the information available our personnel will have a cross check on the particular part wanted and errors in typing, etc. can be circumvented.

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.

GEAR REDUCER: For temperatures between 10° F. and 100° F. use an SAE 90 mineral oil with rust and oxidation inhibitors and with an anti-foam agent and having a pour point of 0° F. or lower. (This is a 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 Mineral 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.

If desired, units can be shipped with the gear reducer filled with oil that will comply with the above specifications.

Maintain the oil level above the bottom pet cock or low mark on gage but do not fill the gear reducer above the top pet cock or high mark on gage.

After the oil has been in service for one year the operator should give the oil a good visual inspection for possible dirt, sludge, water emulsion or other forms of contamination.

After this first inspection a similar inspection should be made every six months.

It is recommended that a quart sample be taken from the reducer every year and checked for acidity.

CRANK PIN BEARINGS, CENTER BEARING AND EQUALIZER BEARING: All sizes are Factory Lubricated. Inspect periodically. Relubricate every 5 years by flushing out old grease without disassemblying bearing, using NLGI No. 1 lithium base grease. An Extreme Pressure lubricant of the Lead Naphthenate type is satisfactory. Do not use soda base grease.

The foregoing 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.

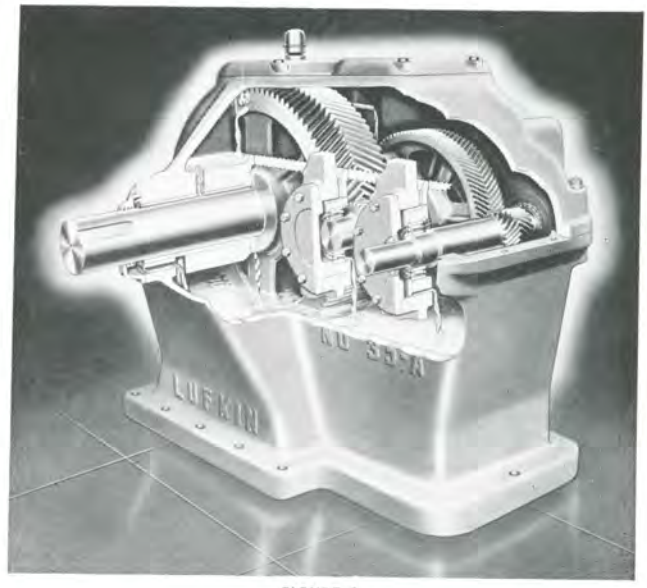

FIGURE 3

As long as the oil is maintained at the proper level, the slow speed and high speed gears dip in oil and provide continuous lubrication to the gear mesh.

Large oil wipers direct a flood of oil into oversized oil troughs which in turn provide each individual bearing with more than adequate lubrication.

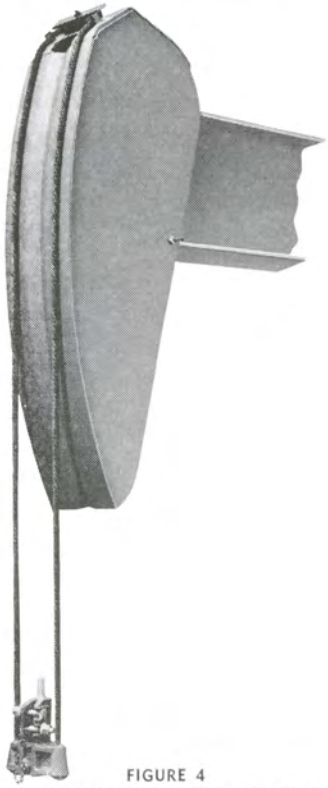

FIGURE 4

HORSEHEAD AND WIRE LINE ASSEMBLY

Easily aligned with polished rod without disconnecting well load. One-piece arc plate is used for greater strength.

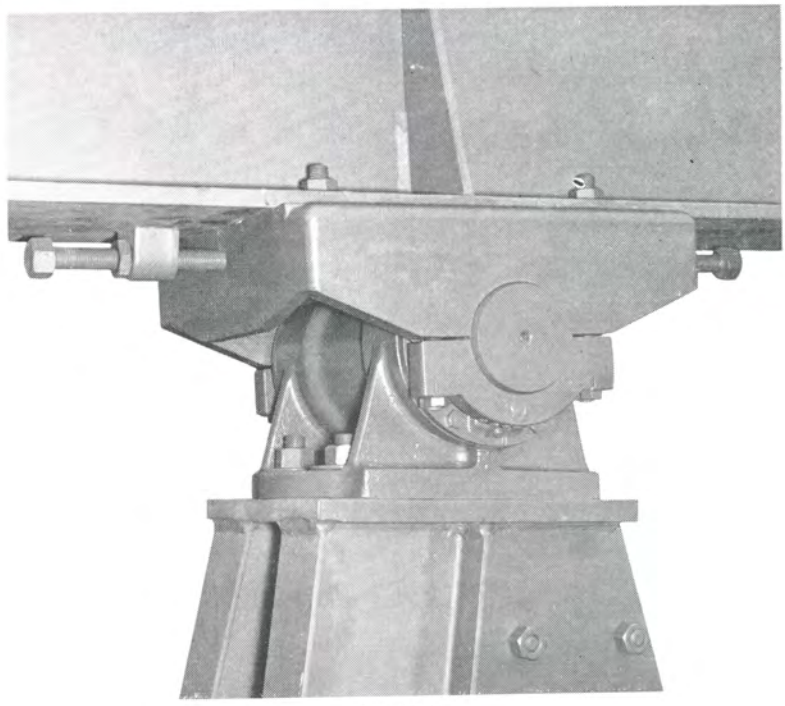

FIGURE 5

CENTER BEARING ASSEMBLY

Furnished with roller bearings, factory lubricated, on some C-80D and all larger sizes.

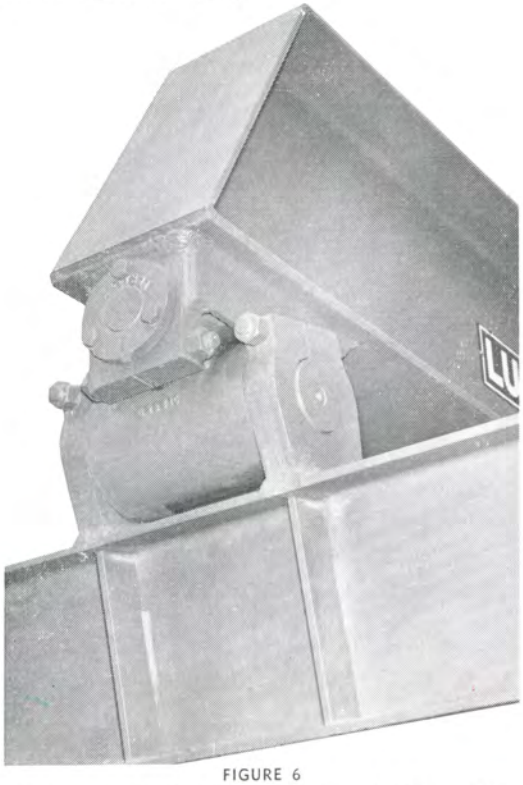

FIGURE 6

CRANK BALANCED UNIT EQUALIZER BEARING AND ASSEMBLY

Furnished with roller bearings, factory lubricated, on all sizes. Cross-pin type connection to walking beam is utilized.

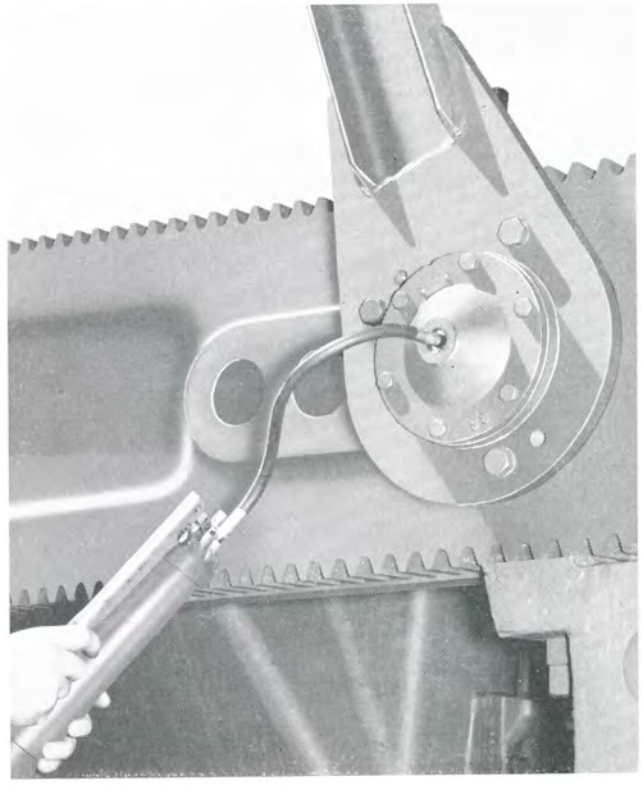

FIGURE 7

CRANK PIN ASSEMBLY

Furnished with roller bearings, factory lubricated, on all sizes.

All LUFKIN crank pins are furnished with grease fittings and drilled holes to facilitate removal of pins by grease pressure using a grease gun on fitting under cover.

A WIDER RANGE OF COUNTERBALANCE NOW AVAILABLE WITH THE *NEW* TROUT COUNTERBALANCED TYPE B CRANK

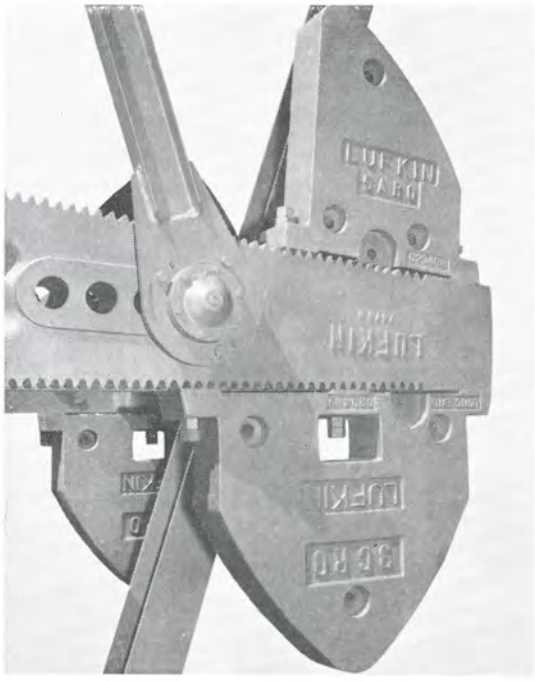

FIGURE 8—*Several sizes of counterweights are available for every unit.*

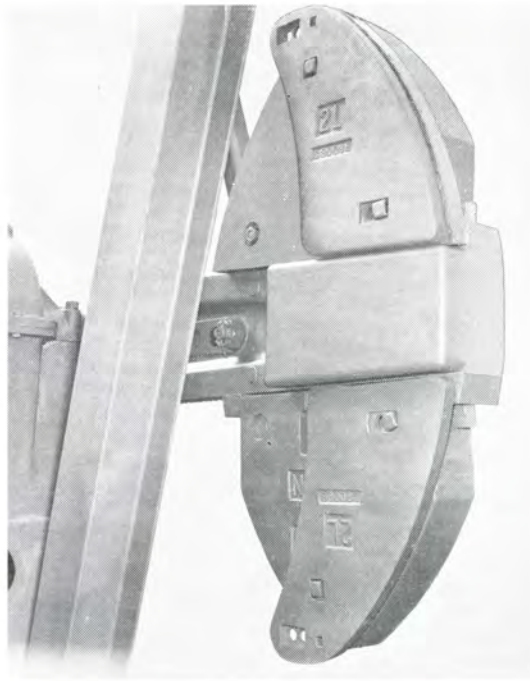

FIGURE 9—*L type auxiliary weights can be used alone or with S type auxiliary weights.*

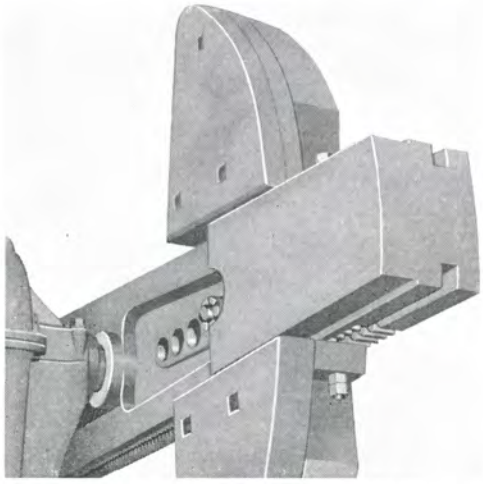

FIGURE 10—*Various combinations of type S and D auxiliary counterweights available for additional counterbalance.*

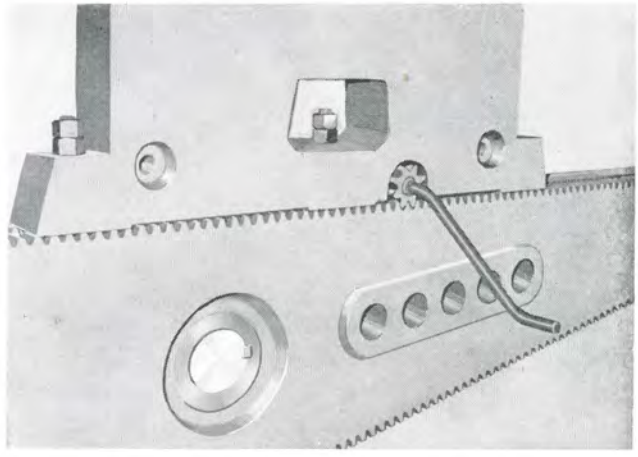

FIGURE 11—*New removable pinion (with crank handle attached) is used to adjust all counterweights.*

As shown in Figures 8, 9 and 10 a wide range of counterbalance is available on all LUFKIN units. With the various combinations of counterweights and auxiliary counterweights to choose from a very economical selection of counterbalance can be made.

Note in Figure 10 the extra counterbalance made available by the increased thickness at the end of the type B crank. With this type crank, one of two type S (single thickness) auxiliary counterweights can be added or one type D (double thickness) auxiliary counterweight can be added to each counterweight.

Also note in Figure 9 the new L type auxiliary weight. It offers counterbalance in smaller increments than has ever before been possible.

The Trout Counterbalanced Crank, using sliding weights to change the counterbalance effect, is an Original Lufkin Feature. Moving the counterweights has been made even safer and easier by the addition of a rack and pinion.

One Man Alone, using the special combination pinion and crank shown in Figure 11, can make the adjustment in a matter of minutes. All four weights can be adjusted without changing the position of the cranks.

Rack and pinion type cranks are regularly furnished on the C-25 assemblies and larger.

With the Trout Counterbalanced Crank there is no hazard to the operator or equipment as it is impossible for Trout counterweights to slide off the crank even when bolts are loosened, so long as nuts are not completely removed from bolts.

This same Safe, Simple and Easy Trout Counterbalance has been in use over a period of many years and has been installed on over SEVENTY THOUSAND LUFKIN PUMPING UNITS.

FIGURE 12

HI-PRIME PUMPING UNIT with elevated motor provides protection from high water and drifting sand and snow. If unit is moved to a location where electric power is not available, bolted-on motor support can be easily removed and a jointed gas engine base installed. Short foundation block reduces installation costs. Available in all structures using 25D through 912D gear reducers. Unit shown is a C-228D-200-74.

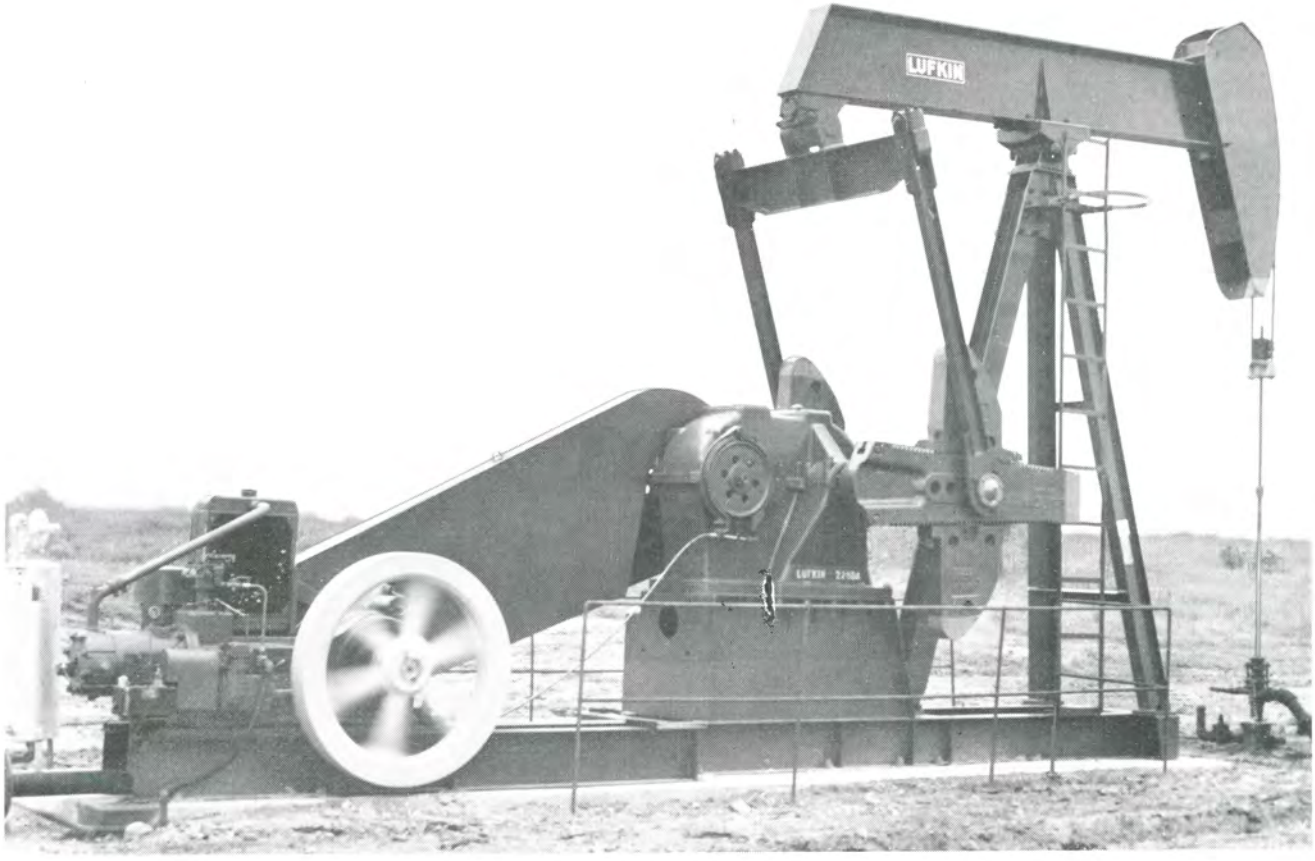

FIGURE 13

JOINTED SLOW SPEED ENGINE BASE, tailor made to fit particular prime mover. Since slide rails are not required with this type base, the center of gravity of the engine is kept low, thus reducing vibration. Unit shown is a C-228D-173-74.

FIGURE 14

HEAVY DUTY PORTABLE BASE unit, full skid, can be very easily moved, requires a minimum of foundation. Unit shown is a C-114D-169-64.

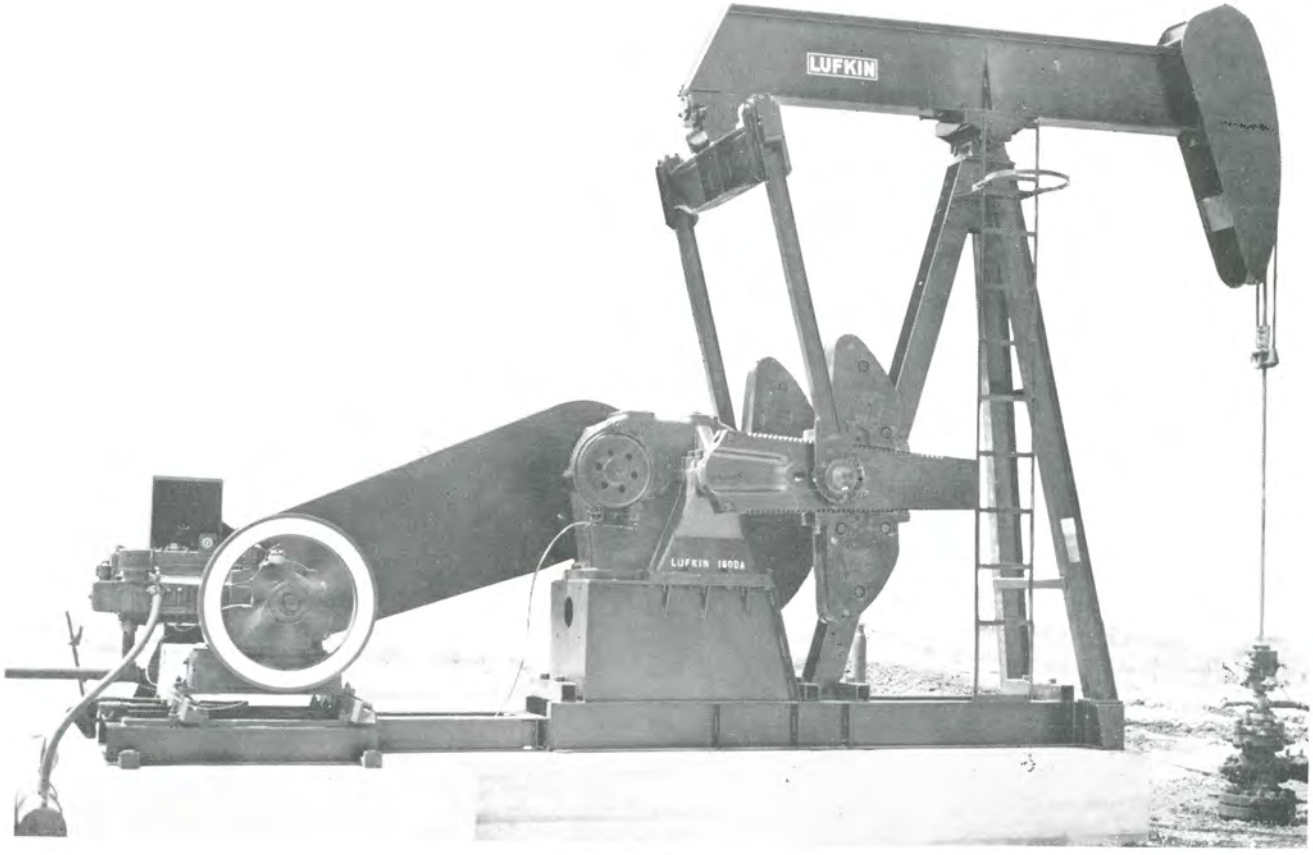

FIGURE 15

JOINTED ELL BASE adapts easily to all multicylinder engines by using slide rails. This type engine base can also be used with flywheel-clearing slow speed engines as shown on this C-160D-173-74 unit.

LUFKIN **LUFKIN FOUNDRY & MACHINE CO.** **LUFKIN, TEXAS**

CRANK BALANCED PUMPING UNIT SPECIFICATIONS

UNIT DESIGNATION	C-912D-356-168 C-640D-356-168	C-912D-305-168 C-640D-305-168	C-912D-427-144 C-640D-427-144	C-912D-356-144 C-640D-356-144	C-640D-304-144 C-456D-304-144
POLISHED ROD CAPACITY, LBS.	35,600	30,500	42,700	35,600	30,400
STROKE LENGTHS, INCHES	168, 145, 124, 102	168, 145, 124, 102	144, 124, 106, 88	144, 124, 106, 88	144, 124, 106, 88
WALKING BEAM	36″ x 230 Lbs.	33″ x 220 Lbs.	36″ x 230 Lbs.	33″ x 220 Lbs.	33″ x 200 Lbs.
PITMANS	8″ I-Beam				
WIRELINE HANGER	1¼″ x 37′-0″	1¼″ x 37′-0″	1⅜″ x 35′-0″	1¼″ x 35′-0″	1¼″ x 35′-0″
CRANKS	94110B	94110B	94110B	94110B	94110B
STRUCTURAL UNBALANCE	–1500 Lbs.	–1500 Lbs.	–650 Lbs.	–650 Lbs.	–520 Lbs.

UNIT DESIGNATION	C-640D-253-144 C-456D-253-144	C-912D-427-120 C-640D-427-120	C-640D-365-120 C-456D-365-120	C-640D-304-120 C-456D-304-120	C-456D-256-120 C-320D-256-120
POLISHED ROD CAPACITY, LBS.	25,000	42,700	36,500	30,400	25,600
STROKE LENGTHS, INCHES	144, 124, 106, 88	120, 105, 90, 74	120, 105, 90, 74	120, 102, 85, 67	120, 102, 85, 67
WALKING BEAM	30″ x 172 Lbs.	33″ x 220 Lbs.	30″ x 190 Lbs.	30″ x 172 Lbs.	27″ x 160 Lbs.
PITMANS	8″ I-Beam			6″ I-Beam	
WIRELINE HANGER	1¼″ x 35′-0″	1⅜″ x 34′-0″	1¼″ x 34′-0″	1¼″ x 29′-0″	1⅛″ x 29′-0″
CRANKS	94110B	94110B	94110B	8495B	8495B
STRUCTURAL UNBALANCE	–400 Lbs.	570 Lbs.	570 Lbs.	–120 Lbs.	55 Lbs.

UNIT DESIGNATION	C-456D-213-120 C-320D-213-120	C-640D-365-100 C-456D-365-100	C-456D-298-100 C-320D-298-100	C-456D-256-100 C-320D-256-100	C-456D-298-86 C-320D-298-86
POLISHED ROD CAPACITY, LBS.	21,300	36,500	29,800	25,600	29,800
STROKE LENGTHS, INCHES	120, 102, 85, 67	100, 85, 70, 56	100, 85, 70, 56	100, 85, 70, 56	86, 74, 61, 48
WALKING BEAM	27″ x 145 Lbs.	30″ x 172 Lbs.	27″ x 160 Lbs.	27″ x 145 Lbs.	24″ x 145 Lbs.
PITMANS	6″ I-Beam				
WIRELINE HANGER	1⅛″ x 29′-0″	1¼″ x 29′-0″	1⅛″ x 29′-0″	1⅛″ x 29′-0″	1⅛″ x 29′-0″
CRANKS	8495B	8495B	8495B	8495B	8495B
STRUCTURAL UNBALANCE	0 Lbs.	620 Lbs.	550 Lbs.	500 Lbs.	1000 Lbs.

UNIT DESIGNATION	C-320D-246-86 C-228D-246-86	C-320D-212-86 C-228D-212-86	C-320D-246-74 C-228D-246-74	C-228D-200-74 C-160D-200-74	C-228D-173-74 C-160D-173-74
POLISHED ROD CAPACITY, LBS.	24,600	21,200	24,600	20,000	17,300
STROKE LENGTHS, INCHES	86, 74, 61, 48	86, 74, 62, 51	74, 64, 54, 44	74, 64, 54, 44	74, 62, 51, 39
WALKING BEAM	24″ x 120 Lbs.	24″ x 100 Lbs.	24″ x 100 Lbs.	24″ x 94 Lbs.	24″ x 84 Lbs.
PITMANS	5″ I-Beam				
WIRELINE HANGER	1⅛″ x 29′-0″	1″ x 23′-0″	1″ x 22′-0″	1″ x 22′-0″	1″ x 19′-0″
CRANKS	8495B	7478B	7478B	7478B	6468B
STRUCTURAL UNBALANCE	800 Lbs.	450 Lbs.	800 Lbs.	800 Lbs.	450 Lbs.

CRANK BALANCED PUMPING UNIT SPECIFICATIONS

UNIT DESIGNATION	C-228D-200-64 C-160D-200-64	C-160D-169-64 C-114D-169-64	C-160D-143-64 C-114D-143-64	C-160D-169-54 C-114D-169-54	C-114D-133-54 C-80D-133-54
POLISHED ROD CAPACITY, LBS.	20,000	16,900	14,300	16,900	13,300
STROKE LENGTHS, INCHES	64, 54, 44, 34	64, 54, 44, 34	64, 52, 40, 28	54, 44, 34, 24	54, 45, 36, 27
WALKING BEAM	24″ x 84 Lbs.	24″ x 84 Lbs.	18″ x 70 Lbs.	18″ x 70 Lbs.	18″ x 60 Lbs.
PITMANS	5″ I-Beam	4″ I-Beam			
WIRELINE HANGER	1″ x 19′-0″	1″ x 19′-0″	1″ x 17′-6″	1″ x 16′-0″	⅞″ x 15′-0″
CRANKS	6468B	6468B	5456B	5456B	4850B
STRUCTURAL UNBALANCE	800 Lbs.	550 Lbs.	360 Lbs.	500 Lbs.	330 Lbs.

UNIT DESIGNATION	C-114D-119-54 C-80D-119-54	C-114D-133-48 C-80D-133-48	C-80D-109-48 C-57D-109-48	C-80D-95-48 C-57D-95-48	C-80D-109-42 C-57D-109-42
POLISHED ROD CAPACITY, LBS.	11,900	13,300	10,900	9,500	10,900
STROKE LENGHTS, INCHES	54, 45, 36, 27	48, 40, 32, 24	48, 37, 25	48, 37, 25	42, 32, 22
WALKING BEAM	18″ x 55 Lbs.	16″ x 58 Lbs.	16″ x 45 Lbs.	16″ x 40 Lbs.	16″ x 45 Lbs.
PITMANS	4″ I-Beam				
WIRELINE HANGER	⅞″ x 15′-0″	⅞″ x 14′-0″	⅞″ x 14′-0″	⅞″ x 14′-0″	⅞″ x 12′-6″
CRANKS	4850B	4850B	4246B	4246B	4246B
STRUCTURAL UNBALANCE	330 Lbs.	440 Lbs.	320 Lbs.	320 Lbs.	500 Lbs.

UNIT DESIGNATION	C-57D-89-42 C-40D-89-42	C-57D-76-42 C-40D-76-42	C-57D-89-36 C-40D-89-36	C-40D-67-36 C-25D-67-36	C-40D-56-36 C-25D-56-36
POLISHED ROD CAPACITY, LBS.	8,900	7,600	8,900	6,700	5,600
STROKE LENGTHS, INCHES	42, 33, 23	42, 33, 23	36, 28, 20	36, 28, 20	36, 28, 20
WALKING BEAM	16″ x 36 Lbs.	14″ x 34 Lbs.	14″ x 34 Lbs.	12″ x 31 Lbs.	12″ x 27 Lbs.
PITMANS	3″ I-Beam				
WIRELINE HANGER	¾″ x 12′-6″	¾″ x 12′-6″	¾″ x 11′-0″	⅝″ x 11″-0′	⅝″ x 11′-0″
CRANKS	3644B	3644B	3644B	3644B	3644B
STRUCTURAL UNBALANCE	150 Lbs.	150 Lbs.	275 Lbs.	275 Lbs.	275 Lbs.

UNIT DESIGNATION	C-40D-67-30 C-25D-67-30	C-25D-53-30	C-25D-43-30	C-25D-53-24
POLISHED ROD CAPACITY, LBS.	6,700	5,300	4,300	5,300
STROKE LENGTHS, INCHES	30, 20	30, 20	30, 20	24, 16
WALKING BEAM	12″ x 27 Lbs.	10″ x 25 Lbs.	10″ x 21 Lbs.	10″ x 21 Lbs.
PITMANS	3″ I-Beam			
WIRELINE HANGER	⅝″ x 11″-0′	½″ x 11′-0″	½″ x 11′-0″	½″ x 8′-0″
CRANKS	2436B	2436B	2436B	2436B
STRUCTURAL UNBALANCE	150 Lbs.	150 Lbs.	150 Lbs.	200 Lbs.

GEAR SPECIFICATIONS

912D GEAR REDUCER: Double Reduction
RATING: 912,000 In. Lbs. Peak Torque
RATIO OF GEARS: 28.72
CRANKSHAFT DIA.: 7"
SHEAVE: 47.6" P.D.—8D Standard
55.2" P.D. Max., 4-3/16" Bore
GEAR BOX OIL CAPACITY: 107 Gallons

640D GEAR REDUCER: Double Reduction
RATING: 640,000 In. Lbs. Peak Torque
RATIO OF GEARS: 28.6
CRANKSHAFT DIA.: 7"
SHEAVE: 34" P.D.—6D Std., 47.4" or 51.4" P.D. Alt.,
55.4" P.D. Max., 3-7/16" Bore
GEAR BOX OIL CAPACITY: 70 Gallons

456D GEAR REDUCER: Double Reduction
RATING: 456,000 In. Lbs. Peak Torque
RATIO OF GEARS: 29.04
CRANKSHAFT DIA.: 7"
SHEAVE: 34" P.D.—6D or 8C Std., 47.4" P.D. Alt.,
51.4" P.D. Max., 3-7/16" Bore
GEAR BOX OIL CAPACITY: 55 Gallons

456S GEAR REDUCER: Single Reduction
RATING: 456,000 In. Lbs. Peak Torque
RATIO OF GEARS: 10.71
CRANKSHAFT DIA.: 7"
SHEAVE: 47.6" P.D.—8D or 12C Std.,
47.6" P.D. Max., 3-15/16" Bore
GEAR BOX OIL CAPACITY: 34 Gallons

320D GEAR REDUCER: Double Reduction
RATING: 320,000 In. Lbs. Peak Torque
RATIO OF GEARS: 30.12
CRANKSHAFT DIA.: 6-7/16"
SHEAVE: 24.6" P.D.—6C or 5D Std., 29.6" P.D. Alt.
47" P.D. Max., 2 15/16" Bore
GEAR BOX OIL CAPACITY: 50 Gallons

320S GEAR REDUCER: Single Reduction
RATING: 320,000 In. Lbs. Peak Torque
RATIO OF GEARS: 9.4
CRANKSHAFT DIA.: 6-7/16"
SHEAVE: 34" P.D.—8D or 12C Std.,
34" P.D. Max., 3-7/16" Bore
GEAR BOX OIL CAPACITY: 25 Gallons

228D GEAR REDUCER: Double Reduction
RATING: 228,000 In. Lbs. Peak Torque
RATIO OF GEARS: 28.45
CRANKSHAFT DIA.: 6"
SHEAVE: 24.6" P.D.—5C or 4D Std., 29.6" P.D. Alt.,
41" P.D. Max., 2-7/16" Bore
GEAR BOX OIL CAPACITY: 34 Gallons

228S GEAR REDUCER: Single Reduction
RATING: 228,000 In. Lbs. Peak Torque
RATIO OF GEARS: 9.94
CRANKSHAFT DIA.: 6"
SHEAVE: 34" P.D.—6D or 9C Std.,
34" P.D. Max., 3-3/16" Bore
GEAR BOX OIL CAPACITY: 18 Gallons

160D GEAR REDUCER: Double Reduction
RATING: 160,000 In. Lbs. Peak Torque
RATIO OF GEARS: 28.67
CRANKSHAFT DIA.: 5-7/16"
SHEAVE: 24.6" P.D.—4C or 3D Std., 29.6" P.D. Alt.,
38" P.D. Max., 2-3/16" Bore
GEAR BOX OIL CAPACITY: 22 Gallons

160S GEAR REDUCER: Single Reduction
RATING: 160,000 In. Lbs. Peak Torque
RATIO OF GEARS: 10.5
CRANKSHAFT DIA.: 5-7/16"
SHEAVE: 31.6" P.D.—4D or 6C Std.
and Max., 2-15/16" Bore
GEAR BOX OIL CAPACITY: 18 Gallons

114D GEAR REDUCER: Double Reduction
RATING: 114,000 In. Lbs. Peak Torque
RATIO OF GEARS: 29.4
CRANKSHAFT DIA.: 4-7/16"
SHEAVE: 19.6" P.D.—3C Std., 24.6" or 29.6" P.D. Alt.,
33.6" P.D. Max., 1-15/16" Bore
GEAR BOX OIL CAPACITY: 17 Gallons

114S GEAR REDUCER: Single Reduction
RATING: 114,000 In. Lbs. Peak Torque
RATIO OF GEARS: 9.67
CRANKSHAFT DIA.: 4-7/16"
SHEAVE: 27.3" P.D.—6C Std.,
27.3" P.D. Max., 2-11/16" Bore
GEAR BOX OIL CAPACITY: 5½ Gallons

80D GEAR REDUCER: Double Reduction
RATING: 80,000 In. Lbs. Peak Torque
RATIO OF GEARS: 29.15
CRANKSHAFT DIA.: 4-7/16"
SHEAVE: 19.6" P.D.—3C Std., 24.6" P.D. Alt.,
29.6" P.D. Max., 1-15/16" Bore
GEAR BOX OIL CAPACITY: 17 Gallons

57D GEAR REDUCER: Double Reduction
RATING: 57,000 In Lbs. Peak Torque
RATIO OF GEARS: 29.32
CRANKSHAFT DIA.: 4"
SHEAVE: 19.6" P.D.—2C Std., 24.6" P.D. Alt.,
27.6" P.D. Max., 1-11/16" Bore
GEAR BOX OIL CAPACITY: 13 Gallons

57S GEAR REDUCER: Single Reduction
RATING: 57,000 In Lbs. Peak Torque
RATIO OF GEARS: 10.0
CRANKSHAFT DIA.: 4"
SHEAVE: 23.8" P.D.—4C Std.,
23.8" P.D. Max., 2-7/16" Bore
GEAR BOX OIL CAPACITY: 7½ Gallons

40D GEAR REDUCER: Double Reduction
RATING: 40,000 In Lbs. Peak Torque
RATIO OF GEARS: 29.2
CRANKSHAFT DIA.: 4"
SHEAVE: 19.6" P.D.—2C or 3B Std.,
23.3" P.D. Max., 1-11/16" Bore
GEAR BOX OIL CAPACITY: 7 Gallons

25D GEAR REDUCER: Double Reduction
RATING: 25,000 In. Lbs. Peak Torque
RATIO OF GEARS: 28.9
CRANKSHAFT DIA.: 3"
SHEAVE: 18" P.D.—2B or 3A Std.,
18" P.D. Max., 1⅜" Bore
GEAR BOX OIL CAPACITY: 5 Gallons

CRANK COUNTERBALANCE DATA

Effective Counterbalance At Polished Rod With Weights At Maximum Position, **Less Structural Unbalance.** See Example.

CRANK	94110B			8495B			7478B		6468B	
STROKE	168"	144"	120"	120"	100"	86"	86"	74"	74"	64"
Cranks Only	5,635	6,570	7,780	5,535	6,650	7,730	4,280	4,950	3,570	4,080
4 No. OORO Counterweights	19,985	24,140	28,580							
4 No. OOS Aux. Weights	24,315	29,420	34,850							
4 No. OOD Aux. Weights	28,645	34,700	41,120							
4 No. ORO Counterweights	18,175	21,900	25,920	20,365	24,450					
4 No. OL Aux. Weights	20,070	24,215	28,660	22,675	27,225					
4 No. OS Aux. Weights	22,330	26,980	31,940	25,285	30,350					
4 No. OD Aux. Weights	26,485	32,060	37,960							
4 No. OARO Counterweights	16,705	19,485	23,080	18,235	21,930	25,470				
4 No. OL Aux. Weights	18,600	21,800	25,820	20,550	24,710	28,700				
4 No. OAS Aux. Weights	19,975	23,485	27,820	22,165	26,650					
4 No. OAD Aux. Weights	23,245	27,485	32,560	26,095	31,370					
4 No. IRO Counterweights	13,815	16,570	19,630	15,365	18,480	21,460				
4 No. 2L Aux. Weights	15,040	18,070	21,405	16,875	20,295	23,570				
4 No. IS Aux. Weights	16,330	19,645	23,270	18,385	22,110	25,680				
4 No. ID Aux. Weights	18,845	22,720	26,910	21,405	25,740					
4 No. 2RO Counterweights	12,435	14,890	17,630	13,715	16,500	19,150	12,980	15,010		
4 No. 2L Aux. Weights	13,660	16,375	19,385	15,200	18,285	21,225	14,615	16,900		
4 No. 2S Aux. Weights	14,875	17,870	21,160	16,645	20,020	23,240	16,090	18,610		
4 No. 2D Aux. Weights	17,315	20,850	24,690	19,575	23,540	27,330	19,200	22,210		
4 No. 3CRO Counterweights	11,110	13,250	15,705	12,160	14,600	16,980	11,400	13,185	10,420	11,910
4 No. 2L Aux. Weights	12,320	14,725	17,450	13,640	16,375	19,045	13,030	15,070	11,990	13,710
4 No. 3BS Aux. Weights	13,465	16,130	19,115	15,010	18,020	20,960	14,450	16,710	13,365	15,275
4 No. 3D Aux. Weights	15,350	18,430	21,835	17,290	20,770	24,150	16,890	19,535	15,725	17,975
4 No. 5ARO Counterweights	9,595	11,420	13,530	10,375	12,470	14,485	9,550	11,045	8,730	9,980
4 No. 5L Aux. Weights	10,315	12,260	14,525	11,220	13,485	15,665	10,500	12,145	9,650	11,040
4 No. 5A Aux. Weights	11,190	13,370	15,840	12,330	14,820	17,215	11,660	13,485	10,820	12,370
4 No. 5AD Aux. Weights	12,475	14,940	17,700	13,895	16,700	19,405	13,355	15,445	12,505	14,295
4 No. 5CRO Counterweights	8,670	10,110	11,960	9,095	10,925	12,700	8,170	9,450	7,395	8,450
4 No. 5L Aux. Weights	9,385	10,945	12,950	9,940	11,940	13,880	9,120	10,550	8,315	9,510
4 No. 5C Aux. Weights	10,175	11,860	14,035	10,850	13,035	15,155	10,090	11,670	9,285	10,610
4 No. 5CD Aux. Weights	11,680	13,610	16,110	12,605	15,145	12,610	12,010	13,890	11,175	12,770

EXAMPLE: The C-160D-143-64 unit with 5456B cranks, 4 No. 3CRO counterweights and 4 No. 2L auxiliary weights would have the following effective counterbalance for a 64" stroke: (+) 9,635 lb. (From this table)
(+) 360 lb.† (Plus structural unbalance, Page 3053)
9,995 lbs. Max. effective counterbalance

† If structural unbalance is shown as (−) on page 3052 or 3053, it should be subtracted from values shown on this page.

CRANK	5456B		4850B		4246B		3644B		2436B	
STROKE	64"	54"	54"	48"	48"	42"	42"	36"	30"	24"
Cranks Only	2,230	2,600	2,460	2,770	1,800	2,060	1,470	1,715	1,220	1,525
4 No. 3CRO Counterweights	8,205	9,575								
4 No. 2L Aux. Weights	9,635	11,245								
4 No. 3BS Aux. Weights	10,775	12,575								
4 No. 3D Aux. Weights	12,835	14,975								
4 No. 5ARO Counterweights	6,870	8,020	7,000	7,870	6,300	7,190				
4 No. 5L Aux. Weights	7,730	9,020	7,855	8,835	7,165	8,175				
4 No. 5A Aux. Weights	8,755	10,220	8,850	9,950	8,140	9,290				
4 No. 5AD Aux. Weights	10,270	11,990	10,290	11,570	*9,610					
4 No. 5CRO Counterweights	5,680	6,630	5,860	6,600	5,190	5,930	4,970	5,795		
4 No. 5L Aux. Weights	6,540	7,630	6,715	7,560	6,055	6,915	5,900	6,880		
4 No. 5C Aux. Weights	7,385	8,620	7,545	8,495	6,865	7,845	6,770	7,895		
4 No. 5CD Aux. Weights	9,090	10,610	9,230	10,390	*8,540	*9,760				
4 No. 6RO Counterweights	4,940	5,760	5,150	5,800	4,495	5,140	4,390	5,125	4,250	
4 No. 6L Aux. Weights	5,450	6,355	5,660	6,375	5,005	5,725	4,945	5,770	4,820	
4 No. 6 Aux. Weights	5,960	6,950	6,170	6,950	5,515	6,310	5,500	6,415	5,390	
8 No. 6 Aux. Weights	6,980	8,140	7,190	8,100	6,535	7,480	‡6,610	‡7,705		
4 No. 7RO Counterweights	3,985	4,650	4,220	4,750	3,575	4,090	3,400	3,965	3,250	4,065
4 No. 7L Aux. Weights	4,380	5,110	4,620	5,200	3,975	4,545	3,840	4,475	3,710	4,640
4 No. 7 Aux. Weights	4,775	5,570	5,020	5,650	4,375	5,000	4,280	4,985	4,170	
8 No. 7 Aux. Weights	5,565	6,490	5,820	6,550	5,175	5,910	‡5,160	‡6,005		

* Do not use No. 5CD Auxiliary Weights on 57D Units.
‡ Do not use 8 No. 6 or 8 No. 7 Auxiliary Weights on 25D or 40D Units.

STANDARD CRANK BALANCED PUMPING UNIT ASSEMBLIES

GENERAL DIMENSIONS

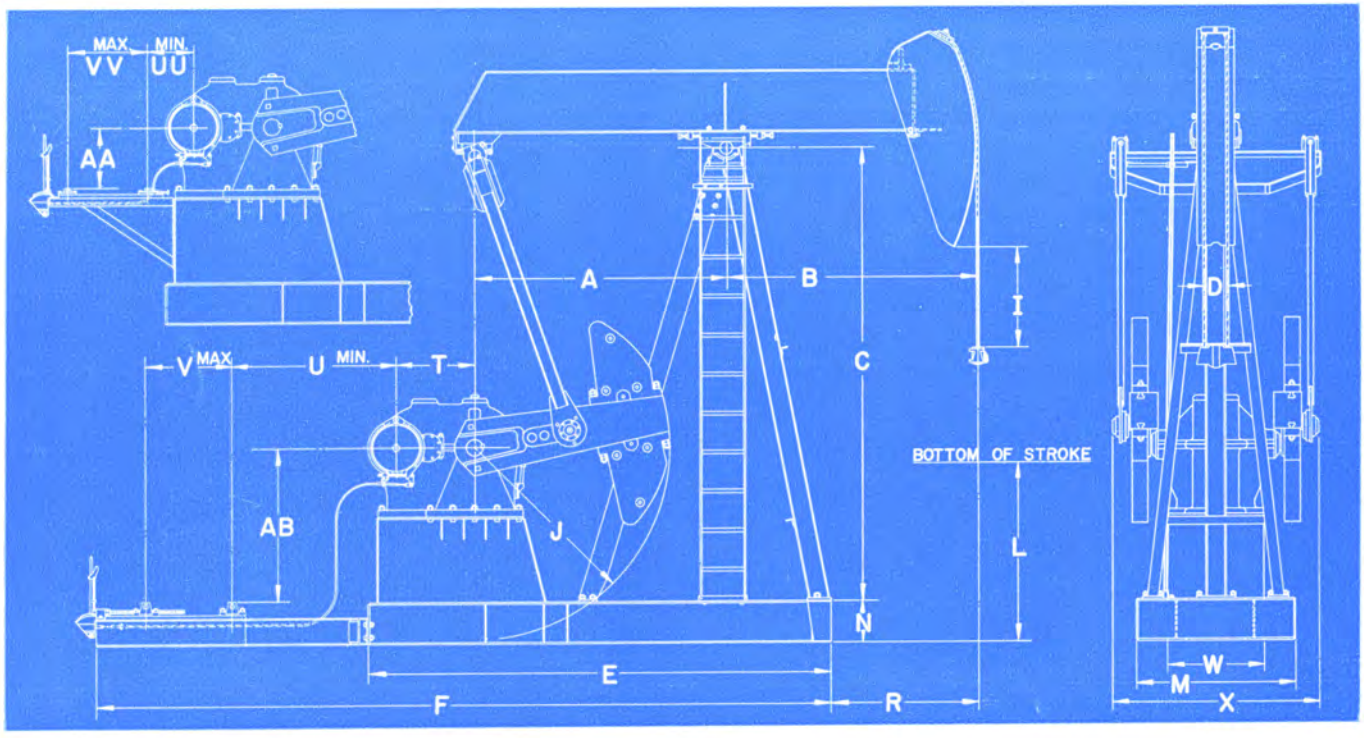

FIGURE 16

UNIT	A	B	C	D	E	F	I	J	L	M	N	R	T	U	V	W	X	AA	AB	UU	VV
C-912D-356-168	10′-0″	17′-6″	20′-6″	16″	18′-9½″	29′-4″	21¾″	110″	61″	6′-4″	16″	13′-9½″	48½″	82¾″	48½″	46¾″	8′-2½″	26¾	93″	17½″	35¾″
C-912D-305-168	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
C-912D-427-144	″	15′-0″	″	″	″	″	34″	″	73¼″	″	″	11′-3½″	″	″	″	″	″	″	″	″	″
C-912D-356-144	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
C-912D-427-120	″	12′-8″	″	12″	″	″	56″	″	75″	″	″	8′-11½″	″	″	″	″	″	″	″	″	″
C-640D-356-168	10′-0″	17′-6″	20′-6″	16″	18′-6″	29′-0½″	21¾″	110″	61″	6′-4″	16″	13′-9½″	41½″	86¼″	48½″	46¾″	8′-2½″	24¾″	93″	21¼″	35¾″
C-640D-305-168	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
C-640D-427-144	″	15′-0″	″	″	″	″	34″	″	73¼″	″	″	11′-3½″	″	″	″	″	″	″	″	″	″
C-640D-356-144	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
C-640D-304-144	″	″	20′-4″	″	″	″	″	″	71½″	″	″	″	″	″	″	″	″	″	″	″	″
C-640D-253-144	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
C-640D-427-120	″	12′-8″	20′-6″	12″	″	″	56″	″	75″	″	″	8′-11½″	″	″	″	″	″	″	″	″	″
C-640D-365-120	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
C-640D-304-120	9′-3″	12′-11″	18′-2″	″	17′-6″	26′-9½″	26″	95″	77½″	70″	″	9′-5½″	″	71¼″	″	″	8′-1″	″	78″	″	″
C-640D-365-100	″	10′-9″	″	″	″	″	46″	″	77″	″	″	7′-3½″	″	″	″	″	″	″	″	″	″
C-456D-304-144	10′-0″	15′-0″	20′-4″	16″	18′-6″	29′-0½″	34″	110″	71½″	6′-4″	16″	11′-3½″	38⅜″	89½″	48½″	46¾″	8′-2½″	24¾″	93″	24¼″	35¾″
C-456D-253-144	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
C-456D-365-120	″	12′-8″	20′-6″	12″	″	″	56″	″	75″	″	″	8′-11½″	″	″	″	″	″	″	″	″	″
C-456D-304-120	9′-3″	12′-11″	18′-2″	″	17′-6″	26′-9½″	26″	95″	77½″	70″	″	9′-5½″	″	74½″	″	″	8′-1″	″	78″	″	″
C-456D-256-120	″	″	18′-0″	″	″	″	″	″	75½″	″	″	″	″	″	″	″	″	″	″	″	″
C-456D-213-120	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
C-456D-365-100	″	10′-9″	18′-2″	″	″	″	46″	″	77″	″	″	7′-3½″	″	″	″	″	″	″	″	″	″
C-456D-298-100	″	″	18′-0″	″	″	″	″	″	75″	″	″	″	″	″	″	″	″	″	″	″	″
C-456D-256-100	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
C-456D-298-86	″	9′-3″	″	″	″	″	61″	″	74¾″	″	″	69½″	″	″	″	″	″	″	″	″	″

GENERAL DIMENSIONS Continued

UNIT	A	B	C	D	E	F	I	J	L	M	N	R	T	U	V	W	X	AA	AB	UU	VV
C-320D-256-120	9'-3"	12'-11"	18'-0"	12"	17'-0½"	27'-4½"	26"	95"	75½"	69¾"	16"	9'-5½"	34"	86"	48½"	43"	7'-2"	24¾"	80"	23¼"	35¾"
C-320D-213-120	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	7'-11½"	"	"	"	"
C-320D-298-100	"	10'-9"	"	"	"	"	46"	"	75"	"	"	7'-3½"	"	"	"	"	7'-2"	"	"	"	"
C-320D-256-100	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	7'-1½"	"	"	"	"
C-320D-298-86	"	9'-3"	"	"	"	"	61"	"	74¾"	"	"	69½"	"	"	"	"	7'-2"	"	"	"	"
C-320D-246-86	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	7'-1½"	"	"	"	"
C-320D-212-86	8'-0"	"	15'-0"	"	15'-4½"	24'-3½"	25"	78"	73¾"	57¾"	"	6'-2½"	"	69"	"	"	"	"	63"	"	"
C-320D-246-74	"	8'-0"	"	9"	"	"	34½"	"	78"	"	"	59½"	"	"	"	"	"	"	"	"	"
C-228D-246-86	9'-3"	9'-3"	18'-0"	12"	16'-5½"	26'-9½"	61"	95"	74¾"	69¾"	16"	69½"	30"	83"	48½"	37"	6'-6½"	23¾"	80"	17½"	30¼"
C-228D-212-86	8'-0"	"	15'-0"	"	14'-9½"	23'-8½"	25"	78"	73¾"	57¾"	"	6'-2½"	"	66"	"	"	"	"	63"	"	"
C-228D-246-74	"	8'-0"	"	9"	"	"	34½"	"	78"	"	"	59½"	"	"	"	"	"	"	"	"	"
C-228D-200-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-228D-173-74	7'-0"	"	13'-0"	"	13'-5"	22'-4"	16½"	68"	68"	51¾"	12"	64"	"	"	"	"	"	"	53"	"	"
C-228D-200-64	"	7'-0"	"	"	"	"	25½"	"	68½"	"	"	52"	"	"	"	"	"	"	"	"	"
C-160D-200-74	8'-0"	8'-0"	15'-0"	9"	14'-5"	23'-2"	34½"	78"	78"	57¾"	16"	59½"	26"	65¼"	46½"	32"	70½"	23¾"	65"	17"	30¼"
C-160D-173-74	7'-0"	"	13'-0"	"	13'-0½"	21'-9½"	16½"	68"	68"	51¾"	12"	64"	"	"	"	"	"	"	55"	"	"
C-160D-200-64	"	7'-0"	"	"	"	"	25½"	"	68½"	"	"	52"	"	"	"	"	"	"	"	"	"
C-160D-169-64	"	"	12'-9¾"	"	"	"	"	"	67"	"	"	"	"	"	"	"	69¾"	"	"	"	"
C-160D-143-64	6'-0"	7'-0"	11'-0"	"	11'-1¾"	18'-6¼"	18"	56"	53¾"	50¾"	"	62¾"	"	48¾"	"	"	"	"	43"	"	"
C-160D-169-54	"	6'-0"	"	"	"	"	19¼"	"	62"	"	"	50¾"	"	"	"	"	"	"	"	"	"
C-114D-169-64	7'-0"	7'-0"	12'-9¾"	9"	12'-7"	21'-4"	25½"	68"	67"	51¾"	12"	52"	24"	61¾"	46½"	25"	66¾"	14¾"	55"	13½"	30¼"
C-114D-143-64	6'-0"	"	11'-0"	"	10'-8¼"	18'-0¾"	18"	56"	53¾"	50¾"	"	62¾"	"	45¼"	"	"	"	"	43"	"	"
C-114D-169-54	"	6'-0"	"	"	"	"	19¼"	"	62"	"	"	50¾"	"	"	"	"	"	"	"	"	"
C-114D-133-54	5'-4"	"	9'-8"	"	10'-0"	17'-4½"	13¼"	50"	50"	46¼"	10"	51"	"	"	"	"	67¼"	"	37"	"	"
C-114D-119-54	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-114D-133-48	"	5'-4"	"	"	"	"	14½"	"	54¾"	"	"	43"	"	"	"	"	"	"	"	"	"
C-80D-133-54	5'-4"	6'-0"	9'-8"	9"	10'-0"	17'-4½"	13¼"	50"	50"	46¼"	10"	51"	22"	47¼"	46½"	25"	67¼"	14¾"	37"	15½"	30¼"
C-80D-119-54	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-80D-133-48	"	5'-4"	"	"	"	"	14½"	"	54¾"	"	"	43"	"	"	"	"	"	"	"	"	"
C-80D-109-48	4'-8"	"	8'-9"	"	9'-3⅞"	16'-8½"	"	46"	43¾"	40¾"	"	"	"	"	"	"	65¼"	"	33"	"	21¼"
C-80D-95-48	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-80D-109-42	"	4'-8"	"	6½"	"	"	15½"	"	51"	"	"	35"	"	"	"	"	"	"	"	"	"
C-57D-109-48	4'-8"	5'-4"	8'-9"	9"	9'-3⅞"	16'-8½"	14½"	46"	43¾"	40¾"	10"	43"	20"	49¼"	46½"	25"	58¼"	14¾"	33"	17½"	21¼"
C-57D-95-48	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-57D-109-42	"	4'-8"	"	6½"	"	"	15½"	"	51"	"	"	35"	"	"	"	"	"	"	"	"	"
C-57D-89-42	4'-0"	"	8'-2½"	"	8'-2"	13'-8¾"	"	44"	42"	38½"	8"	41"	"	33¾"	40½"	"	58"	"	33¾"	"	"
C-57D-76-42	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-57D-89-36	"	4'-0"	"	"	"	"	13"	"	50½"	"	"	33"	"	"	"	"	"	"	"	"	"
C-40D-89-42	4'-0"	4'-8"	8'-2½"	6½"	7'-9"	13'-6"	15½"	44"	42"	38½"	8"	41"	17½"	28"	44¾"	20"	51¼"	10¾"	33¾"	17"	21¼"
C-40D-76-42	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-40D-89-36	"	4'-0"	"	"	"	"	13"	"	50½"	"	"	33"	"	"	"	"	"	"	"	"	"
C-40D-67-36	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-40D-56-36	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-40D-67-30	3'-0"	3'-9"	7'-0½"	"	6'-8"	12'-5"	"	36"	37½"	31"	6"	31"	"	"	40"	"	"	"	27¾"	"	"
C-25D-67-36	4'-0"	4'-0"	8'-2½"	6½"	7'-1"	11'-7"	13"	44"	50½"	38½"	8"	33"	13⅞"	27"	26¾"	17"	47"	10¾"	33¾"	15½"	21¼"
C-25D-56-36	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-25D-67-30	3'-0"	3'-9"	7'-0½"	"	6'-3"	10'-6"	"	36"	37½"	31"	6"	31"	"	"	28"	"	"	"	27¾"	"	"
C-25D-53-30	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-25D-43-30	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
C-25D-53-24	"	3'-0"	"	5½"	"	"	12½"	"	49"	"	"	22"	"	"	"	"	"	"	"	"	"

Note: 1. Dimensions F, U, V and AB are for Multi-Cylinder Engine Bases only on the C-57D-109-42 and Larger Units and for One Piece Electric Motor Bases on the C-57D-89-42 and Smaller Units.
2. Jointed Base is Standard on the C-57D-109-42 and Larger Units.
3. Full-Length, One-Piece; Electric Motor Base is Standard on the C-57D-89-42 and Smaller Units. Separate Outrigger Furnished when Required for Engines.

LUFKIN TYPE B BEAM BALANCE PUMPING UNITS

GEAR SPECIFICATIONS

57D GEAR REDUCER

Double Reduction
Rating: 57,000 in. lbs. Peak Torque
Ratio of Gears: 29.32
Crankshaft Dia.: 4"
Sheave: 19.6" P.D.—2C Std., 24.6" P.D. Alt., 27.6" P.D. Max., 1-11/16" Bore
Gear Box Oil Capacity: 13 Gallons

40D GEAR REDUCER

Double Reduction
Rating: 40,000 in. lbs. Peak Torque
Ratio of Gears: 29.2
Crankshaft Dia. 4"
Sheave: 21.3" P.D.—2C or 3B Std., 23.3" P.D. Max. 1 11/16" Bore
Gear Reducer Oil Capacity: 7 Gallons

25D GEAR REDUCER

Double Reduction
Rating: 25,000 in. lbs. Peak Torque
Ratio of Gears: 28.9
Crankshaft Dia. 3"
Sheave: 18" P.D.—2B or 3A Std., 18" P.D. Max. 1⅜" Bore
Gear Reducer Oil Capacity: 5 Gallons

16D GEAR REDUCER

Double Reduction
Rating: 16,000 in. lbs. Peak Torque
Ratio of Gears: 35.7
Crankshaft Dia. 2½"
Sheave: 15.3" P.D.—3A or 2B or 1C, 1.180" Bore
Gear Reducer Oil Capacity: 5 Gallons

10D GEAR REDUCER

Double Reduction
Rating: 10,000 in. lbs. Peak Torque
Ratio of Gears: 36.02
Crankshaft Dia. 2 3/16"
Sheave: 14.2" P.D.—3A or 2B, 15/16" Bore
Gear Reducer Oil Capacity: 4 Gallons

6D GEAR REDUCER

Double Reduction
Rating: 6,400 in. lbs. Peak Torque
Ratio of Gears: 34.76
Crankshaft Dia. 2"
Sheave: 13.1" P.D.—2A, ¾" Bore
Gear Reducer Oil Capacity: 5 quarts

FIGURE 17
Lufkin B-25D-67-30 Pumping Unit

FIGURE 18
Lufkin B-6D-32-16 Pumping Unit

LUFKIN TYPE B BEAM BALANCED PUMPING UNIT ASSEMBLIES

STRUCTURAL SPECIFICATIONS AND DIMENSIONS

See preceding page for GEAR Specifications

UNIT	B-57D-109-12	B-40D-76-12	B-40D-89-36	B-25D-67-36	B-25D-67-30	B-25D-53-24	B-16D-53-30	B-16D-53-24	B-10D-27-30	B-10D-40-20	B-6D-21-24	B-6D-32-16
Polished Rod Cap., #	10,900	7,600	8,900	6,700	6,700	5,300	5,300	5,300	2,700	4,000	2,100	3,200
†Stroke Lengths, Inches	42, 32	42, 32	36, 28	36, 24	30, 20	24, 20	30, 25	24, 20	30, 24	20, 16	24, 20	16, 13
Walking Beam	16"x45 Lbs.	14"x34 Lbs.	14"x34 Lbs.	14"x30 Lbs.	12"x27 Lbs.	10"x21 Lbs.	10"x25 Lbs.	10"x21 Lbs.	8"x17 Lbs.	8"x17 Lbs.	6"x12 Lbs.	6"x12 Lbs.
Equalizer Bearing	BRONZE BUSHED, FACTORY LUBRICATED											
Center Bearing	BRONZE BUSHED, FACTORY LUBRICATED											
Crank Pin Bearings	TAPERED ROLLER BEARINGS, FACTORY LUBRICATED											
Wireline Hanger	7/8" x 12'-6"	3/4" x 12'-6"	3/4" x 11'-0"	5/8" x 11'-0"	5/8" x 11'-0"	1/2 x 8'-0"	1/2" x 8'-0"	1/2" x 8'-0"	1/2" x 8'-0"	1/2" x 6'-8"	1/2" x 6'-8"	1/2" x 5'-8"
*1" thick Beam Wts., #	150	125	125	125	125	100	100	100	90	90	75	75
No. of Beam Weights	EFFECTIVE COUNTERBALANCE AT POLISHED ROD, LBS.											
0	550	420	550	300	320	265	170	265	100	220	50	100
1	880	660	830	520	555	470	345	470	235	410	170	280
2	1205	895	1105	740	785	670	515	670	365	600	290	460
3	1530	1130	1380	955	1015	870	685	870	495	785	504	635
4	1850	1365	1650	1170	1240	1065	850	1065	620	970	520	805
5	2165	1595	1915	1380	1465	1260	1015	1260	745	1150	630	975
6	2480	1825	2180	1590	1685	1445	1175	1445	870	1320	740	1140
7	2790	2050	2440	1795	1905	1635	1330	1635	990	1505	845	1300
8	3100	2275	2700	2000	2120	1820	1485	1820	1110	1675	950	1460
9	3405	2495	2955	2200	2335	2000	1645	2000	1225	1845	1050	1615
10	3710	2715	3210	2400	2545	2175	1795	2175	1340	2010	1150	1765
11	4010	2930	3460	2595	2750	2350	1940	2350	1450	2170	1250	1915
12	4300	3145	3705	2790	2955	2525	2090	2525	1560	2330	1345	2060
13	4595	3360	3950	2980	3155	2690	2230	2690	1670	2485	1440	2200
14	4890	3570	4190	3170	3355	2855	2375	2855	1775	2640	1530	2340
15	5180	3780	4430	3355	3550	3015	2520	3015	1880	2790	1620	2470
16	5470	3985	4665	3540	3745	3175	2655	3175	1980	2935	1705	2600
17	5755	4190	4900	3720	3935	3330	2785	3330	2080	2080		
18	6040	4390	5130	3900	4125	3485	2920	3485	2175	3220		
19	6320	4590	5360	4075	4310	3635	3050	3635				
20	6600	4790	5585	4245	4490	3785	3180	3785				
21	6875	4985	5810	4415	4670	3925	3300	3925				
22	7150	5180	6030	4580	4845	4065	3425	4065				
23	7420	5370	6250	4745	5020	4205	3545	4205				
24	7685	5560	6465	4905	5190	4340	3660	4340				
25	7950	5745	6680	5065	5360		3780					
26	8210	5930	6890	5220	5525		3890					
27	8470	6110	7100	5375			4000					

Note: *3" thick Beam Weights optional for all Beam Balanced units.
† On B-25D-53-24, B-16D, B-10D and B-6D units, stroke length changes are obtained by moving equalizer bearing on beam.

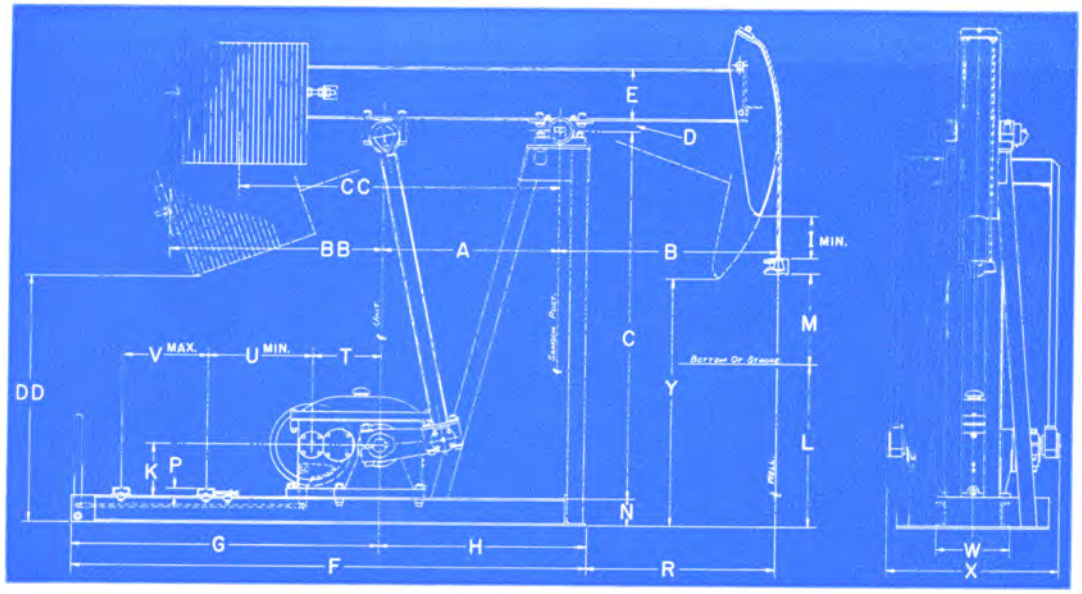

FIGURE 19

GENERAL DIMENSIONS

UNIT	A	B	C	D	E	F	G	H	I	K	L	M	N	P	R	T	U	V	W	X	Y	BB	CC	DD
B-57D-109-42	46"	56"	8'-9"	2"	16"	14'-2 3/4"	8'-5 3/4"	69"	15 1/2"	18"	51"	21"	10"	3 1/4"	35"	20"	33 3/4"	40 1/2"	25"	55 7/8"	75 1/2"	78"	109 1/2"	63"
B-40D-76-42	46"	56"	8'-2 1/2"	2"	14"	13'-4"	8'-3"	61"	15 1/2"	14"	42"	21"	8"	3 1/4"	41"	17 1/2"	28"	44 3/4"	20"	49 1/8"	67"	63"	94 1/2"	62"
B-40D-89-36	46"	48"	8'-2 1/2"	2"	14"	13'-4"	8'-3"	61"	13"	14"	50 1/2"	18"	8"	3 1/4"	33"	17 1/2"	28"	44 3/4"	20"	49 1/8"	67"	63"	93"	62"
B-25D-67-36	32"	48"	7'-0 1/2"	2"	14"	10'-4"	6'-4"	48"	13"	14"	34 1/2"	18"	6"	1 7/8"	34"	13 7/8"	28 1/2"	44 3/4"	20"	49 1/8"	72 1/2"	61 1/2"	93"	62 1/2"
B-25D-67-30	36"	45"	7'-0 1/2"	2"	12"	10'-4"	6'-4"	48"	13"	14"	37 1/2"	15"	6"	1 7/8"	31"	13 7/8"	28 1/2"	28 1/2"	16 5/8"	44 7/8"	56 1/2"	54 1/2"	72"	54"
B-25D-53-24	33"	33"	7'-0 1/2"	2"	10"	9'-6 7/8"	6'-4"	38 7/8"	12 1/2"	14"	35 3/4"	12"	6"	1 7/8"	27 1/4"	13 7/8"	28 1/2"	28 1/2"	16 5/8"	42 1/4"	53 1/2"	36"	56"	45 1/2"
B-16D-53-30	33"	41 1/4"	7'-0 1/2"	2"	10"	8'-0 3/8"	5'-7 1/2"	38 7/8"	6"	10"	35"	15"	5"	1 1/2"	35 3/8"	12 3/4"	28 1/2"	10 1/2"	25 1/4"	13 3/4"	32 1/4"	47"	40"	58 1/2"
B-16D-53-24	33"	33"	7'-0 1/2"	2"	10"	8'-0 3/8"	5'-7 1/2"	38 7/8"	12 1/2"	10"	34 3/4"	12"	5"	1 1/2"	27 1/4"	12 3/4"	10 1/2"	25 1/4"	13 3/4"	32 1/4"	52 1/2"	36"	56"	43"
B-10D-27-30	27 1/2"	41 1/4"	5'-4 1/8"	1 3/4"	8"	7'-7 3/4"	56"	35 3/4"	6"	8 1/2"	18 1/2"	15"	5"	1 1/2"	35 1/4"	11 3/8"	10 1/4"	25 3/8"	13"	30 1/4"	29 3/4"	35 1/2"	53"	44 1/2"
B-10D-40-20	30"	30"	5'-4 1/8"	1 3/4"	8"	7'-7 3/4"	56"	35 3/4"	8"	8 1/2"	27"	10"	5"	1 1/2"	24 1/4"	11 3/8"	10 1/4"	25 3/8"	13"	30 1/4"	39 3/4"	35"	55 1/2"	30"
B-6D-21-24	22"	33"	47"	1 3/8"	6"	70"	42"	28"	5"	7 1/2"	17"	12"	3"	1 1/2"	29"	10"	9"	16 1/4"	10"	26"	27"	32"	45 1/2"	25 3/8"
B-6D-32-16	22"	22"	47"	1 3/8"	6"	70"	42"	28"	6"	7 1/2"	23 1/2"	8"	3"	1 1/2"	18"	10"	9"	16 1/4"	10"	26"	34 1/8"	32"	45 1/2"	25 3/8"

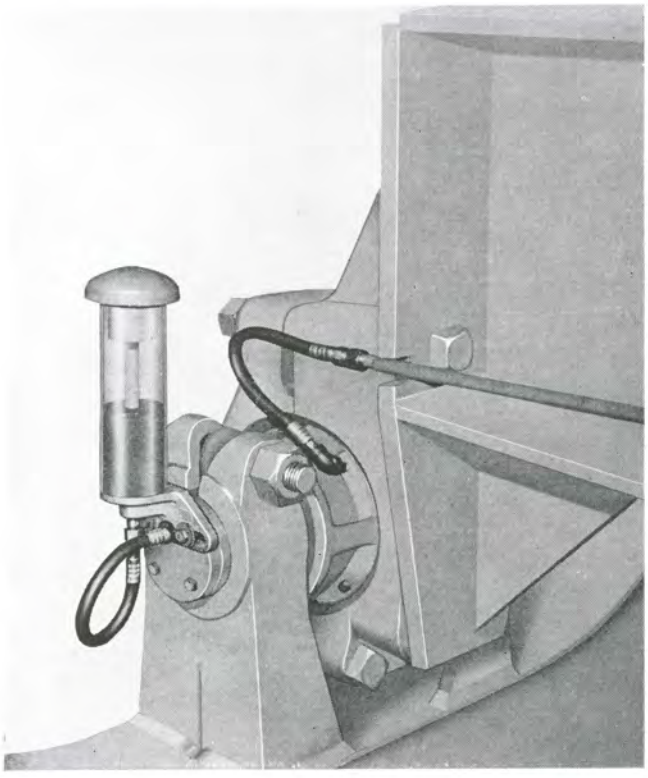

FIGURE 20

TRANSPARENT OILER ASSEMBLY

Transparent oilers give visual evidence of bearing oil level. They reduce the pressure within the bearing when oil is added and act as an oil reservoir. These assemblies are adaptable for both old and new pumping units.

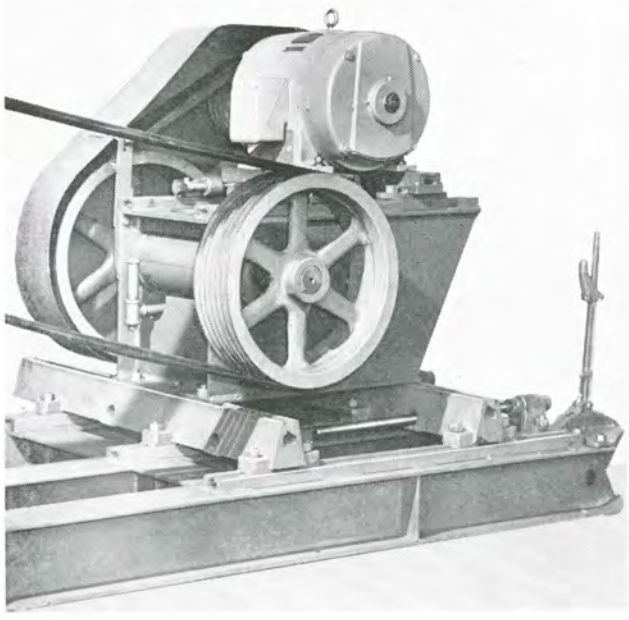

FIGURE 21

COUNTERSHAFT ASSEMBLY

This assembly utilizes an electric motor and countershaft and provides a reduction ratio up to 4:1. This compact reduction unit package will fit on conventional slide rails and was designed for use with single reduction gear reducers where slow pumping speeds are encountered. This type assembly is manufactured in two sizes:

No. 1—25-50HP
No. 2—up to 20HP

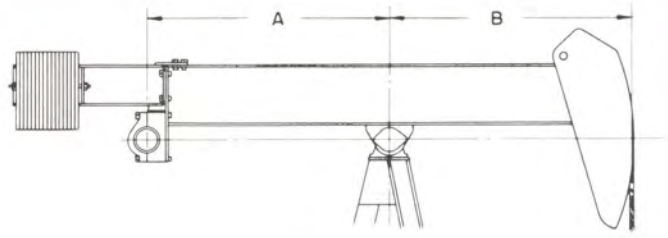

FIGURE 22

BEAM EXTENSIONS FOR EXTRA COUNTERBALANCE

These extensions are available for older units as well as current units. They are made in two sizes and can be adapted to crank balanced units now in service by burning 8 holes in the walking beam.

Extension	Max. Weight Added, Lbs.	Distance From Equalizer Bearing To Center of Weights	Max. Counterbalance Added, Lbs.*
48″.....	2600	28″	2600(A+28″)÷B
60″.....	4000	40″	4000(A+40″)÷B

* For the A and B dimensions refer to the General Dimensions Sheet of the particular unit in question.

LONG STROKE HYDRAULIC PUMPING UNITS

FOUR SIZES AVAILABLE

No. 3520
No. 3525
No. 3530
No. 3540

35,000 Lb. Polished Rod Load Rating 20′, 25′, 30′ and 40′ Strokes

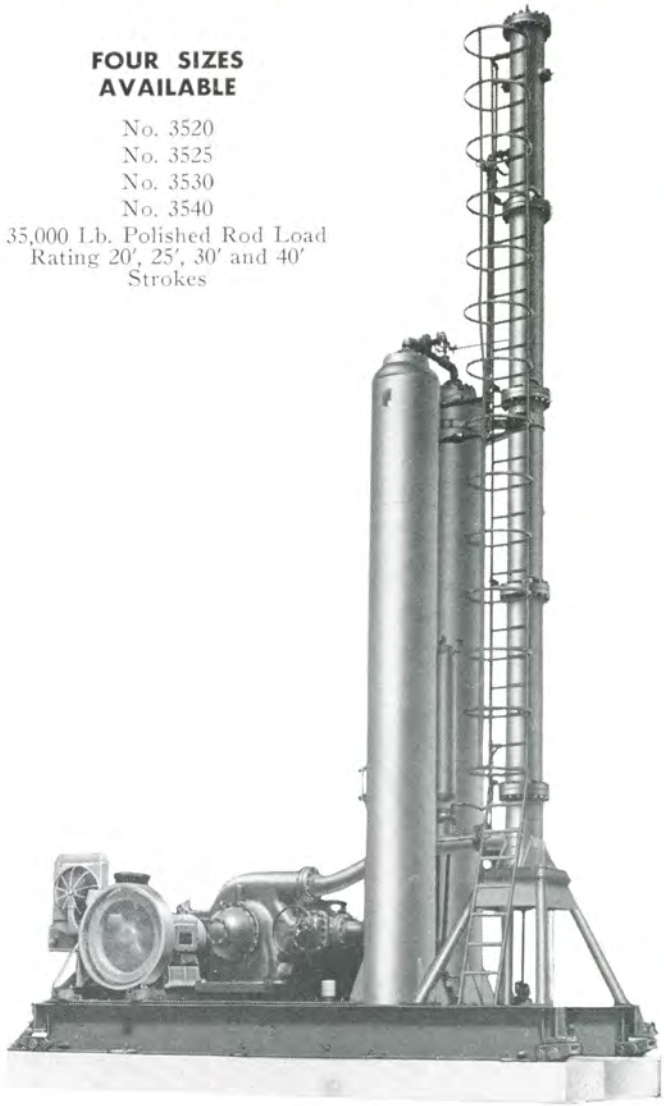

FIGURE 23

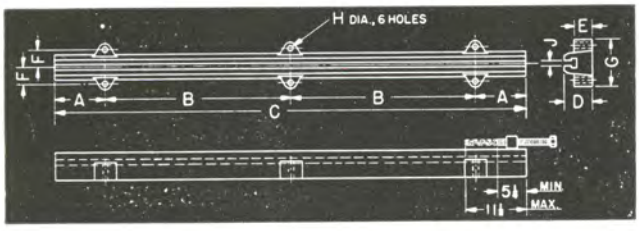

FIGURE 24

LUFKIN TYPE "A" ENGINE RAILS

Designed especially with minimum edge distance for flywheel clearance.

SIZE	A	B	C	D	E	F	G	H	J
A57 Rail	3"	25½"	57"	4"	2½"	2⅛"	6¼"	1"	1"
A69 Rail	3"	31½"	69"	4"	2½"	2⅛"	6¼"	1"	1"
A84 Rail	9"	33"	84"	5"	3¼"	3⅛"	8½"	1"	1⅛"

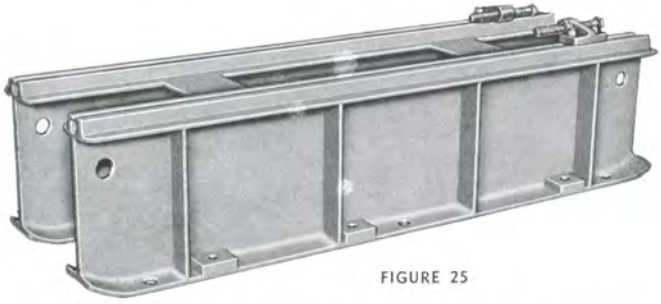

FIGURE 25

STRUCTURAL SUB-BASE FOR HORIZONTAL ENGINES.

Height to clear flywheel. Engine sits on T-slots fitted with adjusting screws. To be used when engine is mounted separately from stub-base pumping unit assembly.

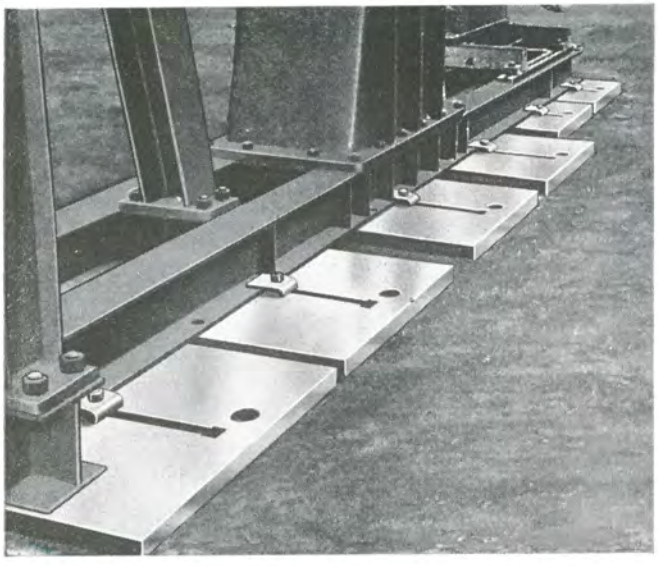

FIGURE 26

ANNEALED DUCTILE IRON FOUNDATION SLABS

Available for medium and smaller size units. With proper soil conditions, affords great saving over concrete and is 100% salvageable.

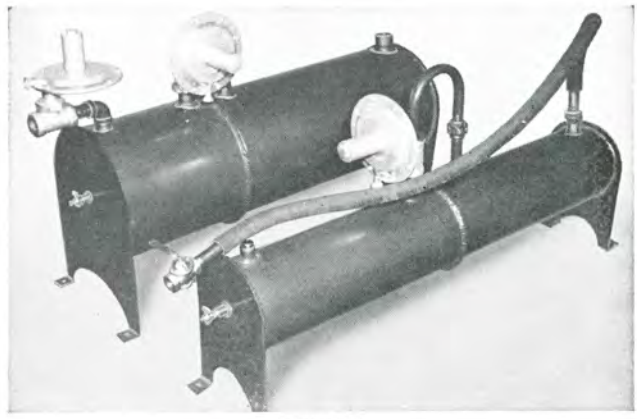

FIGURE 27

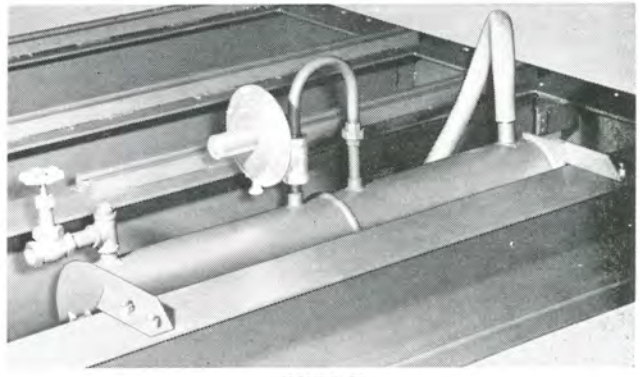

FIGURE 28

VOLUME TANK AND REGULATOR FOR GAS ENGINES

Double chamber, floor mounting, volume tanks for gas engines are furnished in two sizes. Both are equipped with regulators. 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 engines and is 14" diameter by 42" long with a volume chamber of 2.5 cu. ft. A high pressure regulator can be furnished at inlet if necessary.

For units having a portable base, a volume tank that bolts directly to the outrigger as is shown in Fig. 28 is recommended.

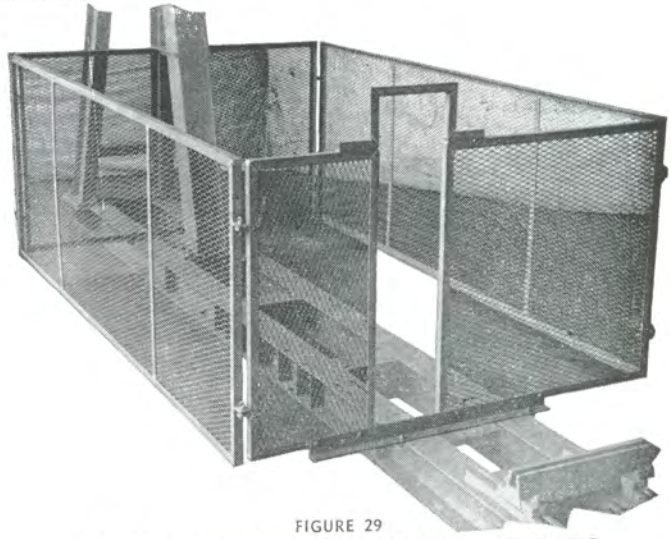

FIGURE 29

TYPE W (WIRE MESH) CRANK GUARDS

A new standard design available in stock for all Lufkin Units. No holes required in Base or Post—clamps to top flanges of Base and to Post—and can be fitted to any unit already installed. Sides are hinged and can be easily removed.

FIGURE 30

Two zones produced independently in one well by the use of two pumps with separate strings of tubing and rods.

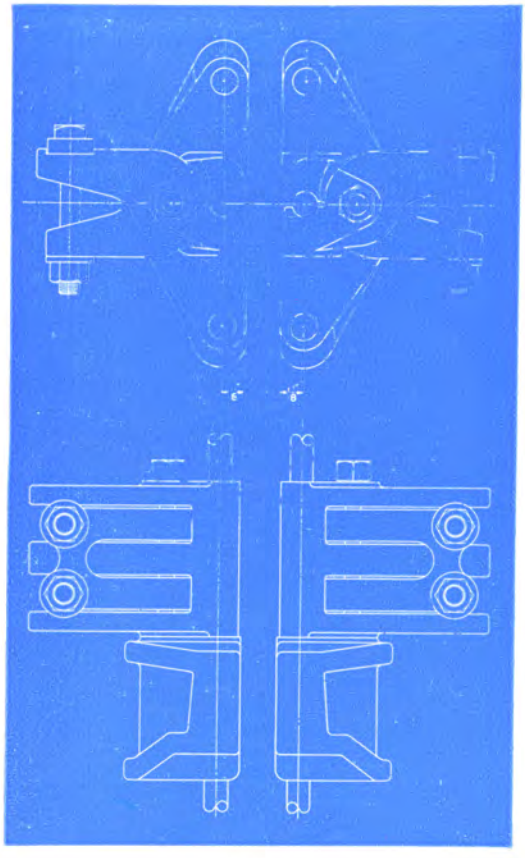

FIGURE 31

Lufkin Type B carrier bar and polished rod clamp designed for dual-completed wells to give maximum clearance between carrier bars.

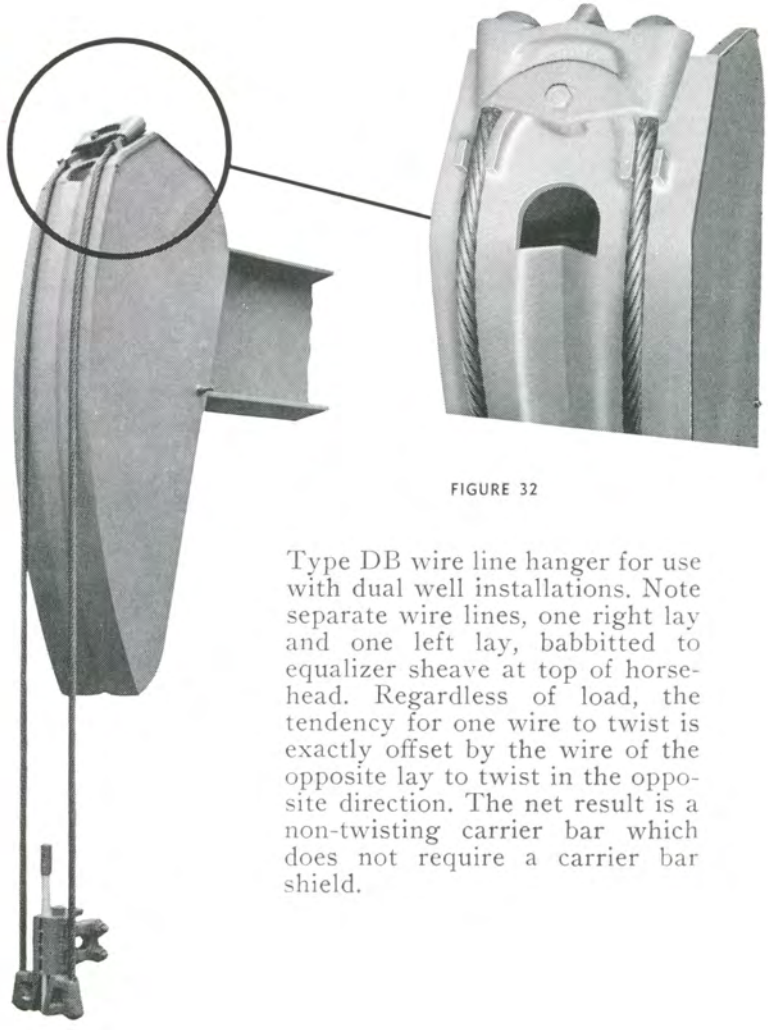

FIGURE 32

Type DB wire line hanger for use with dual well installations. Note separate wire lines, one right lay and one left lay, babbitted to equalizer sheave at top of horsehead. Regardless of load, the tendency for one wire to twist is exactly offset by the wire of the opposite lay to twist in the opposite direction. The net result is a non-twisting carrier bar which does not require a carrier bar shield.

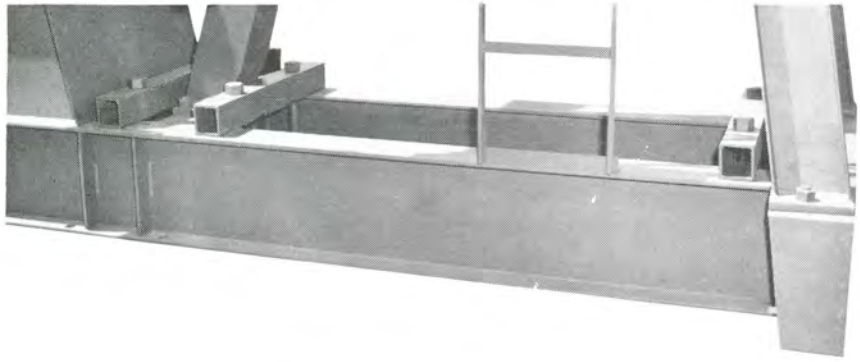

FIGURE 33

Typical top flange hold-down installation. Two bolt clamps are standard on the C-160 size and larger. One bolt clamps are standard on all smaller units. The number and location of clamps on the base is dependent on the size of the unit.

FIGURE 34

Three pumping units with three separate tubing and rod strings operating in a single casing. In this type installation the units can be operated simultaneously or selectively. These units utilize the Type S wire line hanger assembly shown below.

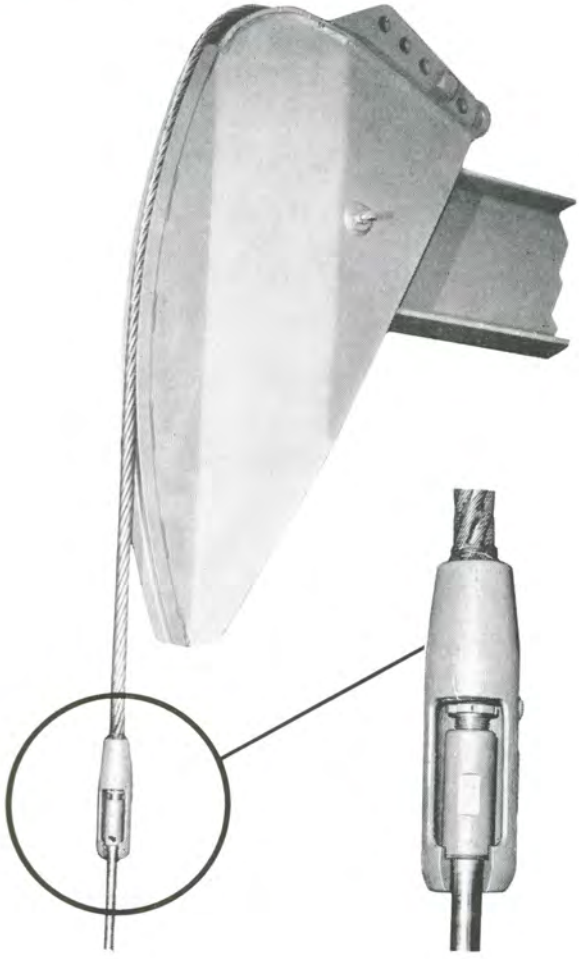

FIGURE 35

Lufkin's new Type S hanger assembly utilizes a single wire line and a quick-disconnect attachment to the polished rod. A standard sucker rod coupling attaches to the top of the polished rod and rests on a recessed shoulder of the wire line connection. A lock bolt screws into the top of the coupling and tightens against the top of the wire line connection.

Well spacing can be effected by moving the bolt at the top of horsehead to a different hole. Two horsehead alignment set screws, which are fabricated into the horsehead side plates, bear against the walking beam. These set screws can be used to properly align the horsehead without removing the well load.

The Type S hanger assembly can be used for dual, triple, or other multiple installation applications.

LUFKIN MARK II *UNITORQUE* PUMPING UNITS

FIGURE 36

M-160D-200-74 MARK II ***UNITORQUE*** PUMPING UNIT driven by an electric motor. Note that the motor mounts on the unit base itself which makes for a very compact installation.

A NEW CONCEPT IN OILWELL PUMPING

The LUFKIN MARK II Unitorque Pumping Unit employs a new kinematic concept made of the tried and proven structural components of the conventional mechanical pumping unit. This new, simple and imaginative design of the LUFKIN MARK II furnishes one of the most advanced and trouble-free systems of rod pumping available today, providing for many money saving advantages not heretofore thought possible.

POLISHED ROD MOTION

Due to the unique geometry of the LUFKIN MARK II, the acceleration at the bottom polished rod reversal is decreased as much as 40%. This reduces peak load up to 10% and tends to avoid shock, resulting in longer rod life, lower servicing costs, and less production loss from rod break shutdowns.

PRIME MOVER SAVINGS

The LUFKIN MARK II, due to its more uniform torque demand illustrated in Figure 38, generally permits the use of a smaller prime mover to pump any given well. In the case of a gas engine drive the first costs savings are substantial. With an electric motor drive additional savings are obtained when electric power charges are based on demand or connected horsepower.

FIGURE 37

M-160D-200-74 MARK II ***UNITORQUE*** PUMPING UNIT driven by a LUFKIN HC-333 engine. Slow speed and medium speed engines mount to the side of the unit as shown in order to effect the correct rotation. Mark II units must rotate counterclockwise (standing at the side of the unit with the well-head to the right).

THE *UNITORQUE* GEOMETRY

(1) The cross yoke (equalizer) is shifted forward toward the horsehead instead of placing it directly over the gear reducer. This produces approximately a 195° upstroke and a 165° downstroke. (See Fig. 38.)
The 195° upstroke reduces the acceleration where the load is greatest and thus, effects a reduction in polished rod load.
By locating the cross yoke forward a greater mechanical advantage is obtained for lifting the load, and a lesser mechanical advantage is obtained for the reduced downstroke load, i.e., the maximum upstroke torque factor is decreased and the maximum downstroke torque factor is increased.

(2) The counterbalance weights are offset on the crank. This produces a counterbalance torque which at the beginning of the upstroke "lags" the well load torque approximately 7½°. Similarly, at the beginning of the downstroke this same offset condition produces a counterbalance torque which "leads" the well load torque approximately 7½°. (See Fig. 38).

Independently, these features would not produce a uniform torque, but working together a "unitorque" system is obtained which in turn can effect a torque reduction on the gear reducer up to 35%.

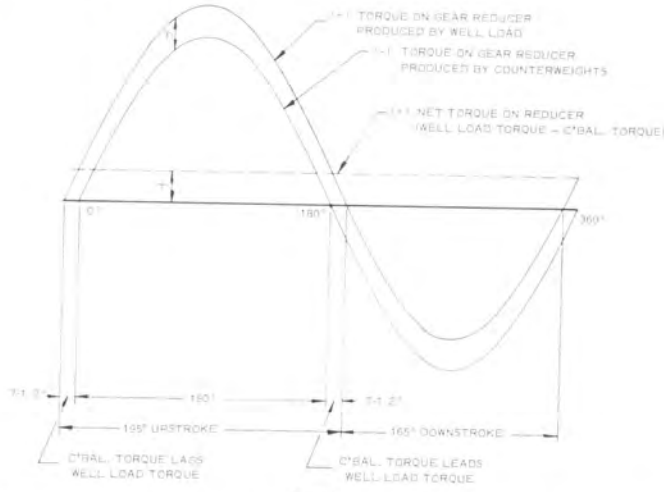

FIGURE 38
Illustration showing how a uniform torque can be obtained under ideal conditions.

SEMI-AUTOMATIC COUNTERBALANCE

(OPTIONAL AT ADDITIONAL COST)

For those applications where changing well conditions necessitate changing counterbalance requirements, a semi-automatic counterbalancing device is available on the **LUFKIN** Mark II ***UNITORQUE*** units. A counterbalance **TRIM WEIGHT** located in each crank can be moved either in or out depending on whether less or more counterbalance is required. Moving the trim weights is easily accomplished while the unit is running by moving a lever either forward or backward. One lever actuates the right hand trim weight; the other lever operates the left hand.

Naturally, when a radical change in counterbalance is required, such as when the stroke length is changed, the main counterweights themselves must be moved.

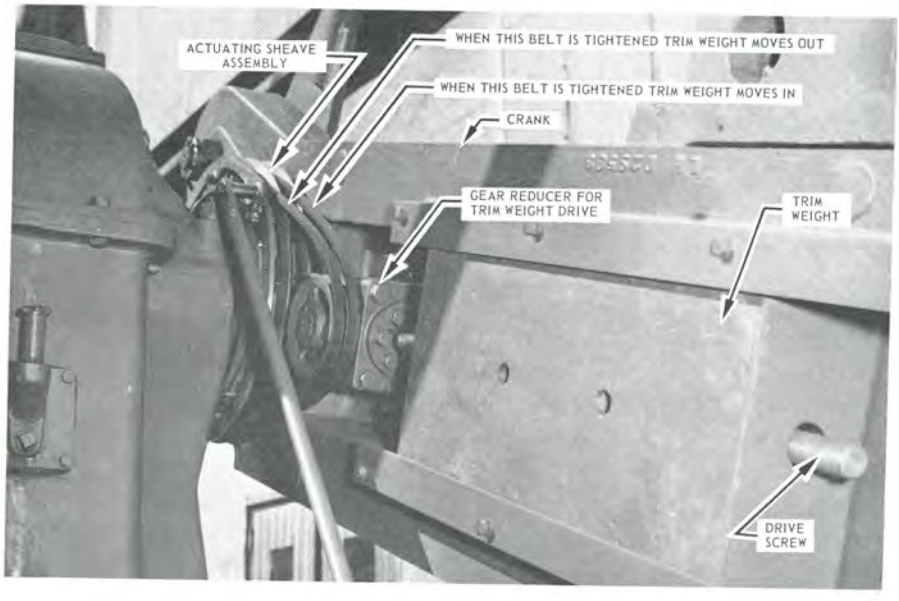

FIGURE 39

LUFKIN **LUFKIN FOUNDRY & MACHINE CO.** **LUFKIN, TEXAS**

LUFKIN MARK II *UNITORQUE* PUMPING UNITS

GENERAL DIMENSIONS

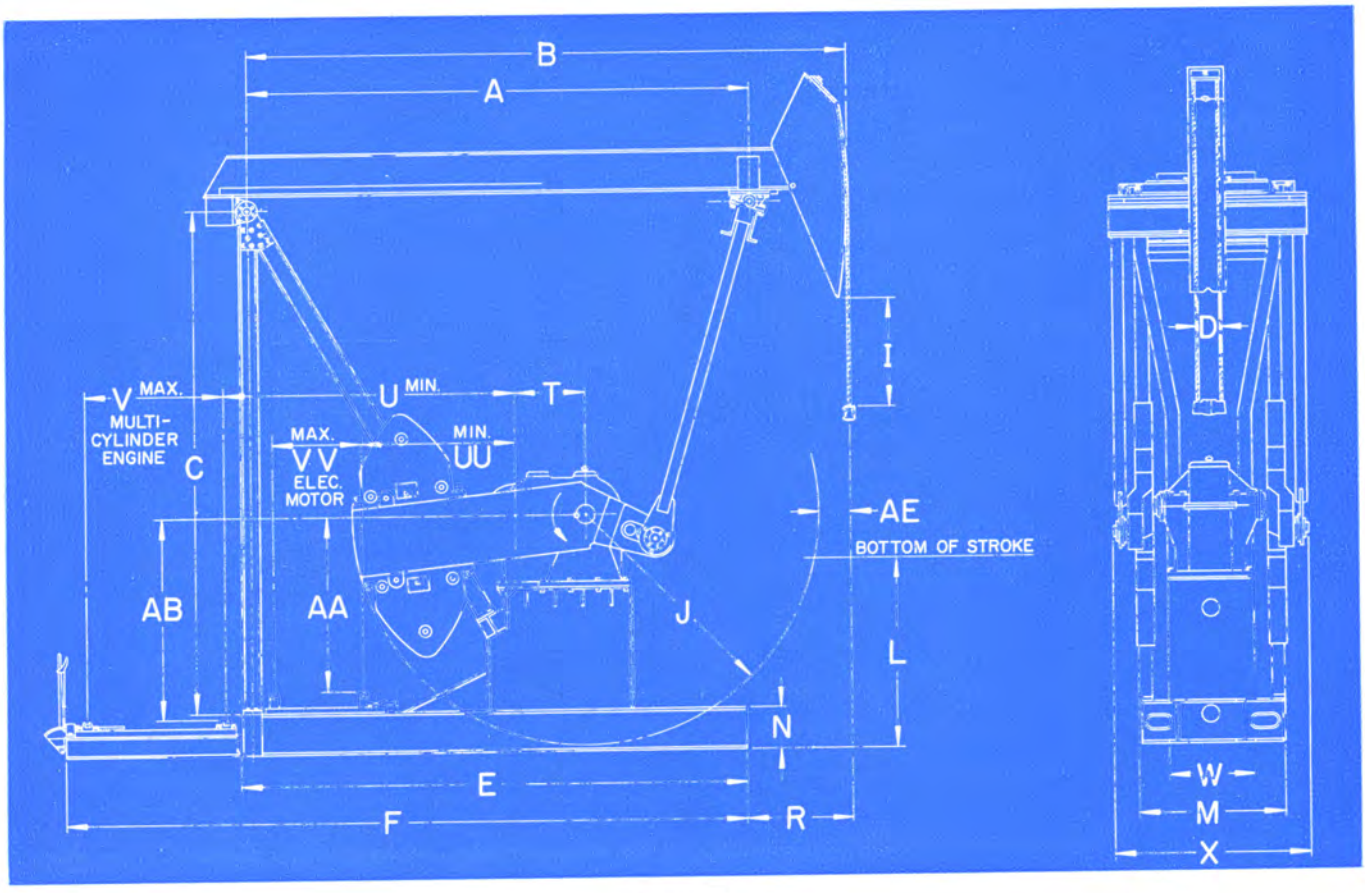

FIGURE 40

UNIT	A	B	C	D	E	F	I	J	L	M	N	R	T	U	V	W	X	AA	AB	AE	UU	VV
M-640D-356-144	21′-6″	26′-0″	21′-0 7/8″	12″	21′-3 1/2″	21′-3 1/2″	39 5/8″	108″	76 7/8″	69 3/4″	16 1/8″	60″	41 1/2″	78 3/4″	51 1/2″	46 1/2″	8′-5″	86 1/8″	87 7/8″	18″	29 5/8″	29 3/4″
M-640D-304-144	"	"	"	"	"	"	63 5/8″	"	"	"	"	"	"	"	"	"	8′-3 3/8″	"	"	"	"	"
M-640D-253-144	"	"	"	9″	"	"	44 3/8″	"	74″	"	"	"	"	"	"	"	8′-5″	"	"	"	"	"
M-640D-365-120	"	"	"	12″	"	"	63 5/8″	"	76 7/8″	"	"	"	"	"	"	"	8′-3 3/8″	"	"	"	"	"
M-640D-304-120	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
M-640D-256-120	"	"	"	9″	"	"	69 1/8″	"	73 1/4″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-456D-356-144	"	"	"	12″	"	"	39 5/8″	"	76 7/8″	"	"	"	38 3/8″	81 7/8″	"	"	8′-5″	"	"	"	32 3/4″	"
M-456D-304-144	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	8′-3 3/8″	"	"	"	"	"
M-456D-253-144	"	"	"	9″	"	"	44 3/8″	"	74″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-456D-356-120	"	"	"	12″	"	"	63 5/8″	"	76 7/8″	"	"	"	"	"	"	"	8′-5″	"	"	"	"	"
M-456D-304-120	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	8′-3 3/8″	"	"	"	"	"
M-456D-256-120	"	"	"	9″	"	"	69 1/8	"	73 1/4″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-320D-304-144	"	"	"	12″	"	"	39 5/8″	"	76 7/8″	"	"	"	34″	86 1/4″	"	43″	7′-4 3/8″	"	"	"	37 1/8″	"
M-320D-253-144	"	"	"	9″	"	"	44 3/8″	"	74″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-320D-304-120	"	"	"	12″	"	"	63 5/8″	"	76 7/8″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-320D-256-120	"	"	"	9″	"	"	69 1/8″	"	73 1/4″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-320D-213-120	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
M-320D-298-100	"	"	"	12″	"	"	83 5/8″	"	76 7/8″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-320D-256-100	"	"	"	9″	"	"	89 1/8″	"	73 1/4″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-228D-256-120	"	"	"	"	"	"	69 1/8″	"	"	"	"	"	30″	90 1/4″	"	37″	6′-9 3/8″	"	"	"	41 1/8″	"
M-228D-256-100	"	"	"	"	"	"	89 1/8″	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
M-228D-246-86	15′-6″	18′-6″	15′-8 3/8″	"	15′-6 1/2″	21′-0″	45 1/4″	86 5/8″	65 1/4″	57″	15 7/8″	39″	"	103 3/4″	"	"	6′-8 3/8″	65 1/4″	74 7/8″	11 3/8″	53 1/4″	33 1/4″
M-228D-200-86	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
M-228D-246-74	"	"	"	"	"	"	58 5/8″	"	65 1/2″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-228D-200-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
M-228D-173-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
M-160D-246-86	"	"	"	"	"	"	45 1/4″	"	65 1/4″	54″	"	"	26″	107 3/4″	"	32″	6′-0 3/8″	"	"	"	57 1/4″	33 1/4″
M-160D-200-86	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
M-160D-246-74	"	"	"	"	"	"	58 5/8″	"	65 1/2″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-160D-200-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
M-160D-173-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
M-114D-143-86	13′-6″	15′-9″	12′-3 1/2″	"	13′-0 3/4″	18′-6 1/4″	133 3/8″	62″	53 1/2″	42″	12″	36″	24″	96 1/2″	"	25″	67 3/8″	44 1/4″	50″	16″	50″	29 3/4″
M-114D-200-74	15′-6″	18′-6″	15′-8 3/8″	"	15′-6 1/2″	21′-0″	58 5/8″	86 5/8″	65 1/2″	54″	15 7/8″	39″	"	109 3/4″	"	"	69″	65 1/4″	74 7/8″	11 3/8″	59 1/4″	33 1/4″
M-114D-173-74	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
M-114D-143-74	13′-6″	15′-9″	12′-3 1/2″	"	13′-0 3/4″	18′-6 1/4″	25 7/8″	62″	53″	42″	12″	36″	"	96 1/2″	"	"	67 3/8″	44 1/4″	50″	16″	50″	29 3/4″
M-114D-169-64	"	"	"	"	"	"	21″	"	67 7/8″	"	"	"	"	"	"	"	"	"	"	"	"	"
M-114D-143-64																						

LUFKIN AIR BALANCED PUMPING UNITS

FIGURE 41

GENERAL SPECIFICATIONS

Gear Reducer Data: See pages 3054 and 3071
Crank Pin Bearings: Spherical Roller, Factory Lubricated
Samson Post Bearings: Spherical Roller, Factory Lubricated
Equalizer Bearing: Spherical Roller, Factory Lubricated
Air Cylinder Bearing: Spherical Roller, Factory Lubricated
Hanger: Horsehead, Wire Line
Air Counterbalance Pressure: 450 P.S.I. (Max.)
Upper Pitman Connection: Rubber Cushioned

LUFKIN *Air Balanced* PUMPING UNITS

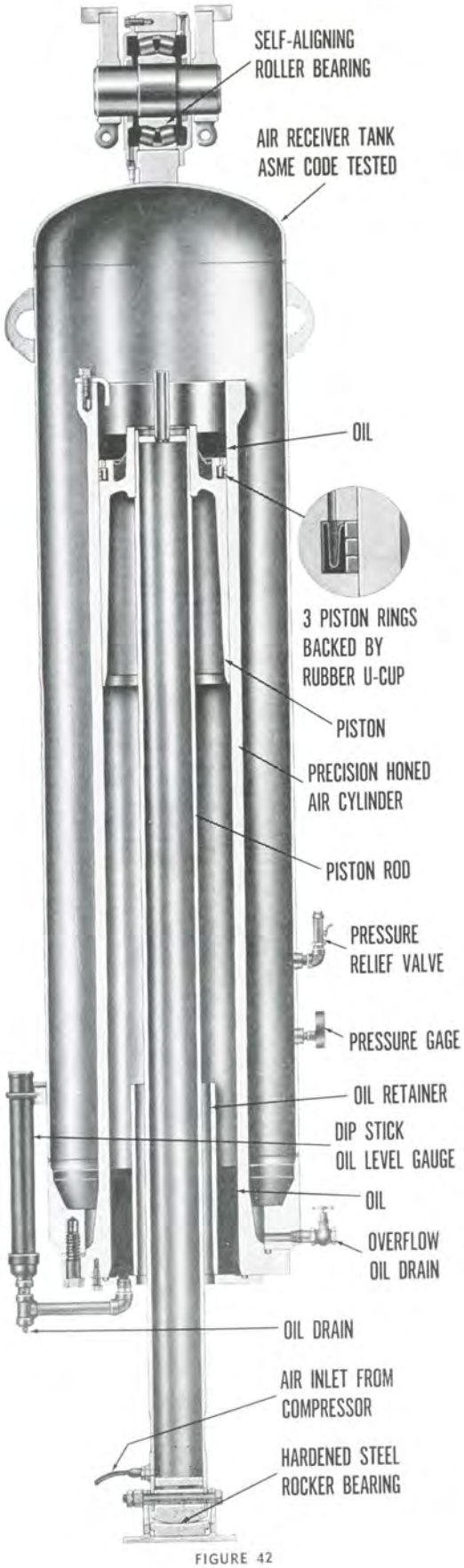

FIGURE 42

1. Perfect counterbalance with finger-tip control.
2. Lower installation costs.
3. Compact and portable, ideal for well testing.
4. Automatic counterbalance control available.

These are some of the outstanding advantages of the latest addition to the line of LUFKIN PUMPING UNITS. These units employ compressed air to counterbalance the well load, rather than beam weights or crank weights. The air system has been so simplified that the only continuously operating parts are the balance cylinder and piston. The reservoir capacity of the cylinder is enlarged by a steel receiver which moves with the cylinder as a unit.

On engine-driven units, when the system is in need of air, an automatic regulator engages an air operated clutch (driven by one belt from the unit sheave) and replaces any lost air. The operator sets regulator, initially, at a pressure sufficient to counterbalance well load, and this pressure is maintained automatically. Should the load change appreciably, a slight adjustment of this regulator will restore perfect counterbalance.

A safety shut-off switch is available, which will ground out engine, or shut off motor, if pressure should exceed a pre-set figure or fall below a minimum pre-set figure.

For units pumping with electricity, a separate motor-driven compressor assembly is standard equipment.

Since the Lufkin Air Balanced Units are approximately 35% shorter and 40% lighter than crank-type units, they are ideal for use as portable or test units, and for installation on piling or superstructures. Since changing counterbalance effect is a matter of opening a valve, the air balanced unit is ideal for use in testing wells.

All the ruggedness and simplicity of the conventional Lufkin Pumping Units are incorporated in the design of the Lufkin Air Balanced Pumping Unit.

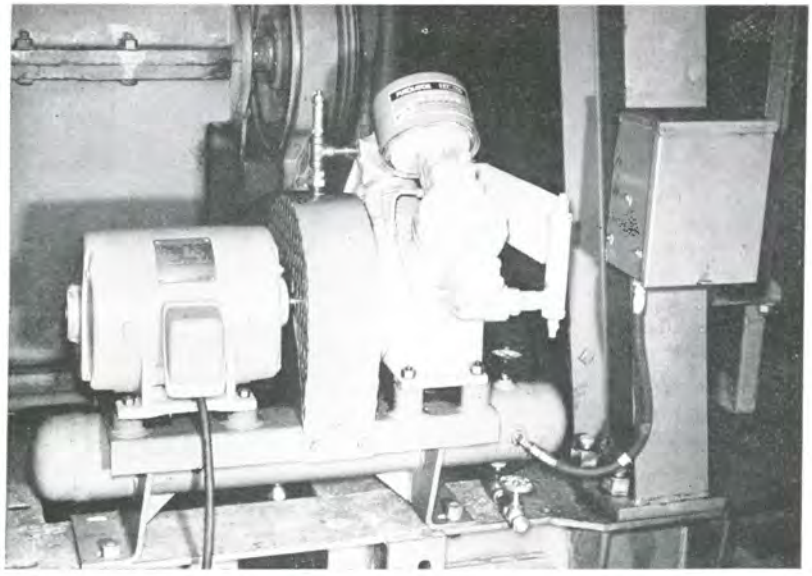

FIGURE 43

MOTOR DRIVEN COMPRESSOR

Furnished on units where electric power is available; compressor operates at optimum speed for maximum air output.

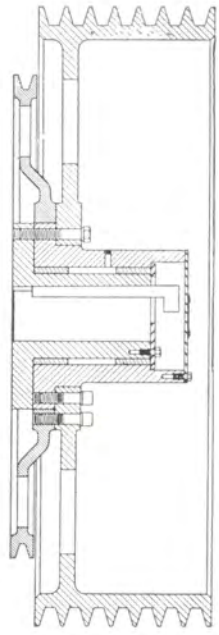

FIGURE 44

FLOATING SHEAVE ASSEMBLY

For Gear Reducer which permits running air compressor at initial starting without operating gear reducer. Note 1-C groove compressor drive rim bolted to floating hub. Select proper size to effect optimum compressor speed; 17¼", 23½", 28", 34" and 47¼" P.D. rims are available.

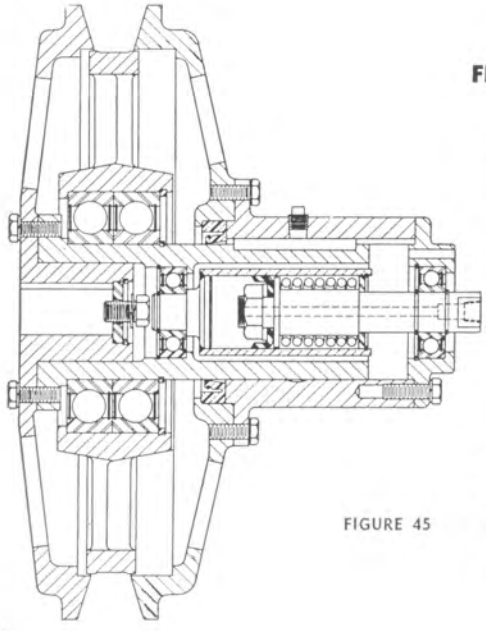

FIGURE 45

CLUTCH, 11½" P.D.

For air compressor—engages by spring pressure at initial starting and also when air pressure drops too low for proper counterbalance; disengages automatically when air pressure builds up to predetermined setting.

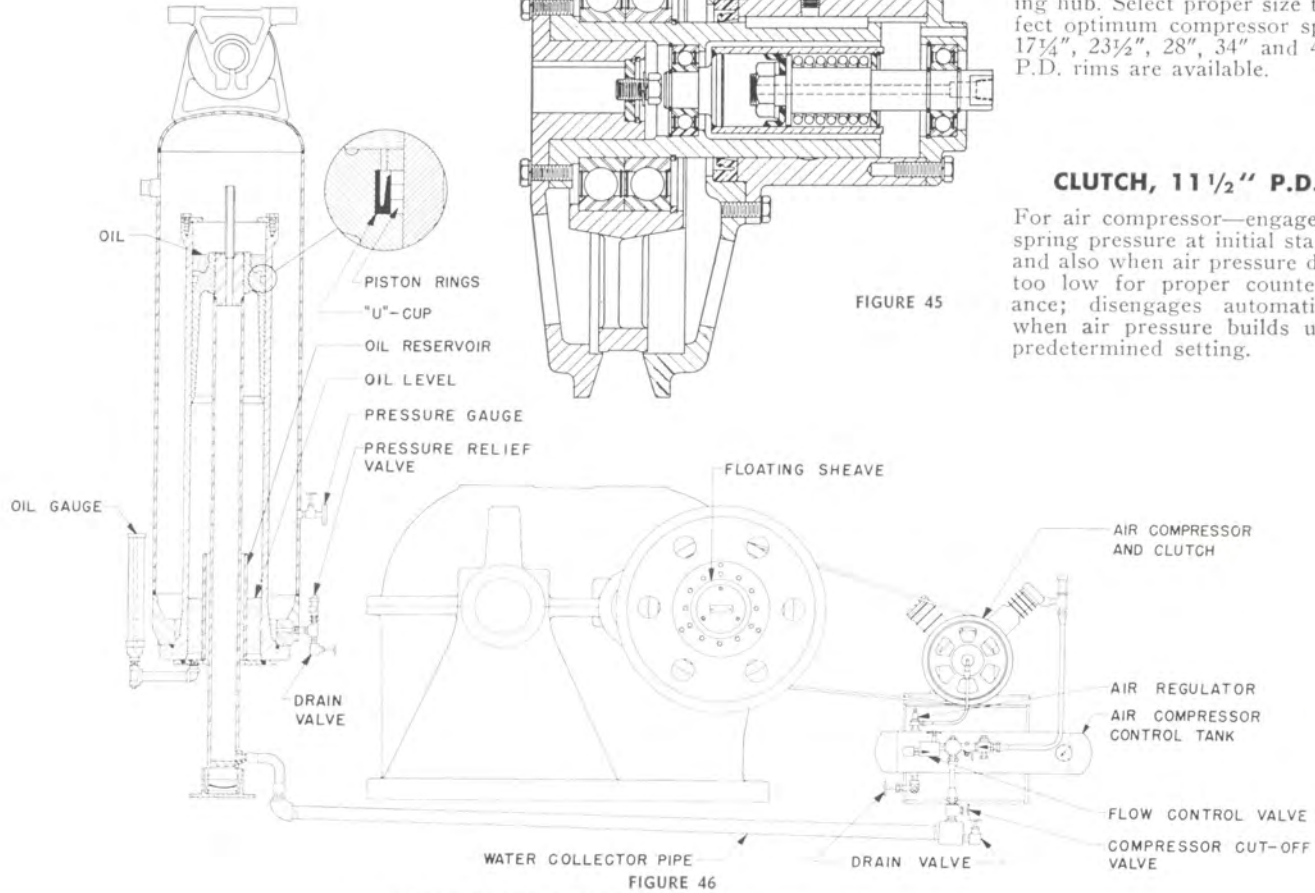

FIGURE 46

Schematic Outline of Air System, Clutch Driven Compressor

GENERAL DIMENSIONS—Lufkin Air Balanced Pumping Units

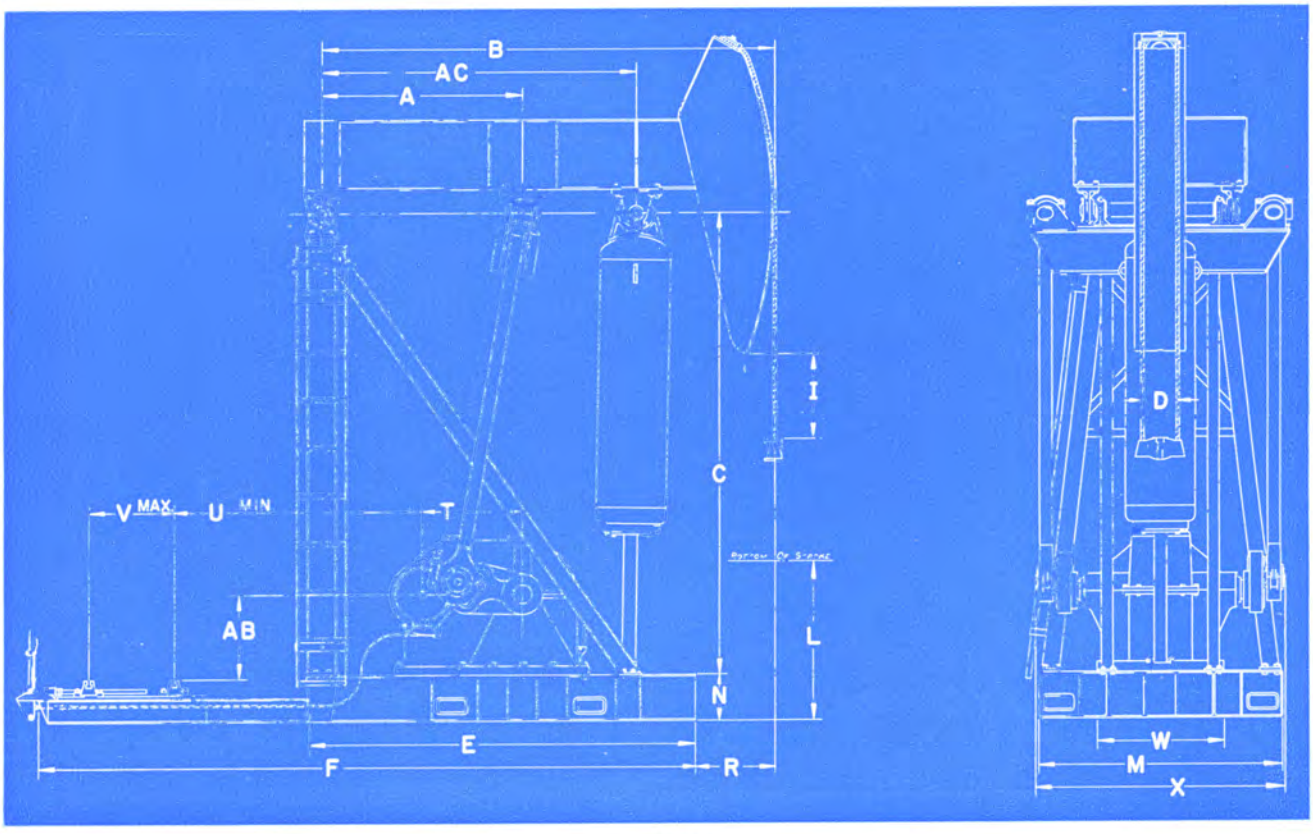

FIGURE 47

UNIT	A	B	C	D	E	F	I	L	M	N	R	T	U	V	W	X	AB	AC
A-80D-54-19	48″	9′- 7″	11′- 0″	9″	7′- 5½″	14′- 5¾″	7⅞″	67½″	63¾″	9¾″	36″	22″	66″	12″	25¼″	63⅞″	13¾″	6′-0½″
A-114D-54-19	″	″	″	″	″	″	″	62½″	″	″	″	24″	64″	″	″	″	″	″
A-114D-64-19	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
A-160D-64-25	50″	10′-0″	11′-9″	12″	7′-11″	14′-6¾″	8⅝″	62¾″	6′-1½″	″	35½″	26″	57″	43½″	32″	66⅞″	22″	6′-5½″
A-160D-74-14.9	48″	11′-1″	11′-0″	9″	7′-5½″	14′-11¼″	7⅞″	52½″	″	″	54″	″	55″	″	″	″	″	6′-0½″
A-160D-74-25	50″	10′-0″	11′-9″	12″	7′-11″	14′-6¾″	8⅝″	57¾″	″	″	35½″	″	57″	″	″	″	″	6′-5½″
A-228D-74-25	″	″	″	″	″	14′-8″	″	64⅛″	″	16⅛″	″	30″	40½″	50″	37¼″	6′-5⅞″	29⅜″	″
A-228D-74-28	56″	10′-11″	12′-5″	″	8′-3¼″	15′-0¼″	15⅞″	64⅜″	″	″	36	″	47″	″	″	″	″	7′-3½″
A-228D-86-19.8	50″	11′-6½″	11′-9″	″	7′-11″	14′-8″	10⅜″	45¾″	″	″	56″	″	40½″	″	″	″	″	6′-5½″
A-228D-86-28	56″	10′-11″	12′-5″	″	8′-3¼″	15′-0¼″	9⅜″	58⅝″	″	″	36″	″	47″	″	″	″	″	7′-3½″
A-228D-100-21.8	″	12′-7″	″	″	″	″	″	46¾″	″	″	56″	″	″	″	″	″	″	″
A-320D-86-28	″	10′-11″	″	″	9′-9¼″	17′-5¼″	″	58⅝″	7′-1½″	″	18″	34″	64″	41″	43¼″	7′-2⅞″	30⅛″	″
A-320D-86-32	70″	12′-11″	13′-4″	″	10′-0¼″	17′-8¼″	18⅛″	62⅝″	″	″	39″	″	6′-6″	″	″	″	″	8′-11″
A-320D-100-22.3	56″	12′-7″	12′-5″	″	9′-9¼″	17′-5¼″	9⅜″	46¾″	″	″	38″	″	64″	″	″	″	″	7′-3½″
A-320D-100-26.9	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″
A-320D-100-32	70″	12′-11″	13′-4″	″	10′-0¼″	17′-8¼″	9⅞″	55⅛″	″	″	39″	″	6′-6″	″	″	″	″	8′-11″
A-320D-120-30.2	″	15′-4″	″	″	11′-3¼″	18′-11¼″	10″	34⅞″	″	″	53″	″	″	″	″	″	″	″
A-456D-100-36	6′-5″	14′-7″	15′-7″	″	10′-11¾″	18′-1¾″	18¾″	73⅜″	7′-6″	″	47½″	38⅜″	6′-2″	″	46¾″	8′-1⅝″	″	9′-10″
A-456D-120-27.3	69″	15′-4″	13′-4″	″	11′-3¼″	18′-5¼″	10″	34⅞″	″	″	53″	″	65½″	″	″	″	″	8′-11″
A-456D-120-36	6′-5″	14′-7″	15′-7″	″	10′-11¾″	18′-1¾″	16⅝″	53¾″	″	″	47½″	″	6′-2″	″	″	″	″	9′-10″
A-456D-144-34.2	″	17′-4″	″	″	12′-11¼″	20′-1¾″	15⅜″	33⅜″	″	″	57″	″	″	″	″	″	″	″
A-640D-120-36	″	14′-7″	″	″	10′-11¾″	18′-1¾″	16⅝″	54¾″	″	″	47½″	41½″	71″	″	″	″	″	″
A-640D-120-40	7′-4″	16′-8″	17′-10″	16″	12′-3½″	19′-5½″	21″	78¼″	7′-11½″	″	59″	″	7′-0″	″	″	″	″	10′-11½″
A-640D-144-31	6′-5″	17′-4″	15′-7″	12″	12′-11¼″	20′-1¼″	15⅜″	33⅜″	7′-6″	″	57″	″	71⅜″	″	″	″	″	9′-10″
A-640D-144-37	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	″	10′-10¾″
A-640D-144-40	7′-4″	16′-8″	17′-10″	16″	12′-3½″	19′-5½″	19½″	55″	7′-11½″	″	59″	″	7′-0″	″	″	″	″	10′-11½″
A-640D-168-33.5	″	19′-3″	″	″	14′-10½″	22′-0½″	″	34⅝″	″	″	″	″	″	″	″	″	″	″
A-640D-192-42	10′-1½″	23′-0″	21′-0″	″	19′-4⅝″	27′-1⅞″	12¼″	55″	″	21″	48″	″	9′-9″	″	″	8′-4⅛″	28⅞″	14′-3½″
A-912D-120-36	6′-5″	14′-7″	15′-7″	12″	12′-3″	19′-5″	16⅝″	54¾″	7′-6″	16⅛″	47½″	48½″	6′-6″	″	50″	8′-1⅝″	32⅛″	9′-10″
A-912D-120-40	7′-4″	16′-8″	17′-10″	16″	12′-3½″	19′-5½″	21″	78¼″	7′-11½″	″	59″	″	6′-4″	″	″	″	″	10′-11½″
A-912D-144-40	″	″	″	″	″	″	19½″	55″	″	″	″	″	″	″	″	″	″	″
A-912D-168-33.5	″	19′-3″	″	″	14′-10½″	22′-0½″	19½″	34⅝″	″	″	″	″	″	″	″	″	″	″
A-912D-192-42	10′-1½″	23′-0″	21′-0″	″	19′-4⅝″	27′-1⅞″	12¼″	55″	″	21″	48″	″	9′-2″	″	″	8′-4⅛″	28⅞″	14′-3½″
A-912D-216-41	″	25′-8″	″	″	22′-0⅞″	29′-2⅞″	″	31″	″	″	″	″	″	″	″	″	″	″
A-912D-240-47	11′-2½″	28′-0″	25′-3½″	20½″	†	32′-0″	17½″	55″	8′-0″	″	″	″	9′-7″	44¾″	50¼″	″	24″	19′-5½″
‡A-1280D-144-40	7′-4″	16′-8″	17′-10″	16″	12′-3½″	19′-5½″	19½″	″	7′-11½″	16⅛″	59″	52½″	6′-0″	41″	″	8′-1⅛″	38⅛″	10′-11½″
‡A-1280D-192-42	10′-1½″	23′-0″	21′-0″	″	19′-4⅝″	27′-1⅞″	12¼″	″	″	21″	48″	″	8′-7⅜″	″	″	″	34⅞″	14′-3½″
‡A-1280D-240-47	11′-2½″	28′-0″	25′-3½″	20½″	†	32′-0″	17½″	″	8′-0″	″	″	″	9′-3″	44¾″	″	″	30″	19′-5½″
‡A-1824D-192-42	10′-1½″	23′-0″	21′-0″	16″	19′-4⅝″	27′-1⅞″	12¼″	″	7′-11½″	″	″	58⅞″	8′-1″	41″	″	9′-5⅛″	34⅞″	14′-3½″
‡A-1824D-240-47	11′-2½″	28′-0″	25′-3½″	20½″	†	32′-0″	17½″	″	8′-0″	″	″	″	8′-8⅝″	44¾″	″	″	30″	19′-5½″

† Portable Base is Standard; one-piece and portable bases available on all units.
‡ Available with 1280T and 1824T triple reduction gear reducers.

RATING CHART

UNIT	Peak Torque Rating, Inch Lbs.	Stroke, Inches	Polish Rod Load Class, Lbs.	Piston Dia., Inches	Effective Counter-Balance, Lbs.	Walking Beam Size	Pitman Side Member Size, Ex-Hvy. Pipe	Wire Line Hangers	*Standard Sheave Sizes, P.D., Inches	Gear Ratio	Weight, Lbs.
A-80D-54-19	80,000	54-44	19,000	8	11,000	16 x 8½ @ 64 lb.	3½	1 x 16'-0"	19¼, 24, 29¼ (3C)	29.15	11,500
A-114D-54-19	114,000	54-44	19,000	8	11,000	16 x 8½ @ 64 lb.	3½	1 x 16'-0"	19¼, 24, 29¼, 33¼ (3C)	29.4	11,600
A-114D-64-19	114,000	64-54	19,000	8	11,000	16 x 8½ @ 64 lb.	3½	1 x 16'-0"			11,600
A-160D-64-25	160,000	64-54	25,000	10	17,595	18 x 8¾ @ 77 lb.	3½	1⅛ x 18'-6"	24¼, 29¼, 33¼, 38 (4C or 3D)	28.67	14,600
A-160D-74-14.9	160,000	74-64	14,900	8	9,450	16 x 8½ @ 64 lb.	3½	1⅛ x 18'-6"			12,814
A-160D-74-25	160,000	74-64-54	25,000	10	17,595	18 x 8¾ @ 77 lb.	3½	1⅛ x 18'-6"			14,600
A-228D-74-25	228,000	74-64-54	25,000	10	17,595	18 x 8¾ @ 77 lb.	4	1⅛ x 18'-6"	24¼, 30, 36, 41¼ (5C or 4D)	28.45	16,310
A-228D-74-28	228,000	74-64-54	28,000	10	17,695	21 x 9 @ 82 lb.	4	1⅜ x 20'-0"			18,300
A-228D-86-19.8	228,000	86-74-64	19,800	10	14,960	18 x 8¾ @ 77 lb.	4	1⅛ x 20'-6"			16,535
A-228D-86-28	228,000	86-74-64	28,000	10	17,695	21 x 9 @ 82 lb.	4	1⅜ x 21'-0"			18,500
A-228D-100-24.8	228,000	100-86-74	24,800	10	14,750	21 x 9 @ 82 lb.	4	1⅜ x 23'-10"			18,825
A-320D-86-28	320,000	86-74-64	28,000	10	17,695	21 x 9 @ 82 lb.	4	1⅜ x 21'-0"	25, 30, 36, 42, 47¼ (6C or 5D)	30.12	21,233
A-320D-86-32	320,000	86-74-64	32,000	11	21,910	24 x 12 @ 100 lb.	4	1¼ x 22'-0"			24,425
A-320D-100-22.3	320,000	100-86-74	22,300	10	15,250	21 x 9 @ 82 lb.	4	1⅜ x 23'-10"			21,098
A-320D-100-26.9	320,000	100-86-74	26,900	10	15,250	24 x 12 @ 100 lb.	4	1⅜ x 23'-10"			21,348
A-320D-100-32	320,000	100-86-74	32,000	11	21,910	24 x 12 @ 100 lb.	4	1¼ x 23'-6"			24,500
A-320D-120-30.2	320,000	120-104-90	30,200	11	18,400	24 x 12 @ 100 lb.	4	1¼ x 26'-9"			25,000
A-456D-100-36	456,000	100-86-74	36,000	12	24,535	24 x 14 @ 130 lb.	6	1¼ x 25'-0"	28, 34, 40, 46, 51 (6D or 8C)	29.04	26,786
A-456D-120-27.3	456,000	120-104-90	27,300	11	18,400	24 x 12 @ 100 lb.	6	1¼ x 26'-9"			27,046
A-456D-120-36	456,000	120-100-86	36,000	12	24,535	24 x 14 @ 130 lb.	6	1¼ x 28'-0"			29,900
A-456D-144-34.2	456,000	144-120-100	34,200	12	20,200	24 x 14 @ 130 lb.	6	1¼ x 32'-0"			31,210
A-640D-120-36	640,000	120-100-86	36,000	12	24,535	24 x 14 @ 130 lb.	6	1¼ x 28'-0"	28, 34, 40, 46, 51 (6D)	28.6	31,500
A-640D-120-40	640,000	120-100-86	40,000	13	27,935	24 x 14 @ 160 lb.	6	1⅜ x 28'-0"			36,200
A-640D-144-31	640,000	144-120-100	31,000	12	20,200	24 x 14 @ 130 lb.	6	1¼ x 32'-0"			32,528
A-640D-144-37	640,000	144-120-100	37,000	12	22,439	24 x 14 @ 130 lb.	6	1¼ x 32'-0"			32,600
A-640D-144-40	640,000	144-120-100	40,000	13	27,935	24 x 14 @ 160 lb.	6	1⅜ x 32'-0"			36,200
A-640D-168-33.5	640,000	168-141-118	33,500	13	22,450	24 x 14 @ 160 lb.	6	1⅜ x 35'-0"			37,978
A-640D-192-42	640,000	192-168-144	42,000	14½	30,635	33 x 15¾ @ 200 lb.	8	1⅜ x 39'-2"			49,500
A-912D-120-36	912,000	120-100-86	36,000	12	24,535	24 x 14 @ 130 lb.	6	1¼ x 28'-0"	28 34, 40, 46, 51 (7D)	28.72	34,500
A-912D-120-40	912,000	120-100-86	40,000	13	27,935	24 x 14 @ 160 lb.	6	1⅜ x 28'-0"			37,200
A-912D-144-40	912,000	144-120-100	40,000	13	27,935	24 x 14 @ 160 lb.	6	1⅜ x 32'-0"			37,200
A-912D-168-33.5	912,000	168-141-118	33,500	13	22,450	24 x 14 @ 160 lb.	6	1⅜ x 35'-0"			38,978
A-912D-192-42	912,000	192-168-144	42,000	14½	30,635	33 x 15¾ @ 200 lb.	8	1⅜ x 39'-2"			50,000
A-912D-216-41	912,000	216-190-162	41,000	14½	24,830	33 x 15¾ @ 200 lb.	8	1⅜ x 43'-2"			52,817
A-912D-240-47	912,000	240-200	47,000	14½	34,000	33 x 15¾ @ 200 lb.	8	Double 1¼"			65,000
A-1280D-144-40	1,280,000	144-120-100	40,000	13	27,935	24 x 14 @ 160 lb.	6	1⅜ x 32'-0"	†40, 46, 51, 55, 68 (11D)	28.05	44,800
A-1280D-192-42	1,280,000	192-168-144	42,000	14½	30,635	33 x 15¾ @ 200 lb.	8	1⅜ x 39'-2"			58,300
A-1280D-240-47	1,280,000	240-200	47,000	14½	34,000	33 x 15¾ @ 200 lb.	8	Double 1¼"			68,330
A-1824D-192-42	1,824,000	192-168-144	42,000	14½	30,635	33 x 15¾ @ 200 lb.	8	1⅜ x 39'-2"	†40, 46, 51, 55, 68 (11D)	28.33	60,850
A-1824D-240-47	1,824,000	240-200	47,000	14½	34,000	33 x 15¾ @ 200 lb.	8	Double 1¼"			71,332

* Standard Sheave Sizes shown are Floating Hub Sheaves for Clutch Driven Compressors; Largest Size shown is Maximum available. For Electric Motor Driven Compressors, use Solid Type Reducer Sheave as shown in Crank Balance Unit Specifications.

† Standard Floating Hub Sheaves for 1280T Gear Reducer are 28, 34, 40, 46, 51, 53½ (7D).
Standard Floating Hub Sheaves for 1824T Gear Reducer are 28, 30, 40, 46 (11D).

ELECTRIC AUTOMATIC COUNTERBALANCE CONTROL

This control automatically adjusts air counterbalance with changing well conditions. It reduces the load on gears and prime movers.

Model 700-1E is used with units powered by electric motors.

Model 700-1G is used with units powered by gas engines.

1824D DOUBLE REDUCTION AND 1824T TRIPLE REDUCTION GEAR REDUCER SPECIFICATIONS

Rating: 1,824,000 In. Lbs. Peak Torque
Ratio of Gears: 1824D—28.33, 1824T—112.14
Crank Shaft Dia. 9"
Sheave: 46" P.D.—11D Std., 4-15/16" Bore
1824D—68" P.D. Max., 1824T—46" P.D., 11D Max.
Distance Centerline Unit to Centerline of Drive: 283⅛"
Gear Box Oil Capacity: 165 Gallons

1280D DOUBLE REDUCTION AND 1280T TRIPLE REDUCTION GEAR REDUCER SPECIFICATIONS

Rating: 1,280,000 In. Lbs. Peak Torque
Ratio of Gears: 1280D—28.05, 1280T—111.62
Crank Shaft Dia. 8½"
Sheave: 1280D—68" P.D., 10D, Max.; 1280T—53½" P.D., 7D, Max.
Bore (1280D)—4-15/16", Bore (1280T)—3-7/16"
Distance Centerline Unit to Centerline of Drive: 1280D—235⅝",
1280T—213½"
Gear Box Oil Capacity: 120 Gallons

LUFKIN HORIZONTAL, TWIN CYLINDER

MODEL	SPEED RANGE	CONTINUOUS RATING
HC-333	350-750 RPM	20- 30 BHP
HT-333	350-750 RPM	20- 30 BHP
H-795	300-600 RPM	45- 65 BHP
H-1770	200-475 RPM	57-120 BHP
H-2165	200-475 RPM	70-145 BHP

Lufkin's four sizes of heavy duty, medium speed, twin cylinder, horizontal, two cycle, engines now cover a range of horsepower which is broad enough to supply your engine requirements for the entire lease work of pumping, salt water disposal, gas lift, gas compression, pipeline pumps, generators, etc. New models added to the line are the Models H-1770 and H-2165.

Lufkin engines are compact and easily mounted to all types of oil field installations. They are rugged, dependable, easily maintained engines that are built for constant unattended service. Lufkin engines are manufactured in the Southwest in the midst of the oil fields. They are dependable and long life. The operator is assured of an adequate stock of all replaceable parts from our field warehouses or from the factory.

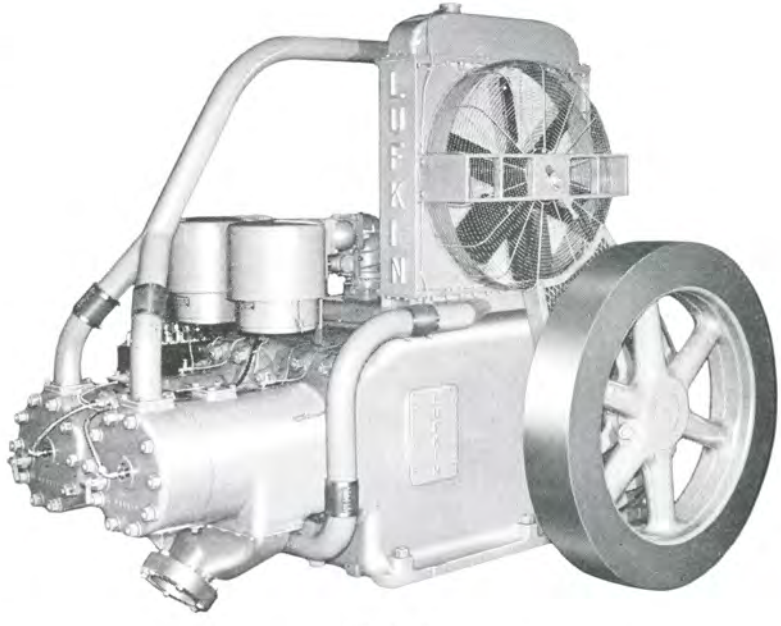

FIGURE 48

Flywheel Side of Lufkin H-1770 and H-2165 Engines

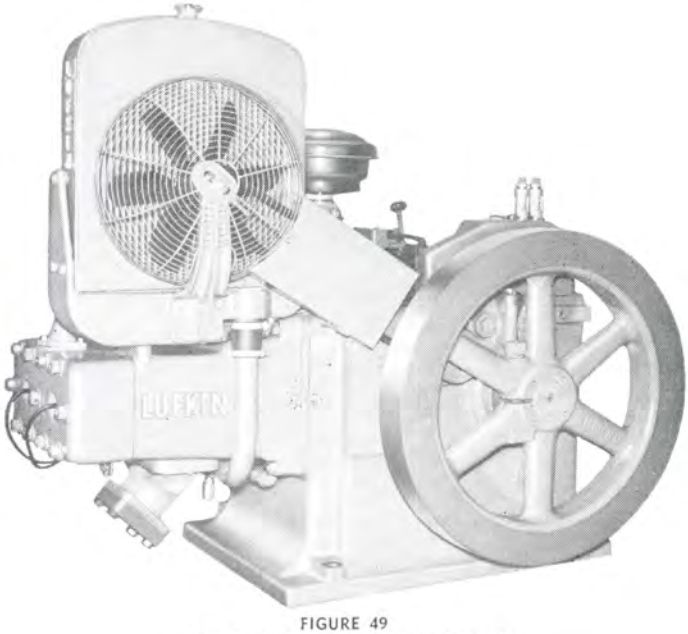

FIGURE 49

Flywheel Side Lufkin HT-333 Engine

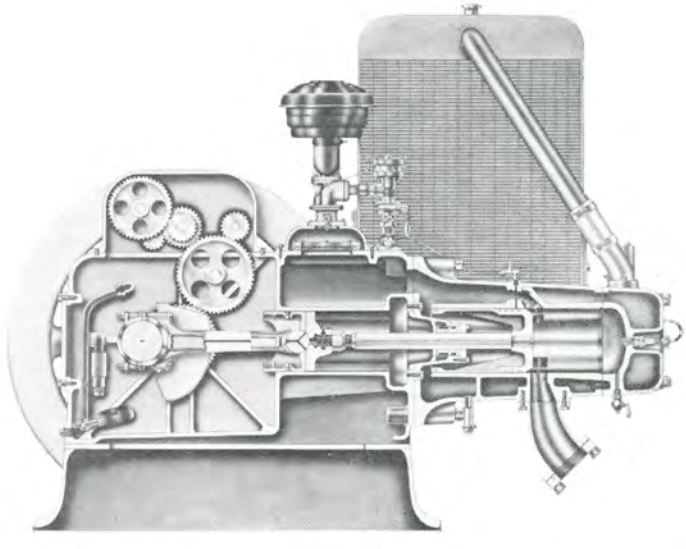

FIGURE 50

Cross Section—Lufkin H-795 Engine

TWO CYCLE GAS ENGINES

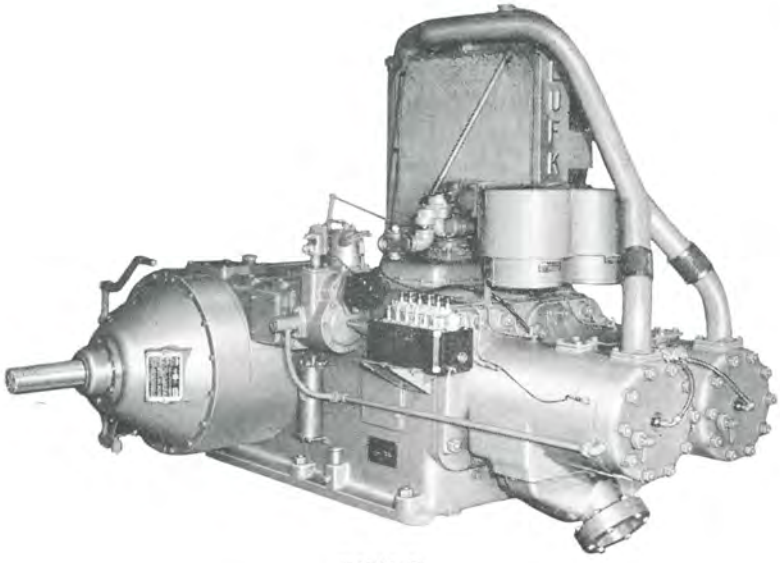

FIGURE 51

Clutch Side of Lufkin H-1770 and H-2165 Engines

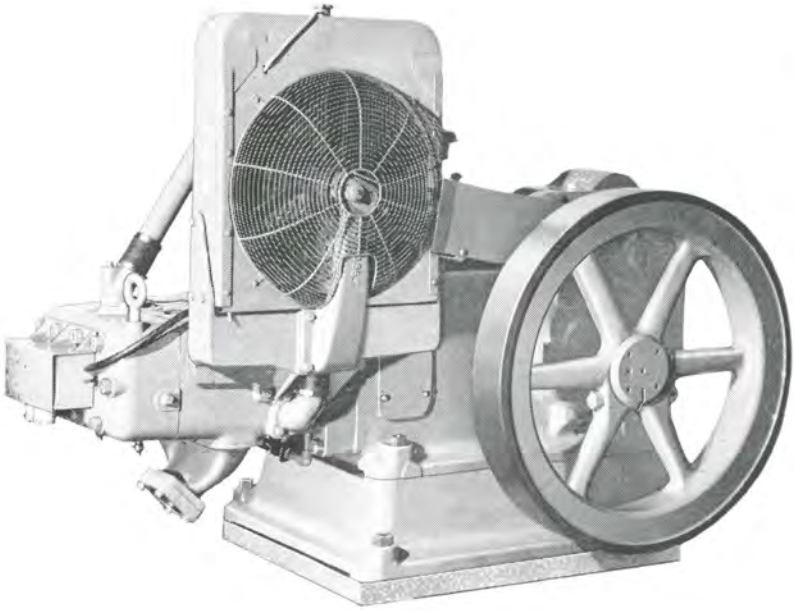

FIGURE 52

Front View—Lufkin H-795 Engine

FEATURES

Twin Cylinders give two power impulses for each revolution of the crankshaft assuring smoother performance and less shock to the engine and equipment.

Two Cycle Design is rugged and simple. There are no valves to burn or stick and no excessive oil consumption when rings are worn.

Crosshead Construction with full floating metallic piston rod packing seals the crankcase from the combustion gases. Oil changes are less frequent and less maintenance is required.

Full Pressure Lubrication. Oil picked up by pump is forced under pressure to all moving parts giving better lubrication and less wear. A cylinder lubricator is provided to furnish metered oil to the power cylinders. The lubricator is automatically filled by the pressure system through a replaceable filter.

Oil Cooled Pistons are available on the H-795 and H-2165 engines. Oil Cooled Pistons result in longer ring and cylinder life and are recommended where the engine is operating continuously on heavy loads.

Water Cooled Exhaust Ports. Water is circulated through exhaust port bridges and keeps them cooler resulting in less wear of cylinders and rings.

Thermosyphon Cooling maintains even water temperatures at all loads and speeds. This system operates under pressure and make-up water is seldom required.

Built-In Safety Controls are standard equipment and provide safety controls for low oil pressure and high water temperatures.

Long Interval Maintenance Equipment is available to reduce materially the frequency of maintenance. This equipment consists of:

- Oil Level Control with separate reservoir
- Low Tension Ignition
- Long Life Spark Plugs
- Special Assemblies of clutch, fan and other parts, requiring lubrication and maintenance only at 6 month intervals.

EQUIPMENT

All Lufkin engines are furnished as a complete power unit with the following standard equipment:

- Full Pressure Lubrication with oil pump
- Oil Filter, By-pass type, replacable element
- Rotary High Tension Magneto
- Centrifugal Governor
- Ensign Natural Gas Mixer and Regulator
- Oil Bath Air Filter
- Cooling System complete with fan, belt drive, fan and belt guards
- Twin Disc Power Take Off
- Safety Controls for low oil pressure and high temperature

OPTIONAL EQUIPMENT

- 12 volt Electric Starter (24 volt on H-1770 and H-2165)
- Gas Motor Starter (Requires 30-40# gas)
- Air Starting Valve (Requires 150-200# air
- Friction Wheel Starter
- Dual Fuel (gas-butane) Operation
- Long Interval Maintenance Features
- Oil Cooled Pistons (available on H-795 and H-2165 only)
- Cast Iron Sub Base
- Hydraulic Governor
- Low Tension Ignition
- Overspeed Stop
- Fuel Injection (On H-1770 and H-2165 only)

LUFKIN ENGINE SPECIFICATIONS

MODEL	HC-333	HT-333	H-795	H-1770	H-2165
No. Cylinders	2	2	2	2	2
Bore, In.	5½	5½	7½	9½	10½
Stroke, In.	7	7	9	12½	12½
Displacement, Cu. In.	333	333	795	1770	2165
Compression Ratio	5.75	5.75	5.3	5.2	5.2
Speed Range, RPM	350–750	350–750	300–600	200–475	200–475
Diam. Flywheel, Inches	35½	35½	40	48	48
Flywheel WR², Ft.² Lbs.	1200	1200	1580	5250	5250
Cooling System Type	Condenser		Thermosyphon		
Capacity, Gallons	7½	7½	14	28	28
Lubrication			Full Pressure		
Crankcase Capacity, Gals.	5	5	5	16	16
Cylinder Lubricator			McCord Model 55 (Automatically filled by Pressure System)		
Oil Filter			Cuno By-Pass Type		
Ignition—Standard			Rotary High Tension Magneto		
Optional			Rotary Low Tension Magneto		
Gas Mixer—Ensign	1½"XG	1½"XG	2"XG	3" DG	3½" DG
Air Filter			Oil Bath Type		
Clutch, Twin Disc	SPE 111	SPE 111	SPE 114	SPE 214	SPE 314
Size Shaft	2¼x6½	2¼x6½	3x8½	3½x10	3 15/16x10
Keyway	5/8"x5/16"	5/8"x5/16"	¾"x⅜"	⅞"x7/16"	1"x½"
Dia. Exhaust Pipe	4"	4"	4"	6"	6"
Dia. Gas Inlet	1"	1"	1"	1½"	2"
Weight, Lbs.	3250	3250	4300	9000	9500
Safety Controls					
Water & Oil			Standard		
Overspeed			Optional		
Starting Systems (Optional)					
Air Starting Valve					
Electric Motor					
Air-Gas Motor					
Friction Wheel					

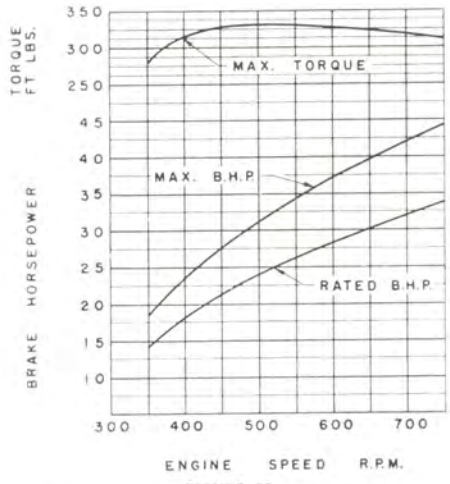

FIGURE 53
Performance Curves H-333 Gas Engine

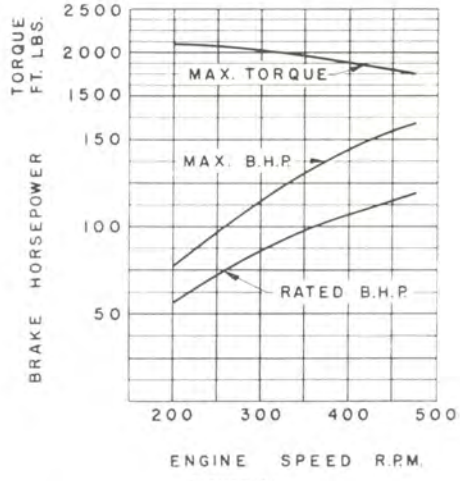

FIGURE 54
Performance Curves H-1770 Gas Engine

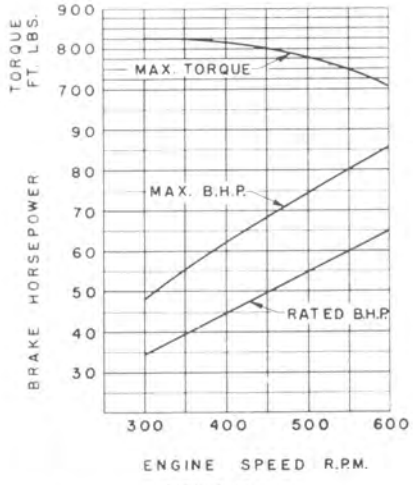

FIGURE 55
Performance Curves H-795 Gas Engine

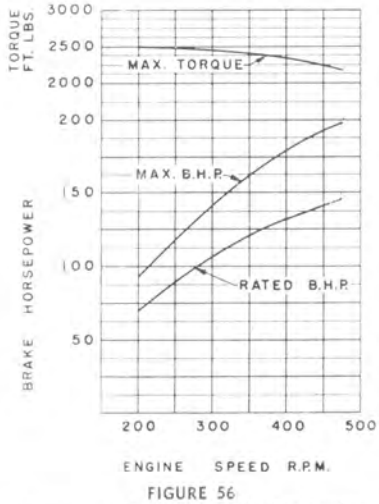

FIGURE 56
Perrormance Curves H-2165 Gas Engine

LUFKIN CH-795 ENGINE DRIVEN COMPRESSOR UNITS

The Model CH-795 engine driven, direct connected, compressor and all accessory equipment is mounted on a heavy fabricated steel base to form a complete packaged compressor unit. This unit is available as a single stage or two stage 55 BHP—500 RPM packaged unit, tailored to meet the customer's specifications.

Engine. The Lufkin Model H-795 engine equipped with oil cooled pistons is used as the prime mover. The compressor base is bolted to the engine base in place of the clutch. Where water cooling of the compressor cylinders is required, a water pump is mounted on the engine cylinder block and the engine radiator cools both the engine and the compressor cylinders. The cylinder lubricator, automatically filled, is made with two compartments for engine and compressor cylinders.

Compressor Base. The compressor base is arranged so that a single stage cylinder is mounted horizontally and if two stage operation is required, the second stage cylinder is mounted vertically, with no changes or replacement of base parts. The compressor base is bolted rigidly to the engine base and has its own oil sump which is separate from the engine. The compressor crankshaft is bored and fits over the end of the engine crankshaft where it is keyed in place and supported by the engine bearing on this end and by a large roller bearing on the outboard side. All of the parts in the compressor base are full pressure lubricated by an oil pump and filter assembly. The connecting rod bearings are interchangeable with the engine bearings. A phosphorus bronze crosshead is fitted into a distance piece, which forms the mounting for the compressor cylinder. A single stage unit can be converted in the field into a two stage unit by the addition of the compressor cylinder, distance piece, and connecting rod assembly. No alterations are necessary in the compressor base assembly.

Compressor Cylinders: Time tested Cooper-Bessemer compressor cylinders are available for pressures to 6000#. These cylinders range in size from 1⅝" to 11" diameter, all with 9" stroke. Either single acting or double acting cylinders are available. Lubrication is by means of a force feed lubricator mounted on and driven by the engine. Full metallic packing seals around the piston rod.

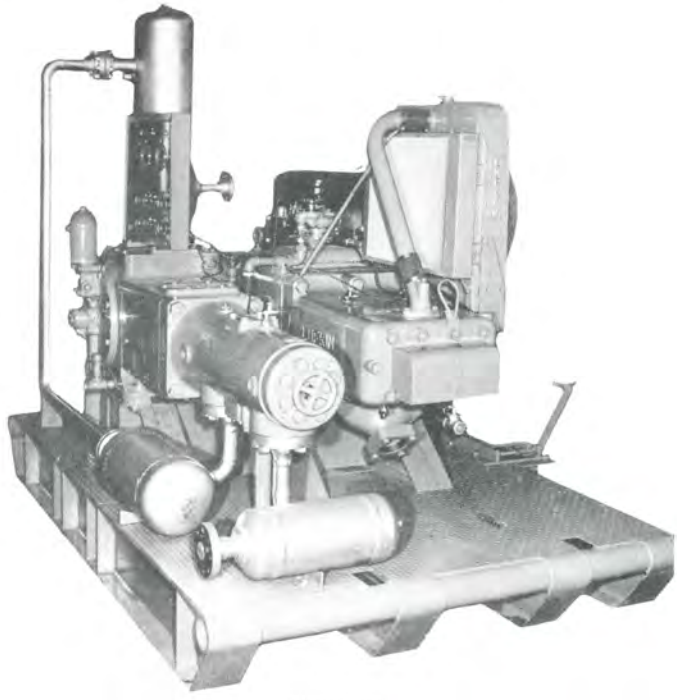

FIGURE 57
Single Stage Compressor Unit

Skid Base: This is fabricated into one piece from heavy beam sections. The engine fuel volume tank is built into the base under the engine. The base is small, being approximately 6 ft. wide x 10 ft. long, yet all accessories are mounted to give a complete package job.

Accessories: Complete packaged compressor units are available with suction scrubbers, intercoolers, aftercoolers, safety control panels, and starting units. On a packaged compressor unit there are many accessories required which can be secured and mounted to the customer's specifications. All packaged compressor units are furnished standard with suction and discharge surge drums. Suction scrubbers and equipment is according to customer's specifications. A complete control panel with oil pressure, temperature, suction and discharge high-low gages with indicators is considered standard. Where intercoolers, aftercoolers and interscrubbers are required, they can easily be mounted on the skid base and piped as an integral part of the unit.

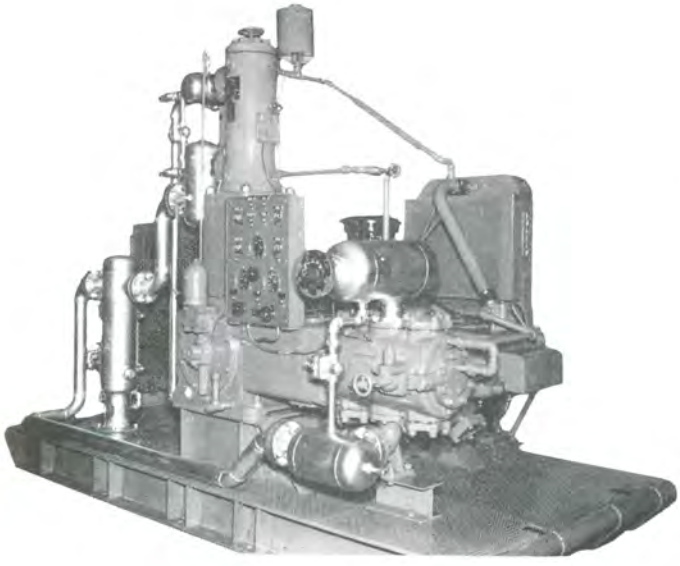

FIGURE 58
Two Stage Compressor Unit

SPECIFICATIONS

Compressor Cylinders	Cooper-Bessemer
Bore, Range	1⅝ to 11 inch diameter
Stroke	9"
Pressure Range	to 6000#
Horsepower	55
DIMENSIONS	
Length Skid	10 ft.
Width Skid	6 ft.
Height—Single Stage	73"
Height—2 Stage	8 ft.
Cu. Yds. Foundation	8

LUFKIN TRAILERS OFFERS A "MODEL" TO MANY VARIATIONS OF BASIC MODELS SHOWN ALL LUFKIN MODELS OFFERED

FIGURE 59

Model THD-2—Lufkin's new Hydraulic Tandem Dump Trailer.

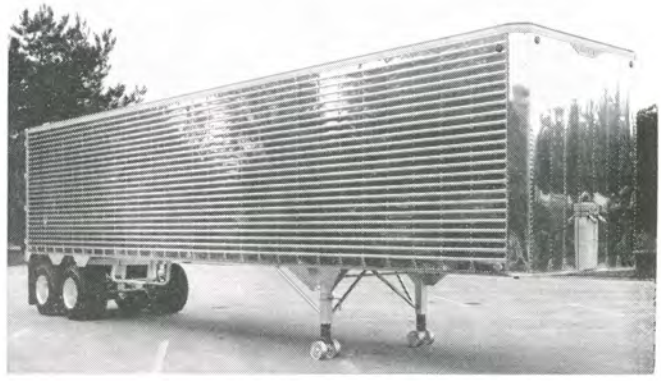

FIGURE 60

Model TUVA
Dry Freight or Insulated—Available with aluminum or steel components as desired.

FIGURE 61

Mobile Pumping Unit for Test Purposes.

FIGURE 62

Model TOVLA
Open Top Van (Light Weight) Steel for hauling all types farm & industrial products.

FIGURE 63

Model TOLS
Adaptable for any type livestock haul (with or without roof).

COMPLY WITH YOUR EVERY HAULING NEED
BELOW CAN BE QUOTED UPON REQUEST
IN TANDEM AND SINGLE

FIGURE 64

Model TXF-60SL
For General Oilfield Hauling Jobs

FIGURE 65

Model TOF-C
A combination Float & Pipe Trailer (float can be easily attached or detached. TOF-50C can be used for pipe or machinery hauls).

FIGURE 66

Custom Built Low-Bed
All Low-Bed Models offered custom made to every need

FIGURE 67

Model TOP
For hauling pipe, poles & other oilfield supplies

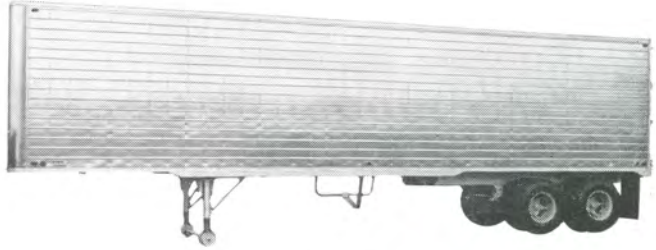

FIGURE 68

Model TKV-16
High Cube, lightweight van for general freight (offered either dry freight or produce).

LUFKIN GEAR REDUCERS

A complete line of Single, Double and Triple Reduction Herringbone Gear Reducers, also Single and Double Reduction Speed Increasers are available.

Write for Gear Catalog G-4.

Spiral Bevel Gear Reducers are also available for such service as cooling tower fan drives. Bulletins G-7 and G-8 are available on request.

A complete line of Marine Gears including reduction, reverse and reduction, and multiple pinion units are available. Write for Marine Gear Bulletins G-10 and G-11.

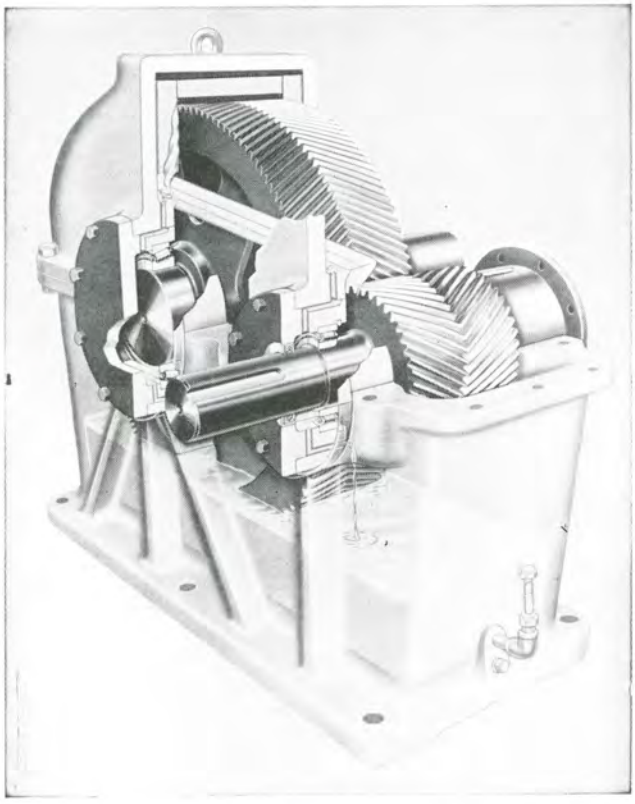

FIGURE 69

Typical Type S Single Reduction Herringbone Gear Reducer. Note simple but positive and fool-proof Lubrication System.

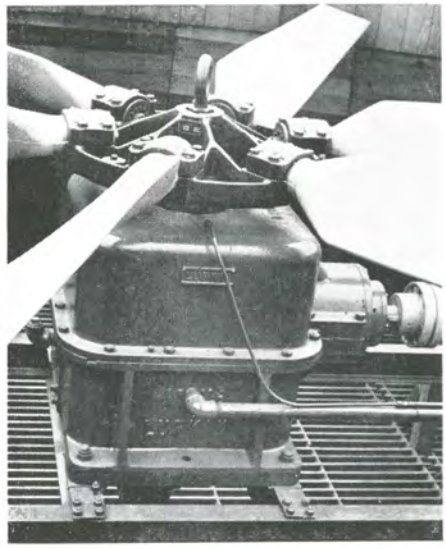

FIGURE 71

115VB Spiral Bevel Gear Reducer for Cooling Tower Fan Drive. A complete range of sizes available.

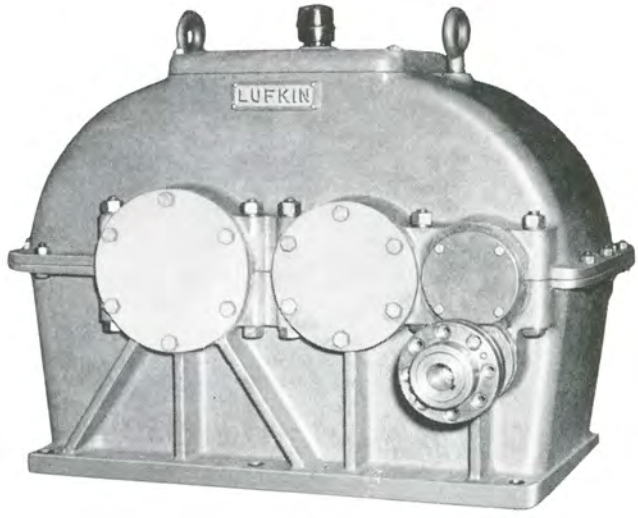

FIGURE 72

Lufkin T195 Typical Type T Triple Reduction Herringbone Gear Reducer.

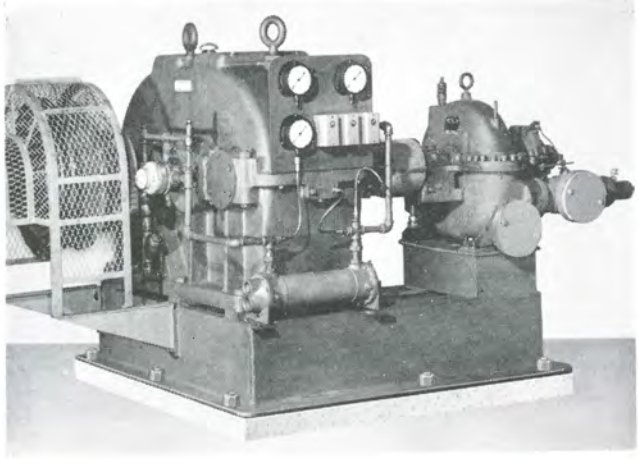

FIGURE 70

Lufkin N290 High Speed Reducer, Ratio 33.6:1, Delivering 227 H. P. From a 6670 RPM Turbine to a Reciprocating Pump.

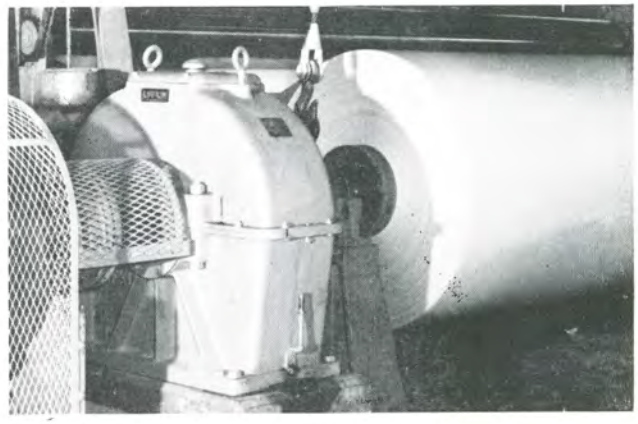

FIGURE 73

Lufkin S189 Single Reduction Herringbone Reducer Driving Rewind Machine at Newsprint Mill.

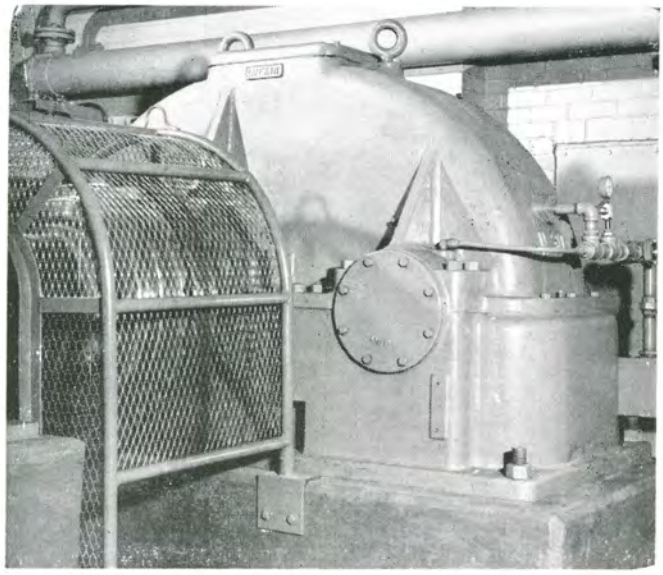

FIGURE 74

Lufkin's Big N3012 Pipe Line Pump Speed Increaser, 1060 h.p. Capacity at 3600 r.p.m. pump speed and 7:1 ratio.

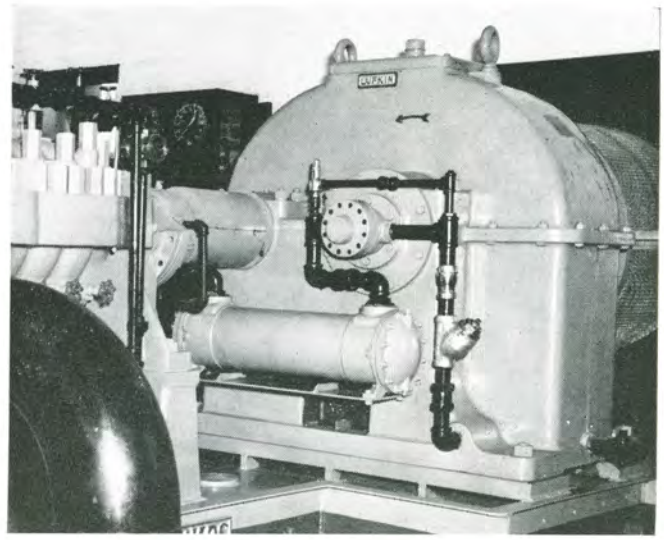

FIGURE 75

Lufkin N2110 High Speed Increaser, delivering 540 h.p. to pipe line pump going 3750 r.p.m.

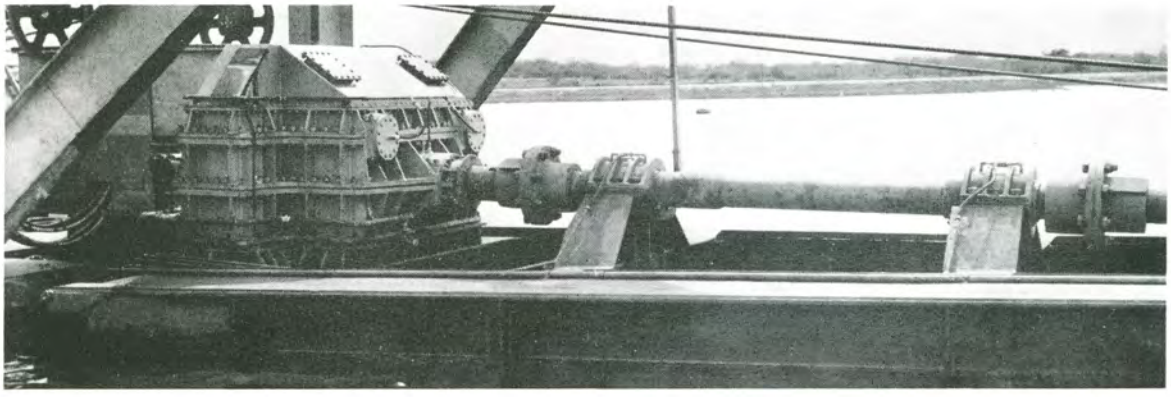

FIGURE 76

Lufkin DC3620 Dredge Cutter Reduction Gear Ratio 32. 6:1 Delivering 1200 h.p. at 1200 r.p.m.

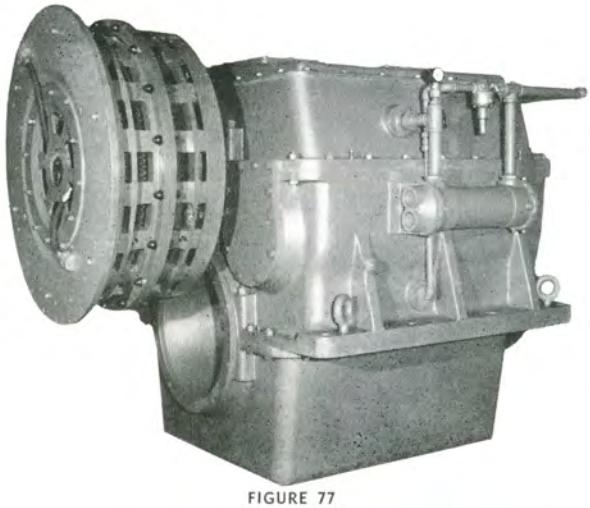

FIGURE 77

Lufkin R2520 Marine Reverse and Reduction Unit, 1600 h.p., 750 r.p.m., 3:1 ratio.

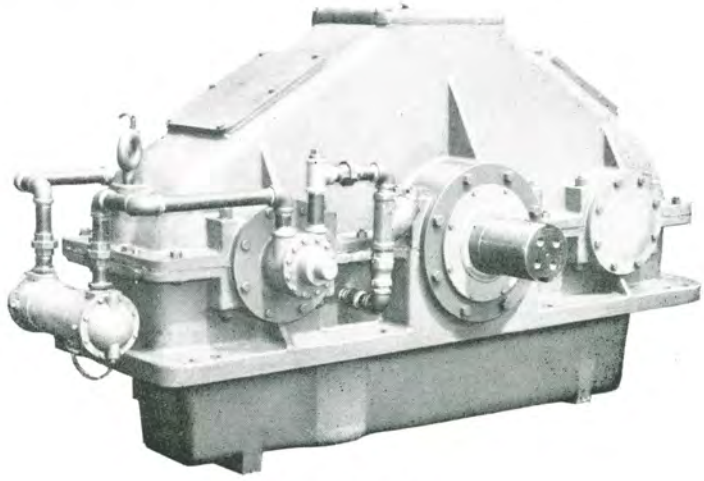

FIGURE 78

Lufkin LM608C Compound Marine Gear delivering 1100 h.p.

LUFKIN INSTALLATIONS

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

FIGURE 79

Lufkin M-160D-200-74 Mark II Unitorque Pumping Unit equipped with semi-automatic counterbalance feature.

FIGURE 80

Lufkin A-320D-100-32 Air Balanced Pumping Unit with electric motor drive and motor driven compressor.

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LUFKIN

EQUIPMENT OF ADVANCED DESIGN