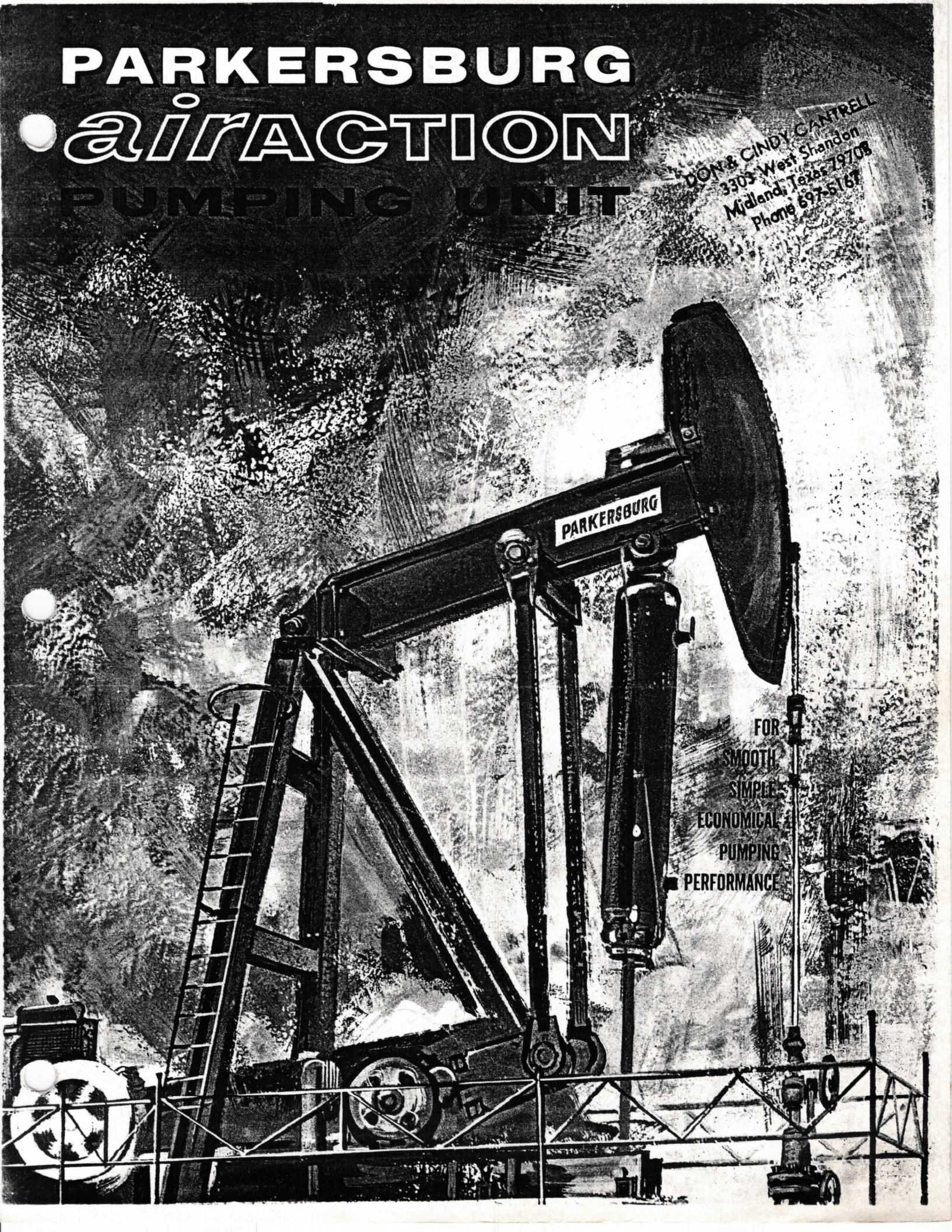


# PARKERSBURG *air*ACTION

## PUMPING UNIT

DON & CINDY GANTRELL  
3303 West Shandon  
Midland, Texas 79708  
Phone 697-5167



FOR  
SMOOTH  
SIMPLE  
ECONOMICAL  
PUMPING  
PERFORMANCE

THE PARKERSBURG AIRACTION PUMPING UNIT

OFFERING  
FIFTEEN  
EXCLUSIVE  
BASIC  
ADVANTAGES  
FOR

**SUPERIOR  
PUMPING  
SERVICE**

ASK  
YOUR MAN  
FROM  
PARKERSBURG

DON & CINDY CANTRELL  
3303 West Shandon  
Midland, Texas 79703  
Phone 697-5167

1. *Balanced train split case gear box uses power-saving, full contact gap tooth herringbone gears that flex uniformly and won't trap lubricant.*

2. *Wide spread Samson post with cast-iron on cast-iron saddle bearings, sealed for life and lubricated with oil retained by Lifetime seals.*

3. *Accurate air control system holds counterbalance pressures within 400% to 2000% greater precision ranges than competitive systems.*

4. *Ease of stroke change without clamping off the well, bleeding the air system, unhooking pitmans, knocking out wrist pins — thanks to the eccentric crank.*

5. *Advanced design eliminates the trouble-making air clutch, replacing it with dependable floating or plain sheave and air compressor hookups.*

6. *Check valve in counterbalance piston maintains a constant pressure behind the piston rings.*

7. *Positive recirculation of lubricating oil means that the user concerns himself about oil only when the time comes to change it.*

8. *Double wide spread bearings on Airaction unit provide maximum beam stability — unit stays lined up with the well at all times.*

9. *Lay back horsehead goes all the way to afford maximum clearance — simplifying well servicing.*

10. *Horsehead is adjustable for perfect wire line tracking — without need for use of shims.*

11. *Horsehead layback latch can be operated from the ground — no need to crawl out on the beam.*

12. *Interchangeability of 456 and 640 reducers on the same base provides changeout of Airaction unit to meet well requirements with a minimum of additional parts.*

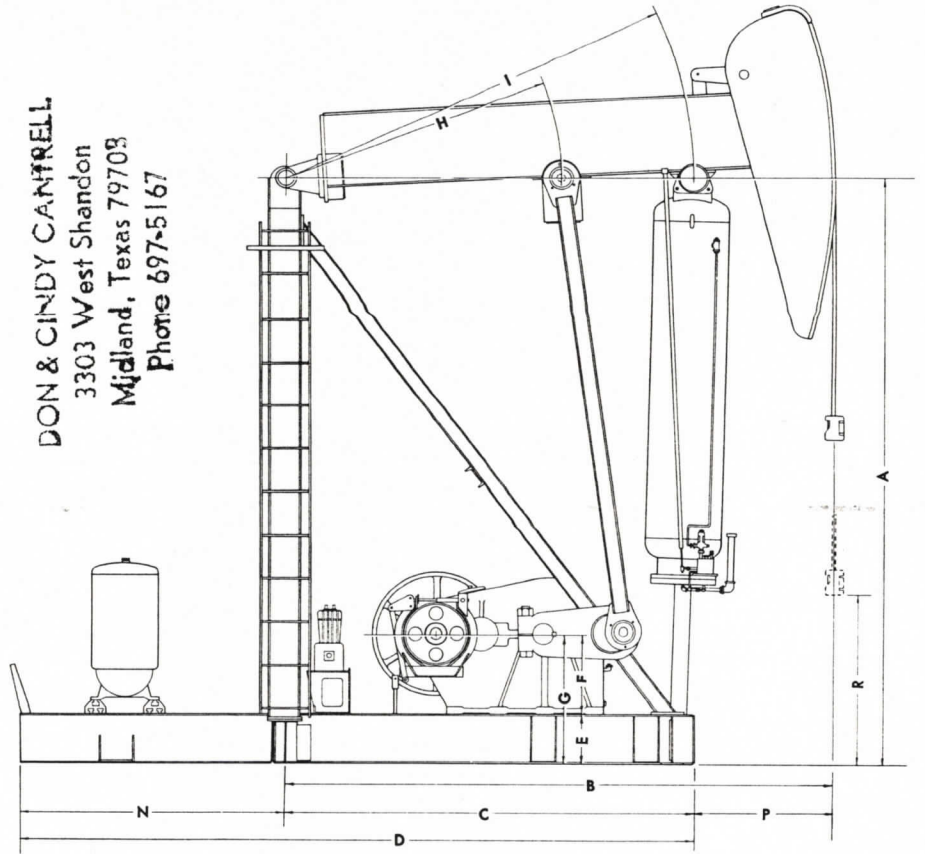
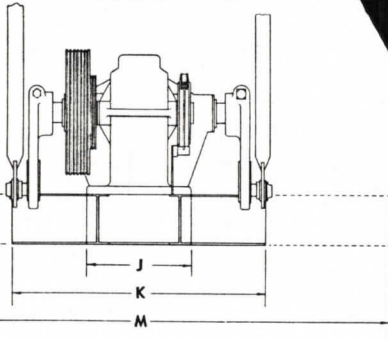
13. *Easy convertibility from narrow base to portable base, with squared and extended cross members for ready addition of outrigger beams.*

14. *Safety-type over center clamshell brake is mechanically superior — and a real "plus" feature to the safety-minded user.*

15. *Saddle bearing Samson post bolting is in shear instead of fatigue-producing tension — eliminating strain that might lead to failure.*

# PARKERSBURG airACTION

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**SPECIFICATIONS**

UNIT DESIGNATION	100-G320DL-32-N12	120-G456DNL-36.5-N12	120-G640DL-36.5-N12	144-G640DL-40-N12
<b>REDUCER DATA:</b>				
API Peak Torque @ 20 SPM	320,000 Inch lbs.	456,000 Inch lbs.	640,000 Inch lbs.	640,000 Inch lbs.
Ratio in Reducer	29.95 to 1	30 to 1	29.97 to 1	29.97 to 1
Pitch Dia. — No. of Grooves, Std.	40" P.D. -7C	44" P.D. -8C or 50" P.D. -8C	34" P.D. -7D or 50" P.D. -10C	34" P.D. -7D or 50" P.D. -10C
Maximum Sheave Size — P.D.	44"	50"	50"	50"
<b>PUMPING STRUCTURE DATA:</b>				
Length of Stroke, Inches	76", 88", 100"	96", 108", 120"	96", 108", 120"	115", 130", 144"
Walking Beam Size	24" @ 100 lbs.	24" @ 100 lbs.	24" @ 100 lbs.	24" @ 160 lbs.
Working Centers, Well End	14' 6"	16' 0"	16' 0"	16' 8"
Working Centers, Pitman End	7' 3"	8' 2"	8' 2"	7' 2"
API Beam Load Rating	32,000 lbs.	36,500 lbs.	36,500 lbs.	40,000 lbs.
Rod Hanger	Wire Line	Wire Line	Wire Line	Wire Line
Wrist Pin Bearing	Roller	Roller	Roller	Roller
Saddle Bearing	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Top Pitman Bearing	Roller	Roller	Roller	Roller
Height to C.L. Saddle Bearing	15' 9"	17' 6"	17' 6"	18'
Base Sills, Size	16" @ 36 lbs.	16" @ 36 lbs.	16" @ 36 lbs.	16" @ 36 lbs.
Approximate Weight, lbs.	24,000	28,500	30,500	32,500
<b>COUNTERBALANCE DATA:</b>				
Max. Effective Counterbalance	27,500	30,000	28,000	32,000
Size of Piston	12 1/2" Dia.	12 1/2" Dia.	12 1/2" Dia.	14" Dia.
Standard Compressor		QUINCY Model 310		

NOTE: All Airaction Units are also available with portable or wide base and Prepacked Bearings.

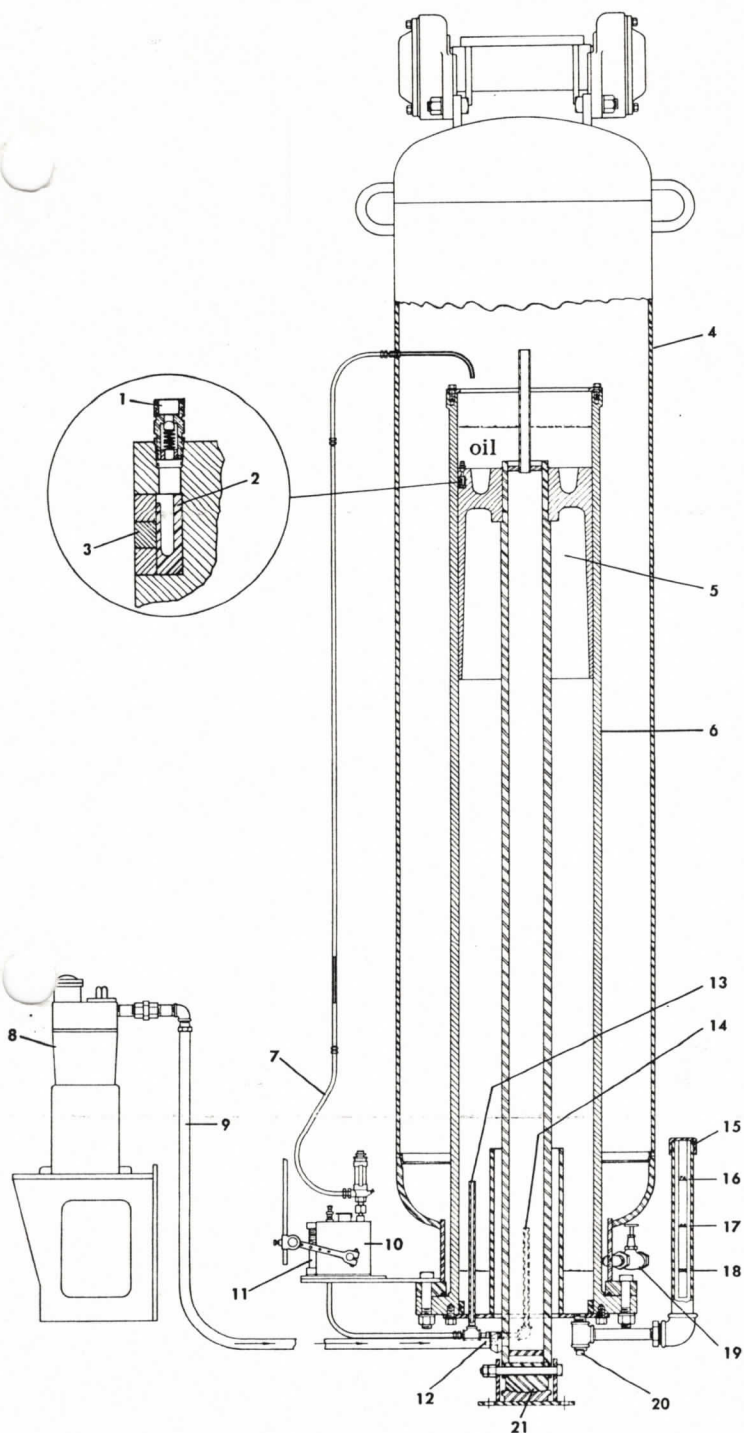
**DIMENSIONS**

	A	B	C	D	E	F	G	H	I	J	K	M	N	P	R
100-G320DL-32-WN12	15'9"	14'6"	10'9"	18'	15 1/8"	2'2"	3'5 1/8"	7'3"	10'9"	2'9 1/2"		93"	7'3"	3'9"	4'7"
100-G320DL-32-N12	15'9"	14'6"	10'9"	17'6 1/2"	15 1/8"	2'2"	3'5 1/8"	7'3"	10'9"	2'9 1/2"	8 1/2"		6'9 1/2"	3'9"	4'7"
120-G320DL-26-N12	15'9"	17'5"	10'9"	17'6 1/2"	15 1/8"	2'2"	3'5 1/8"	7'3"	10'9"	2'9 1/2"	8 1/2"		6'9 1/2"	6'8"	3'2"
120-G320-26-WN12	15'9"	17'5"	10'9"	18'	15 1/8"	2'2"	3'5 1/8"	7'3"	10'9"	2'9 1/2"		93"	7'3"	6'8"	3'2"
120-G456DNL-36.5-N12	17'6"	16'	11'11 1/2"	18'8 1/2"	16 3/8"	2'4"	3'8 3/8"	8'2"	12'	2'9 1/2"	91"		6'9"	4' 1/2"	5'4 1/2"
120-G456DNL-36.5-WN12	17'6"	16'	11'11 1/2"	19'6 1/2"	16 3/8"	2'4"	3'8 3/8"	8'2"	12'	2'9 1/2"		119"	7'7"	4' 1/2"	5'4 1/2"
120-G640DL-36.5-N12	17'6"	16'	11'11 1/2"	18'9"	16 3/8"	1'10"	3'2 3/8"	8'2"	12'	2'9 1/2"	91"		6'9 1/2"	4' 1/2"	5'4 1/2"
120-G640DL-36.5-WN12	17'6"	16'	11'11 1/2"	19'6 1/2"	16 3/8"	1'10"	3'2 3/8"	8'2"	12'	2'9 1/2"		119"	7'7"	4' 1/2"	5'4 1/2"
144-G640DL-40-N12	18'	16'8"	11'7 1/2"	19'2 3/4"	16"	1'10"	3'2"	7'1 3/8"	11'8"	2'9 1/2"	95"		7'7 1/4"	5' 1/2"	4'

## AIR SYSTEM AND LUBRICATION

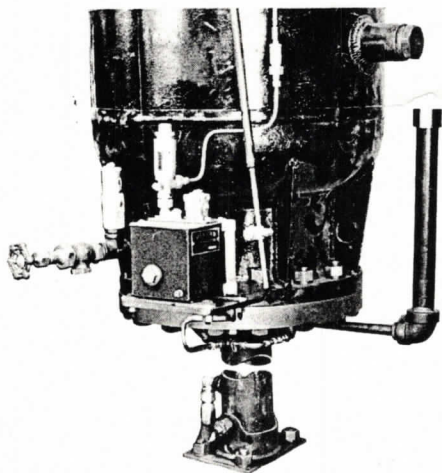
Air is maintained on the counterbalance cylinder by a Quincy Compressor. This air pressure is maintained by a regulator at a predetermined setting. After initial build-up of air pressure, the compressor is used only for occasional makeup air in the system. An oil seal is maintained on the top of the piston to minimize the possibilities of air leaks. The top of the counterbalance cylinder is open to the receiver eliminating any possibility of air friction during the surge of the counterbalance air.

The counterbalance cylinder is lubricated by a combination dip system and a rod actuated oil pump which pumps into the top of the cylinder on each stroke. Oil which passes the piston is collected at the bottom of the cylinder and drained into the intake of the oil pump.

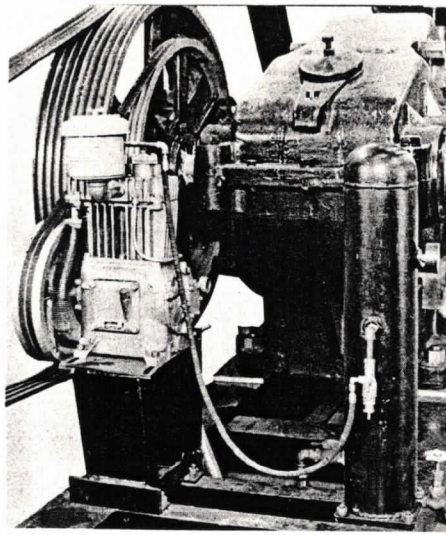


1. Check valve
2. Piston ring expander
3. Piston rings
4. Air receiver
5. Piston
6. Counterbalance cylinder
7. Oil line
8. Air compressor
9. Flexible air hose
10. Oil pump
11. Oil pump gauge
12. Valve — open for long strokes, closed for two short strokes
13. Oil return pipe to pump — 2 short strokes
14. Oil return pipe to pump — long stroke
15. Oil gauge
16. Oil level for 76" stroke
17. Oil level for 88" stroke
18. Oil level for 100" stroke
19. Blowoff valve
20. Oil drain
21. Hardened steel knuckle joint

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## COMPRESSOR AND SIMPLIFIED CONTROL SYSTEM



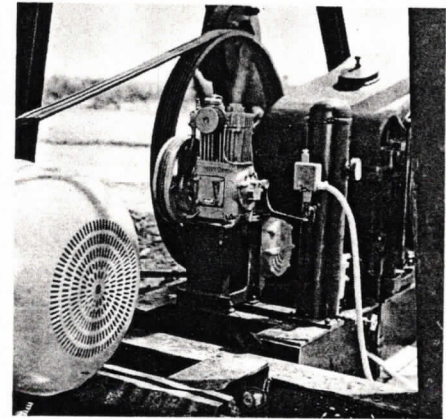
**GAS ENGINE**

The illustration shows a close-up of the air make-up and control system for gas engine drive.

In starting up the unit, four hex head bolts are removed from the main sheave of the unit, allowing it to "free-wheel" or turn on a bushing in the hub. The engine is then run, driving the unit sheave and the compressor until the desired pressure is reached. The four bolts are replaced and the unit is then ready for automatic operation.

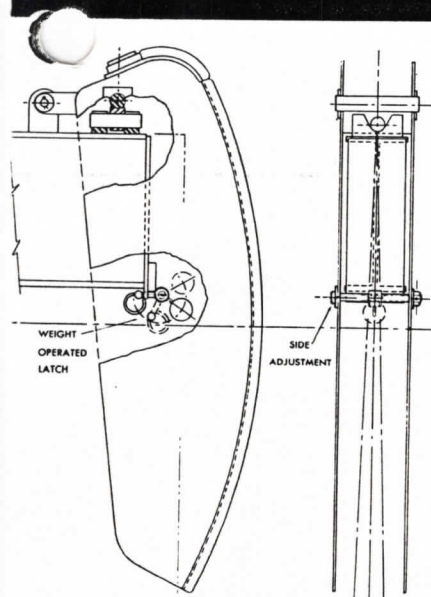
The compressor is belt driven from a V-belt pulley attached to the unit sheave, and operates continuously with the intake valves unloaded until make-up air is required. When make-up air is needed, in the system, the valves are loaded automatically to put the compressor into operation. Pressure is automatically controlled within a five-pound differential.

An oil-bath filter is furnished on the compressor for all gas engine installations. Counterbalance pressure is easily set by regulating an adjusting screw on the unloader pilot control.



**ELECTRIC MOTOR**

The illustration shows a close-up of the new air make-up and control system for electric motor drive. The Quincy model 310 air compressor is driven by an independent 3 hp electric motor through two V-belts. To produce the initial pressure required, the compressor motor only is operated until the required counterbalance pressure is reached. A pressure controller, activated by pressure from the small stabilizer tank, regulates the "off" and "on" of the motor after initial pressure has been reached. Pressure required for proper amount of counterbalance is held within a five-pound differential.

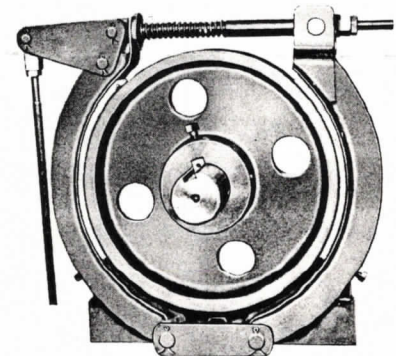


### ADJUSTABLE HORSEHEAD

The exclusive Parkersburg adjustable horsehead is featured on the new Airaction for top pumping convenience and efficiency. Allowing side adjustment of the horsehead also provides a conveniently located release latch on bottom of the walking beam. Adjustments are easily made from one side of the horsehead. A thinline carrier and non-rotating wire line are available for dual pumping.

### CLAM SHELL BRAKES

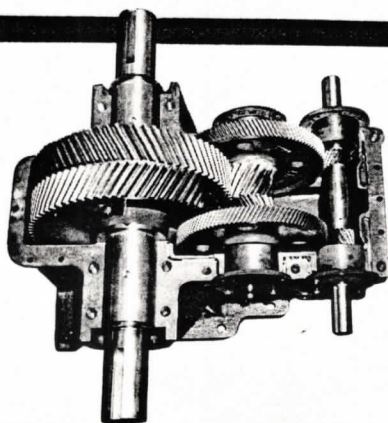
Clam shell brakes used on the high performance Parkersburg Airaction demonstrate proven reliability . . . greater grip . . . positive lock action . . . all of which provides easier and safer operation . . . *only one* of the outstanding features found on the new Parkersburg Airaction!

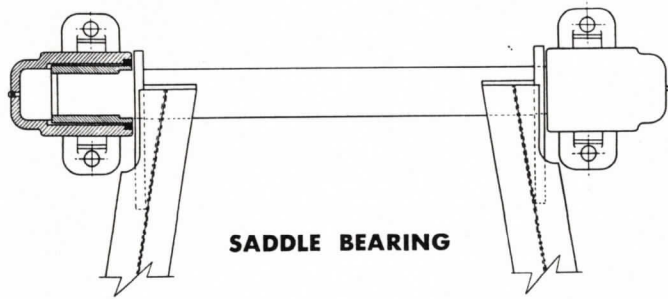


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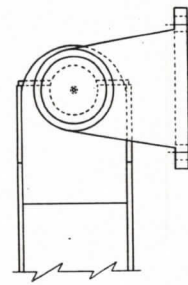
### HERRINGBONE GEAR REDUCERS

An outstanding feature highlight of the Parkersburg gear reducer is the revolutionary design of herringbone gears to eliminate the "oil trap" at the apex or V of the teeth. This also permits uniform flexing of gear teeth; thereby increasing the life of the gear train. Parkersburg gear reducers are manufactured to A.P.I. specifications and adhere to the A.P.I. family of sizes. All parts are manufactured in Parkersburg's own shops where outstanding quality control is standard operating procedure. Parkersburg gear reducers are designed expressly for durable, dependable and profitable oil well pumping duty.

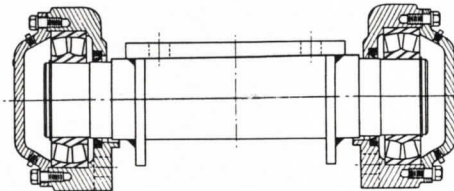
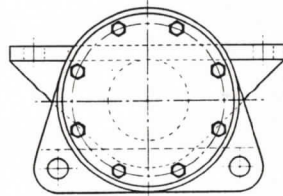




**SADDLE BEARING**

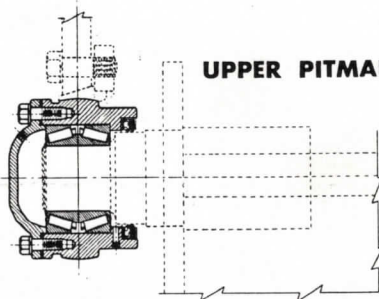


**UPPER CYLINDER BEARING**

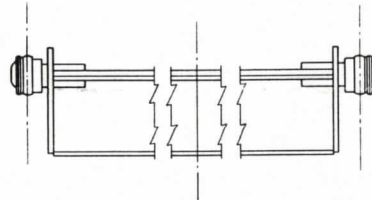


The "rugged and right" Parkersburg Airaction features completely enclosed, heavy-duty bearings... this means that lubrication is sealed in and dust and dirt is sealed out for more efficient, economical and long-lasting pumping performance!

You'll find longer life... plus performance and outstanding operational reliability in the saddle bearing and upper cylinder bearing of the great new Parkersburg Airaction! (Factory pre-lubricated bearings are standard equipment.)

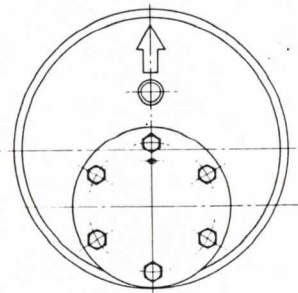
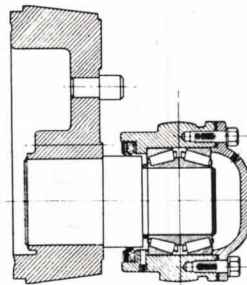


**UPPER PITMAN BEARINGS**



The yoke on the Parkersburg Airaction is bolted to the beam to provide outstanding strength and rigidity to the beam. In order to further the Parkersburg tradition of always providing the maximum ease, efficiency and economy of oil field pumping operations, the pre-lubricated pitman bearings are self-aligning.

**ECCENTRIC CRANK AND WRIST-PIN BEARING ASSEMBLY**



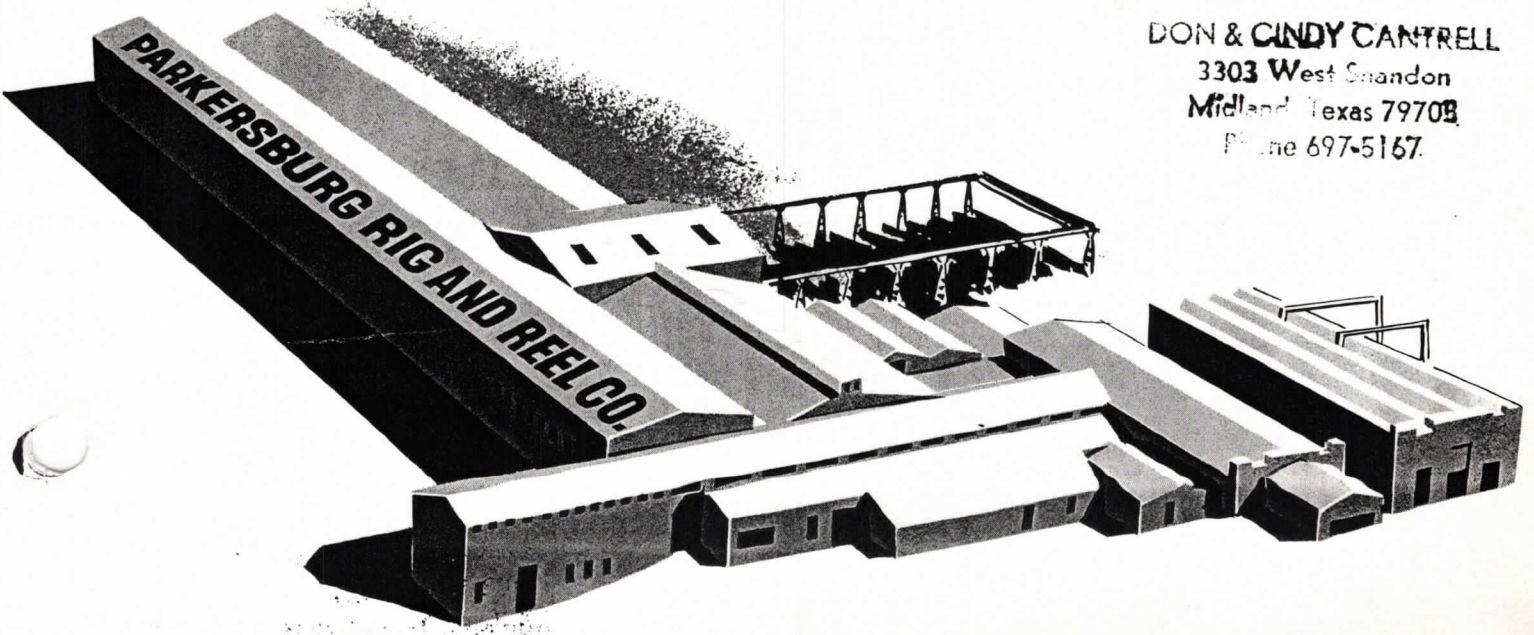
The exclusive eccentric crank is standard equipment on all Parkersburg Airaction units. This feature eliminates the necessity of having to remove the pre-lubricated wrist-pins and pitmans, or the well load from the unit in order to change stroke length.

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GET THE  
POSITIVE BENEFITS  
OF NEW  
AIRACTION  
PLUS  
**UNMATCHABLE  
PARKERSBURG  
SERVICE**

Wherever oil is found . . . you'll find a Parkersburg man near at hand! For Parkersburg total service is geared to the carefully integrated efforts of more than 2000 sales and service representatives of the more than 200 "Parkersburg Partner" major supply stores — backed up by more than 250 Parkersburg Rig & Reel Company engineers, designers, technicians, craftsmen, and sales and service field personnel — all assigned to work together to provide the most comprehensive service coverage ever experienced by the industry! And Parkersburg offers unchallenged leadership in top product quality! Built of highest quality materials by seasoned craftsmen in a newly enlarged, modern plant facility . . . Parkersburg pumping units reflect an earned tradition of extra-high quality, assured reliability and proven profitability! And Parkersburg is the only name found on all three basic types of pumping units — gear, chain and airaction! You always have the choice of what you need . . . and proof of quality, too, **WITH A PARKERSBURG PUMPING UNIT.** And Parkersburg is the only pumping unit manufacturer with an integrated factory-to-field sales team. From the instant a customer need is transmitted to a "Parkersburg Partner" . . . a smoothly organized, fully integrated store and factory sales team begins its behind-the-scenes activities . . . activities which provide the liaison, the supervision and the follow-through necessary to efficiently translate the transmission of the customer's request into a product which will be properly specified, promptly delivered, rapidly assembled and installed . . . and quickly put to work . . . pumping up extra profits — for you!

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**A TRADITION OF ADVANCED RESEARCH AND DEVELOPMENT**

For more than six decades Parkersburg designers have kept one eye on the field... even while pursuing the problem of creating better pumping units from the pure academics of engineering... It is this "eye on the field" tempered with the sound "laboratory engineering approach" of Parkersburg designers which guides today's program of research and development at Parkersburg... Even while they are probing the pure science of design, the Parkersburg engineering staff is listening... and attempting to translate your idea of "a perfect pumper"... into a Parkersburg!



**THE  
PARKERSBURG  
RIG & REEL COMPANY**

*Division of Parkersburg-Aetna Corp.*

Pumping Unit Division      Coffeyville, Kansas

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