

MAGEE INDUSTRIES INC.

AP APPROVED

BIG M PUMPING UNITS



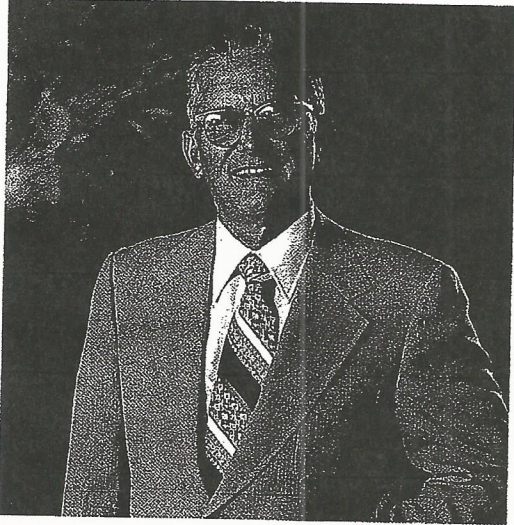
**“RUGGEDNESS WITH QUALITY
IS OUR TRADEMARK”**

GENERAL OFFICES AND MANUFACTURING PLANT

3900 FORNEY ROAD

MESQUITE, TEXAS 75149

(214) 288-9315



**A MESSAGE TO
OUR OIL COUNTRY FRIENDS
FROM
MR. H. E. MAGEE**
Founder

Dear Friends:

For over twenty-five years, Magee Industries has strived to provide the finest machining and fabrication capabilities to the oil industry.

Now we have undertaken another tremendous responsibility to the oil industry. We are manufacturing the "Big M" Pumping Units and we sincerely believe we are producing the finest quality product with the best machine tools and fabrication facilities available. Your "Big M" Pumping Equipment will give you trouble free service for many years.

We cordially invite you to visit our facilities and see first hand our capabilities and workmanship. We take great pride in what we produce.

Sincerely,

H. E. Magee
H. E. Magee

American Petroleum Institute

Certificate of Authority To Use Official Monogram

THE AMERICAN PETROLEUM INSTITUTE hereby grants to

MAGEE INDUSTRIES INC.

Mesquite, Texas

the right to use the official monogram



on pumping units

under the conditions specified in the official publication of the American Petroleum Institute entitled 11E—Specification for Pumping Units

and in accordance with the provisions of the agreement set forth in the application.

The American Petroleum Institute reserves the right to revoke this authorization to use the official monogram, for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

Issued March 5, 1981.



AMERICAN PETROLEUM INSTITUTE,

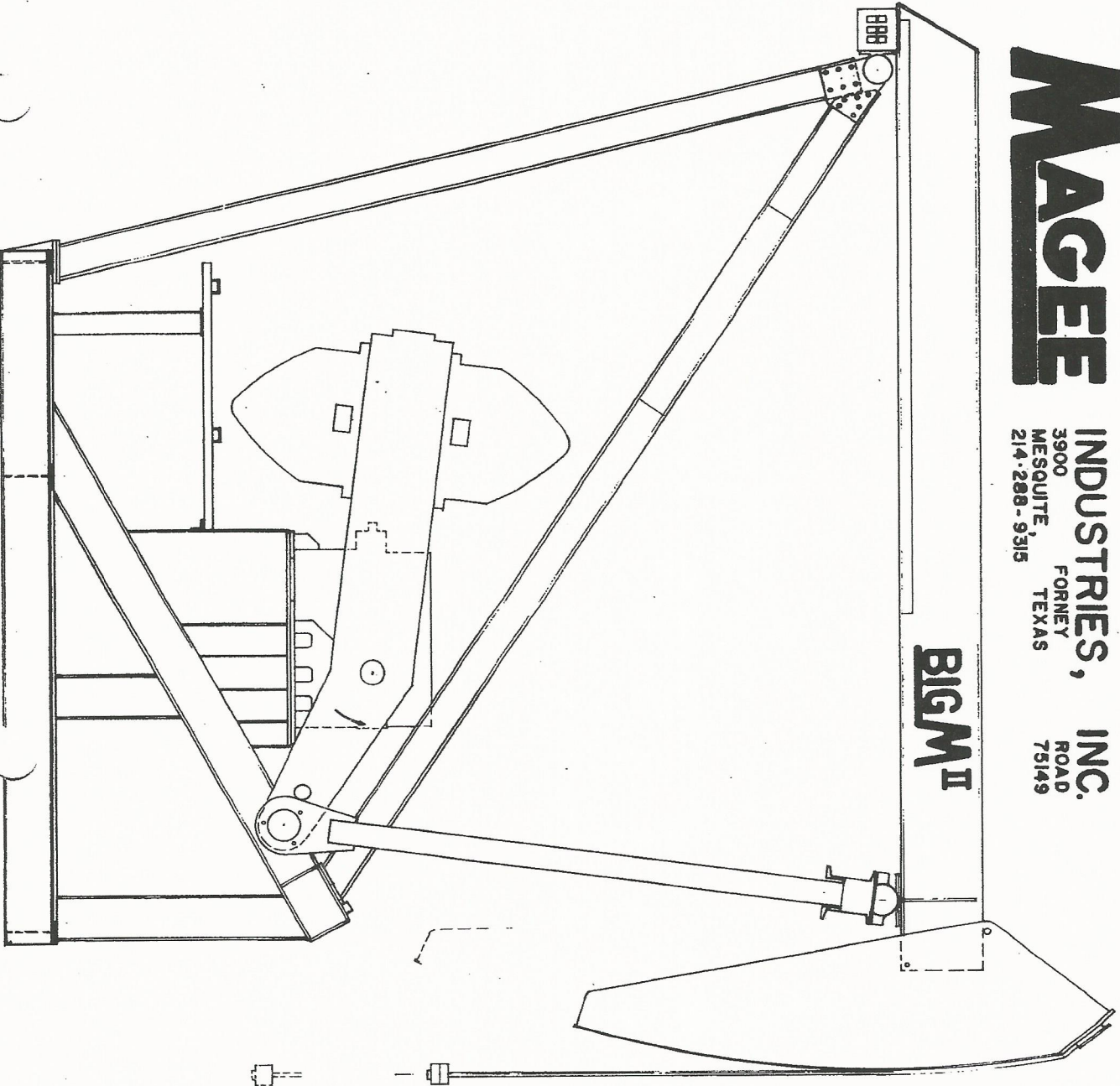
Secretary.

MAGEE

INDUSTRIES,
3900
MESQUITE,
214-288-9315
FORNEY
TEXAS

INC.
ROAD
75149

BIG M II



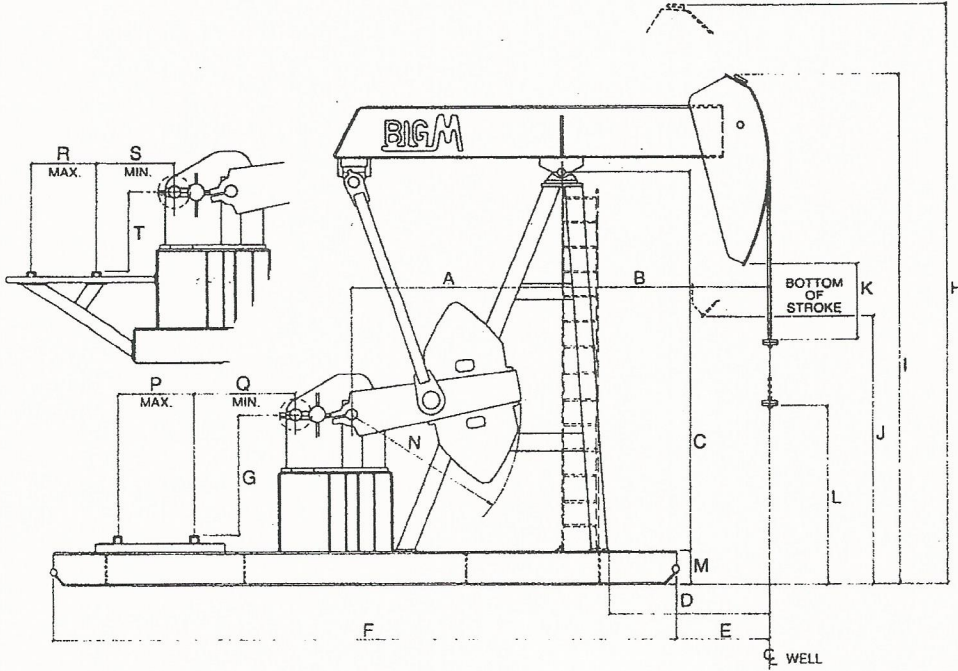
CLASS III

M ^{II}	912 - 365 - 144
M ^{II}	912 - 305 - 144
M ^{II}	640 - 365 - 144
M ^{II}	640 - 305 - 144
M ^{II}	640 - 305 - 120
M ^{II}	640 - 256 - 144
M ^{II}	456 - 365 - 144
M ^{II}	456 - 365 - 120
M ^{II}	456 - 305 - 144
M ^{II}	456 - 305 - 120
M ^{II}	456 - 256 - 144
M ^{II}	456 - 256 - 120
M ^{II}	320 - 305 - 120
M ^{II}	320 - 305 - 100
M ^{II}	320 - 256 - 144
M ^{II}	320 - 256 - 120
M ^{II}	320 - 256 - 100
M ^{II}	228 - 256 - 120
M ^{II}	228 - 256 - 100

MAGEE INDUSTRIES INC.

BIGM

PUMPING UNIT GENERAL DIMENSIONS



AP
APPROVED

UNITS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	BASE WIDTH	
	MAX.	MIN.																		MAX.	MIN.
C 114-143-64	6'-0"	7'-0"	11'-0"	5'-10 1/8"	3'-4 3/4"	22'-1 1/4"	3'-3 1/4"	17'-11"	15'-8 3/4"	7'-0 3/4"	18 3/4"	4'-7 1/2"	12"	54"	33"	4'-11 1/2"	15"	25"	2'-6"	6'-8 1/2"	4'-9 1/4"
C 160-200-74	8'-0"	8'-0"	15'-0"	6'-2 3/4"	3'-6 1/4"	24'-0"	5'-0"	22'-8 1/4"	20'-1 3/4"	10'-5 1/2"	35 3/4"	7'-1 3/4"	16"	78"	"	4'-6 1/4"	35"	32 1/2"	3'-0 9/8"	6'-11"	5'-1 3/4"
C 228-246-86	9'-3"	9'-3"	18'-0"	8'-2 3/4"	5'-0 1/4"	27'-0"	6'-5 1/8"	26'-5"	23'-4 1/2"	13'-3 1/2"	60 3/4"	7'-3 1/2"	"	95"	"	5'-9 3/4"	30 3/4"	31 1/8"	4'-4 3/4"	7'-7"	5'-10 3/4"
C 320-305-100	"	10'-9"	"	9'-8 3/4"	6'-8 3/4"	"	6'-4 7/8"	"	23'-9 1/2"	10'-7"	46 1/2"	6'-5 3/4"	"	"	"	6'-5"	"	31"	4'-5"	"	"
C 456-365-120	10'-0"	12'-8"	20'-2"	8'-11"	8'-11"	31'-3"	7'-8"	31'-0"	27'-5 1/2"	12'-5"	55 3/4"	7'-10"	"	110"	48"	8'-0 5/8"	50 1/2"	33"	4'-3"	8'-0"	6'-9 1/4"
C 640-365-144	"	15'-0"	"	11'-3"	11'-3"	"	"	32'-9"	28'-4"	10'-7"	33 1/4"	7'-11"	"	"	"	7'-9 1/4"	"	30 3/4"	"	"	"
C 912-365-168	"	17'-6"	"	13'-9"	13'-9"	"	7'-10"	34'-10"	29'-3"	9'-1"	20 1/2"	7'-4"	"	"	"	7'-2 1/4"	"	23 3/4"	4'-5"	"	"

BIGM

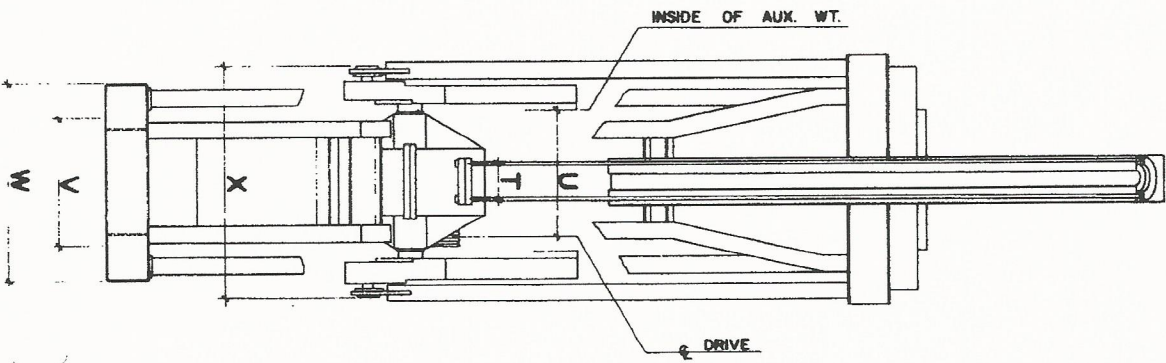
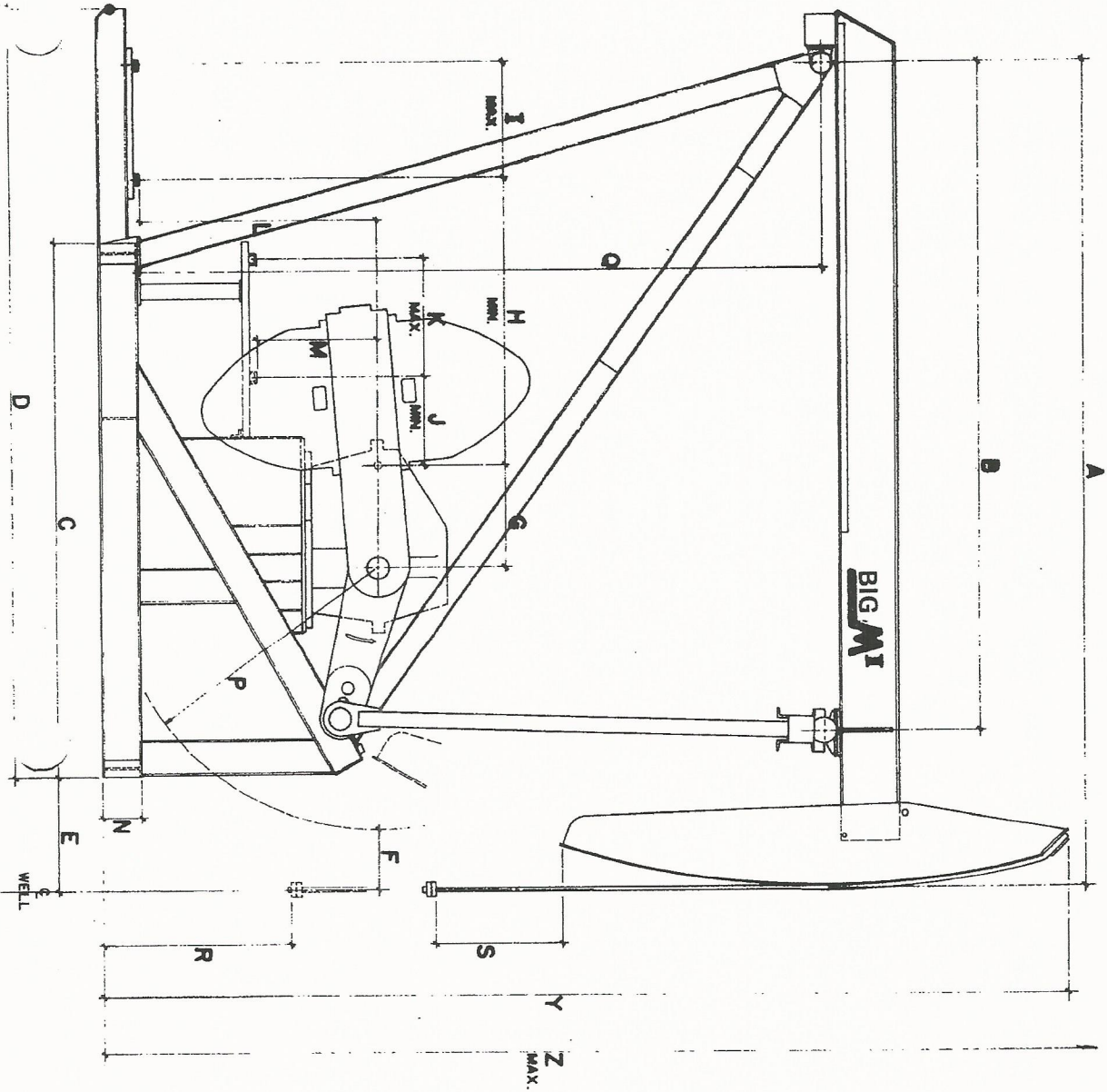
PUMPING UNIT COUNTER BALANCE CHART

EFFECTIVE COUNTER BALANCE (MAX.) INCLUDING STRUCTURAL UNBALANCE

UNIT		912-365-168	640-365-144	456-365-120	320-305-100	228-246-86	160-200-74	114-143-64
CRANK NO.		7-DL	7-DL	7-DL	7-BL	7-B	7-CL	7-A
'B'		-1502	-686	+88	+452	+619	+832	+521
'TF'		79,559	67,979	57,404	47,457	40,835	36,299	31,33
C BAL- CRANK		5372	7358	9614	8202	6116	6020	2308
9-E	4	20,780	25,391	30,969	.....	.....	.....	.....
9-E1	4	25,464	30,870	37,461	.....	.....	.....	.....
9-E1	8	30,148	36,356	.....	.....	.....	.....	.....
9-D	4	19,021	23,334	28,532	26,768	.....	.....	.....
9-D1	4	23,758	28,877	35,097	33,210	.....	.....	.....
9-D1	8	28,495	34,420	.....	.....	.....	.....	.....
9-C	4	13,673	17,075	21,120	19,692	19,469	.....	.....
9-C1	4	16,808	20,743	25,465	24,242	24,511	.....	.....
9-C1	8	19,943	24,412	29,810	28,250	.....	.....	.....
9-A	4	11,601	14,649	18,248	16,875	16,195	14,967	8,050
9-A1	4	14,311	17,820	22,003	20,648	20,580	18,860	10,548
9-A1	8	17,021	20,992	25,759	24,421	.....	.....	13,046
9-B	4	9,572	12,275	15,436	14,104	12,975	12,195	6,483
9-B1	4	11,216	14,199	17,715	16,413	15,659	14,611	8,116
9-B1	8	12,860	16,123	19,993	18,723	.....	17,028	9,750

"RUGGEDNESS WITH QUALITY IS OUR TRADEMARK"

MAGEE INDUSTRIES INC.



BIG M^{II} Pumping Unit

Counter Balance Chart

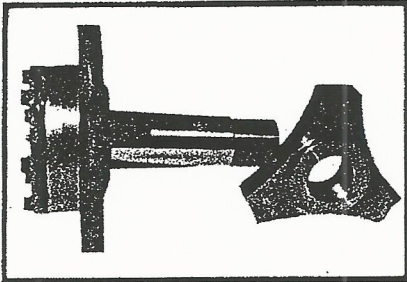
EFFECTIVE COUNTER BALANCE (MAX.)
INCLUDING STRUCTURAL UNBALANCE

UNITS	912-305-192		912-305-168		912-365-144		912-305-144		320-256-144	
	912-305-216	640-305-192 456-305-192	912-365-168	640-305-168 456-305-168	912-365-144	640-365-144 456-365-144	640-305-144	640-256-144 456-256-144	320-256-144	
CRANK NO.	7216	7192	7168	7168	7144	7144	7144	7144	7144	
'B'	-7680 LBS	-7,345 LBS.	-5,411 LBS.	-5,135 LBS.	-4,709 LBS	-4,692 LBS.	-4,524 LBS	-4,174 LBS		
C' BAL CRANK	3164	4679	1095	1371	3935	3952	4124	4473		
OLD NEW										
801 4	21,805	24,997	18,766	19,044	.....	.....	.....	.....	.....	.....
802 4	33,150	37,364	27,984	.....	.....	.....	.....	.....	.....	.....
9-E 701 4	18,738	22,175	15,858	16,136	21,172	21,189	21,369	21,710		
9-EI 702 4	23,477	27,340	20,351	20,629	26,416	26,433	.....	.....	.....	.....
9-EI 702 8	28,216	32,506	24,843	25,122	31,661	.....	.....	.....	.....	.....
9-D 801 4	16,376	19,600	13,727	14,005	18,683	18,700	18,880	19,221		
9-DI 802 4	20,973	24,611	18,123	18,401	23,815	23,832	24,015	24,353		
9-DI 802 8	25,570	29,622	22,519	22,797	28,948	28,965	.....	.....	.....	.....
9-C 401 4	12,140	14,983	9,876	10,153	14,187	14,204	14,381	14,725		
9-CI 402 4	14,872	17,961	12,548	12,825	17,307	17,324	17,503	17,845		
9-CI 402 8	17,603	20,938	15,220	15,498	20,426	20,443	20,624	20,964		
9-A 301 4	8,804	11,347	6,635	6,912	10,403	10,420	10,596	10,941		
9-AI 302 4	11,256	14,020	9,043	9,321	13,215	13,232	13,409	13,753		
9-AI 302 8	13,708	16,692	11,452	11,729	16,027	16,044	16,222	16,565		
9-B 201 4	7,406	9,823	5,307	5,584	8,853	8,870	9,045	9,391		
9-BI 202 4	9,012	11,574	6,902	7,180	10,716	10,733	10,908	11,254		
9-BI 202 8	10,619	13,325	8,498	8,775	12,578	12,595	12,772	13,116		
101 4	4,798	6,980	2,743	3,019	5,859	5,876	6,049	6,397		
102 4	5,509	7,755	3,460	3,737	6,697	6,714	6,887	7,235		
102 8	6,220	8,530	4,177	4,454	7,534	7,551	7,725	8,072		

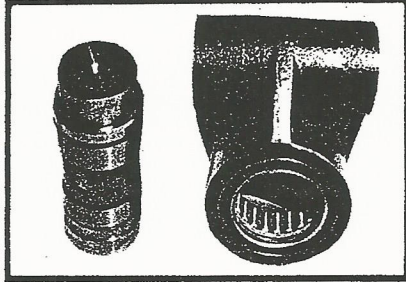
UNITS	640-305-120		320-305-120		320-256-120		320-305-100		320-256-100	
	456-365-120	456-305-120	320-305-120	456-256-120	228-256-120	320-305-100	320-256-100	228-256-100		
CRANK NO.	7120	7120	7120	7120	7120	7100	7100	7100		
'B'	-4223 LBS	-4240 LBS.	-3890 LBS	-4054 LBS.	-3747 LBS.	-3623 LBS.	-3520 LBS.	-3487 LBS.		
C' BAL CRANK	3708	3691	4036	3877	4179	5068	5171	5204		
OLD NEW										
9-D 801 4	21,451	21,434	21,767	21,620	21,910	.....	.....	.....	.....	.....
9-DI 802 4	27,625	27,608	27,937	.....	.....	.....	.....	.....	.....	.....
9-DI 802 8	33,799	.....	.....	.....	.....	.....	.....	.....	.....	.....
9-C 401 4	16,042	16,025	16,361	16,211	16,504	19,900	20,003	20,036		
9-CI 402 4	19,795	19,778	20,112	19,964	20,255	24,414	24,517	24,550		
9-CI 402 8	23,548	23,531	23,863	23,717	24,006	.....	.....	.....
9-A 301 4	11,490	10,473	11,812	11,659	11,955	14,426	14,529	14,562		
9-AI 302 4	14,873	14,856	15,193	15,042	15,336	18,495	18,589	18,631		
9-AI 302 8	18,256	18,239	18,573	18,425	18,716	22,563	22,666	22,699		
9-B 201 4	9,625	9,608	9,949	9,794	10,092	12,183	12,286	12,319		
9-BI 202 4	11,866	11,849	12,188	12,035	12,331	14,878	14,981	15,014		
9-BI 202 8	14,106	14,089	14,427	14,275	14,570	17,573	17,676	17,709		
101 4	6,023	6,006	6,349	6,192	6,492	7,852	7,955	7,988		
102 4	7,031	7,014	7,356	7,200	7,499	9,063	9,166	9,199		
102 8	8,038	8,021	8,363	8,207	8,506	10,275	10,378	10,411		

MAGEE INDUSTRIES INC.

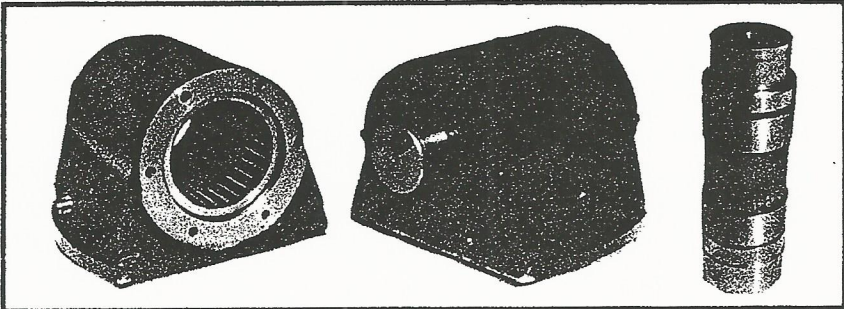
BIG M UNITS



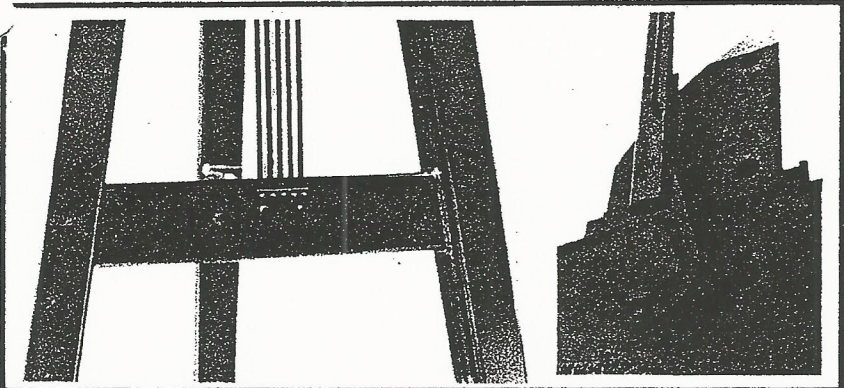
All crankpin assemblies are furnished with heavy duty Spherical Roller Bearings.



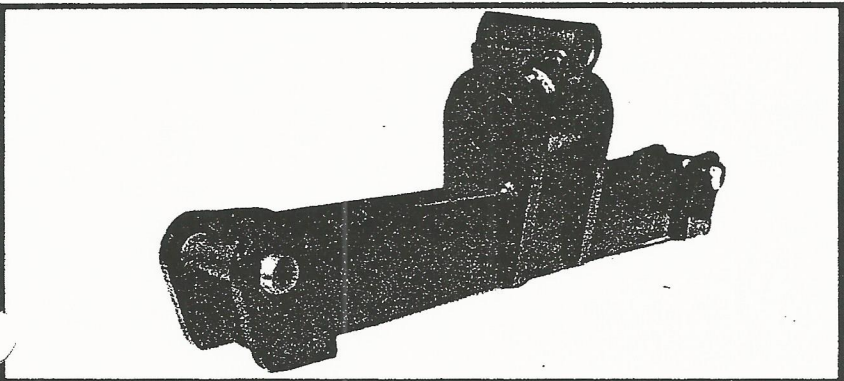
Equalizer housings are Ductile Iron with Heavy Duty Roller Bearings on all sizes.



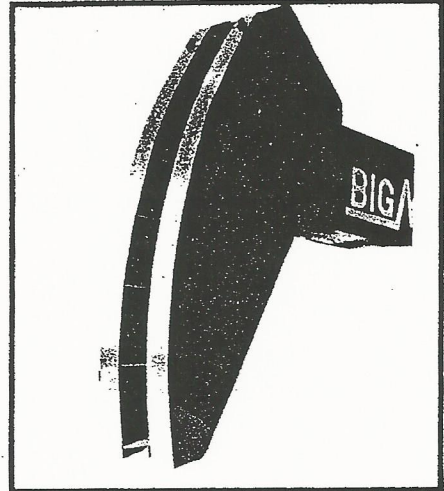
Center Bearing Housing are Ductile Iron with Heavy Duty Roller Bearings on all sizes.



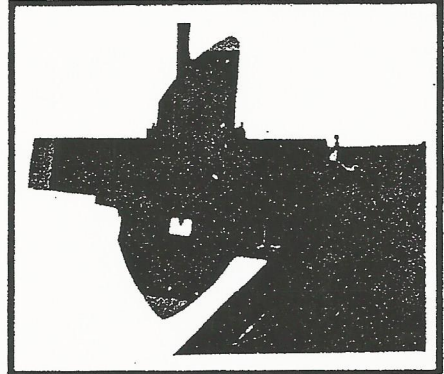
The new concept of rectangular tubing in our structural design is a first. Our Sampson Post, Equalizer Beam and Pitman Arms are heavy wall rectangular tubing.



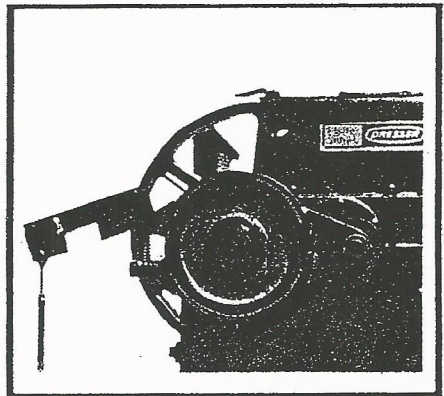
Since rectangular tubing is manufactured in a completely different process from structural metal shapes, this eliminates the possibility of structural failure that is so common in the industry today.



"Big M" Horsehead is easily aligned with polished rod without disconnecting well. Two piece reinforced plate used for greater strength.



All "Big M" counterweights can be easily adjusted by one man. Various combinations of counterweights are available to meet your counterbalance requirements.



"Big M" locomotive type brake and brake drum assembly gives you greater holding capacity for safe operating conditions. Has no "grabbing effect" with smoother action when applied.

MAGEE INDUSTRIES INC.

API SIZE 114D "BIG M" C114D-143-64 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:
14,300#
WALKING BEAM: 18" WF x 71#/Ft.
LENGTH OF STROKE: 64", 52" and
40"
CENTER BEARING: Heavy Duty Roll-
er Bearings
EQUALIZER BEARING: Heavy Duty
Roller Bearings
CRANKPIN BEARING: Heavy Duty
Spherical Roller Bearings
PITMAN SIDEMEMBERS: Banjo
Type w/5"x2" Heavy Wall Rectangu-
lar Tubing
HANGER: Standard Horsehead w/
Wireline and Carrier Bar
BASE: 12" WF x 30# Heavy Duty Port-
able and Bolted Extensions For
Engines and/or Electric Motors

GEAR REDUCER DATA

GEARS: 114D API Helical
PEAK TORQUE RATING: 114,000
in. lbs.
GEAR RATIO: 31.8 to 1
CRANKSHAFT DIAMETER: 5" O.D.
HIGH SPEED PINION DIAMETER: 3"
O.D.
SHEAVE: 30" PD-4C Standard
OIL CAPACITY: 30 U.S. Gallons

GEAR REDUCER DATA

GEARS: 114D API Double Helical
PEAK TORQUE RATING: 114,000
in. lbs.
GEAR RATIO: 29.28 to 1
CRANKSHAFT DIAMETER: 4 $\frac{7}{16}$ "
O.D.
HIGH SPEED PINION DIAMETER:
1 $\frac{5}{16}$ " O.D.
SHEAVE: 30" PD-4C Standard
OIL CAPACITY: 24 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS &
OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

API SIZE 160D "BIG M" C160D-200-74 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:
20,000#
WALKING BEAM: 24" WF x 94#
LENGTH OF STROKE: 74", 64" and
54"
CENTER BEARING: Heavy Duty Roll-
er Bearings
EQUALIZER BEARING: Heavy Duty
Roller Bearings
CRANKPIN BEARING: Heavy Duty
Spherical Roller Bearings
PITMAN SIDEMEMBERS: Banjo
Type w/5"x3" Heavy Wall Rectangu-
lar Tubing
BASE: Heavy Duty 16" WF x 36# Port-
able and/or Bolted Extensions For
Engines and/or Electric Motors

GEAR REDUCER DATA

GEARS: 160D API Helical
PEAK TORQUE RATING: 160,000
in. lbs.
GEAR RATIO: 31.4 to 1
CRANKSHAFT DIAMETER: 5 $\frac{7}{16}$ "
O.D.
HIGH SPEED SHAFT DIAMETER:
3" O.D.
SHEAVE: 30" PD-4C Standard
OIL CAPACITY: 35 U.S. Gallons

GEAR REDUCER DATA

GEARS: 160D API Double Helical
PEAK TORQUE RATING: 160,000
in. lbs.
GEAR RATIO: 28.6 to 1
CRANKSHAFT DIAMETER: 5 $\frac{7}{16}$ "
O.D.
HIGH SPEED SHAFT DIAMETER:
2 $\frac{3}{16}$ " O.D.
SHEAVE: 30" PD-4C Standard
OIL CAPACITY: 60 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS &
OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

API SIZE 228T AND 228D "BIG M" C228T-246-86 AND C228D-246-86 PUMPING UNITS

STRUCTURAL DATA

API POLISHED ROD CAPACITY:
24,600#
WALKING BEAM: 24" WF x 117#
LENGTH OF STROKE: 86", 74" and
61"
CENTER BEARING: Heavy Duty Roll-
er Bearings
EQUALIZER BEARING: Heavy Duty
Roller Bearings
CRANKPIN BEARING: Heavy Duty
Spherical Roller Bearings
PITMAN SIDEMEMBERS: Banjo
Type w/5"x3" Heavy Wall Rectangu-
lar Tubing
HANGER: Standard Horsehead w/
Wireline and Carrier Bar
BASE: Heavy Duty 16" WF x 36# Port-
able and/or Bolted Extensions For
Engines and/or Electric Motors

GEAR REDUCER DATA

GEARS: 228T API Helical
PEAK TORQUE RATING: 228,000
in. lbs.
GEAR RATIO: 37.3 to 1
CRANKSHAFT DIAMETER: 6" O.D.
HIGH SPEED SHAFT DIAMETER: 3"
O.D.
SHEAVE: 30" PD-5C Standard
OIL CAPACITY: 60 U.S. Gallons

GEAR REDUCER DATA

GEARS: 228D API Double Helical
PEAK TORQUE RATING: 228,000
in. lbs.
GEAR RATIO: 29.1 to 1
CRANKSHAFT DIAMETER: 6" O.D.
HIGH SPEED SHAFT DIAMETER:
2 $\frac{7}{16}$ " O.D.
SHEAVE: 30" PD-5C Standard
OIL CAPACITY: 65 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS &
OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

MAGEE INDUSTRIES INC.

API SIZE 320T AND 320D

"BIG M" C320T-305-100 AND C320D-305-100 PUMPING UNITS

STRUCTURAL DATA

API POLISHED ROD CAPACITY:
30,500#
WALKING BEAM: 27" WF x 146#
LENGTH OF STROKE: 100", 85" and
70"
CENTER BEARING: Heavy Duty Roll-
er Bearings
EQUALIZER BEARING: Heavy Duty
Roller Bearings
CRANKPIN BEARING: Heavy Duty
Spherical Roller Bearings
PITMAN SIDEMEMBERS: Banjo
Type w/6"x3" Heavy Wall Rectangu-
lar Tubing
HANGER: Standard Horsehead w/
Wireline and Carrier Bar
BASE: Heavy Duty 16" WF x 45# Port-
able and/or Bolted Extensions For
Engines and/or Electric Motors

GEAR REDUCER DATA

GEARS: 320T API Helical
PEAK TORQUE RATING: 320,000
in. lbs.
GEAR RATIO: 38.7 to 1
CRANKSHAFT DIAMETER: 7 $\frac{3}{4}$ "
O.D.
HIGH SPEED SHAFT DIAMETER:
3 $\frac{1}{2}$ " O.D.
SHEAVE: 36" PD-6C Standard
OIL CAPACITY: 84 U.S. Gallons

GEAR REDUCER DATA

GEARS: 320D API Double Helical
PEAK TORQUE RATING: 320,000
in. lbs.
GEAR RATIO: 30.12 to 1
CRANKSHAFT DIAMETER: 6 $\frac{7}{16}$ "
O.D.
HIGH SPEED SHAFT DIAMETER:
2 $\frac{15}{16}$ " O.D.
SHEAVE: 36" PD-6C Standard
OIL CAPACITY: 85 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS &
OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

API SIZE 456D

"BIG M" C456D-365-120 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:
36,500#

WALKING BEAM: 30" WF x 191#
LENGTH OF STROKE: 120", 105"
and 90"
CENTER BEARING: Heavy Duty Roll-
er Bearings
EQUALIZER BEARING: Heavy Duty
Roller Bearings
CRANKPIN BEARING: Heavy Duty
Spherical Roller Bearings
PITMAN SIDEMEMBERS: Banjo
Type w/6"x3" Heavy Wall Rectangu-
lar Tubing
HANGER: Standard Horsehead w/
Wireline and Carrier Bar
BASE: 16" WF x 77# Heavy Duty Port-
able and/or Bolted Extensions For
Engines and/or Electric Motors

GEAR REDUCER DATA

GEARS: 456D API Double Helical
PEAK TORQUE RATING: 456,000
in. lbs.
GEAR RATIO: 29.2 to 1
CRANKSHAFT DIAMETER: 7" O.D.
HIGH SPEED SHAFT DIAMETER:
3 $\frac{7}{16}$ " O.D.
SHEAVE: 36" PD-8C Standard
OIL CAPACITY: 107 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS &
OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

API SIZE 640D

"BIG M" C640D-365-144 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:
36,500#
WALKING BEAM: 33" WF x 201#
LENGTH OF STROKE: 144", 124"
and 106"
CENTER BEARING: Heavy Duty Roll-
er Bearings
EQUALIZER BEARING: Heavy Duty
Roller Bearings
CRANKPIN BEARING: Heavy Duty
Spherical Roller Bearings
PITMAN SIDEMEMBERS: Banjo
Type w/6"x3" Heavy Wall Rectangu-
lar Tubing
HANGER: Standard Horsehead w/
Wireline and Carrier Bar
BASE: 16" WF x 77# Heavy Duty Port-
able and/or Bolted Extensions For
Engines and/or Electric Motors

GEAR REDUCER DATA

GEARS: 640D API Double Helical
PEAK TORQUE RATING: 640,000
in. lbs.
GEAR RATIO: 28.5 to 1
CRANKSHAFT DIAMETER: 7" O.D.

HIGH SPEED SHAFT DIAMETER:
3 $\frac{7}{16}$ " O.D.
SHEAVE: 36" PD-8C Standard
OIL CAPACITY: 107 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS &
OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

API SIZE 912D

"BIG M" C912D-365-168 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:
36,500#
WALKING BEAM: 33" WF x 221#
LENGTH OF STROKE: 168", 145"
and 124"
CENTER BEARING: Heavy Duty Roll-
er Bearings
EQUALIZER BEARING: Heavy Duty
Roller Bearings
CRANKPIN BEARING: Heavy Duty
Spherical Roller Bearings
PITMAN SIDEMEMBERS: Banjo
Type w/6" x 3" Heavy Wall Rec-
tangular Tubing
HANGER: Standard Horsehead w/
Wireline and Carrier Bar
BASE: 16" WF x 77# Heavy Duty
Portable and/or Bolted
Extensions For Engines and/or
Electric Motors

GEAR REDUCER DATA

GEARS: 912D API Double Helical
PEAK TORQUE RATING: 912,000 in.
lbs.
GEAR RATIO: 28.6 to 1
CRANKSHAFT DIAMETER: 7" O.D.
HIGH SPEED SHAFT DIAMETER:
4 $\frac{3}{16}$ " O.D.
SHEAVE: 36" PD-8D or 50" PD-10C
Standard
OIL CAPACITY: 122 U.S. Gallons

OPTIONAL ITEMS

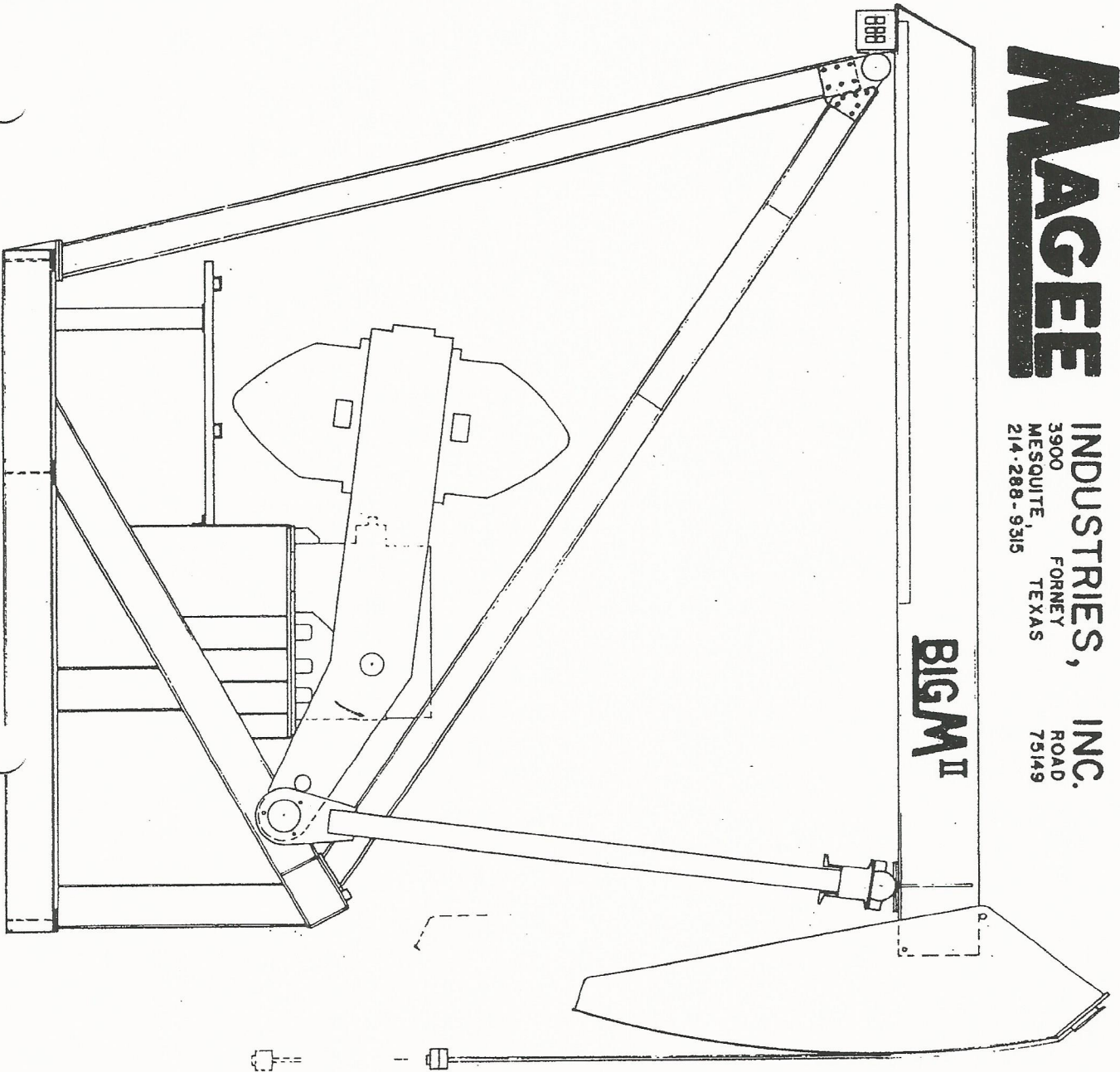
AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS &
OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

GENERAL OFFICES
AND MANUFACTURING PLANT
3900 FORNEY ROAD
MESQUITE, TEXAS 75149
(214) 288-9315

WAREHOUSE, SERVICE,
AND SALES OFFICE
2309 GARDEN CITY HIGHWAY
MIDLAND, TEXAS 79701
(915) 686-7914

MAGEE

INDUSTRIES, INC.
 3900 FORNEY ROAD
 MESQUITE, TEXAS 75149
 214-288-9315

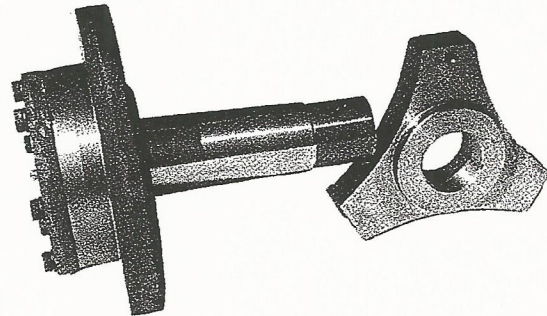


CLASS III

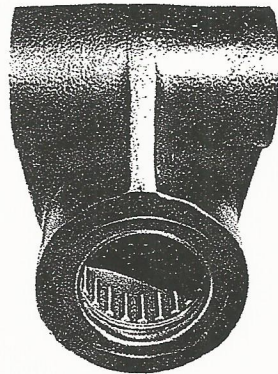
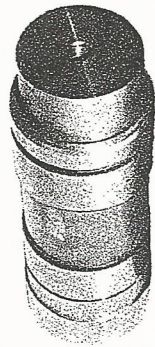
M ^{II}	912 - 365 - 144
M ^{II}	912 - 305 - 144
M ^{II}	640 - 365 - 144
M ^{II}	640 - 305 - 144
M ^{II}	640 - 305 - 120
M ^{II}	640 - 256 - 144
M ^{II}	456 - 365 - 144
M ^{II}	456 - 365 - 120
M ^{II}	456 - 305 - 144
M ^{II}	456 - 305 - 120
M ^{II}	456 - 256 - 144
M ^{II}	456 - 256 - 120
M ^{II}	320 - 305 - 120
M ^{II}	320 - 305 - 100
M ^{II}	320 - 256 - 144
M ^{II}	320 - 256 - 120
M ^{II}	320 - 256 - 100
M ^{II}	228 - 256 - 120
M ^{II}	228 - 256 - 100

MAGEE INDUSTRIES INC.

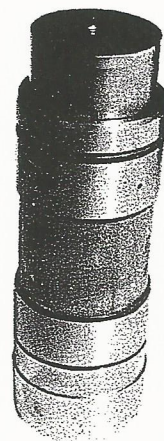
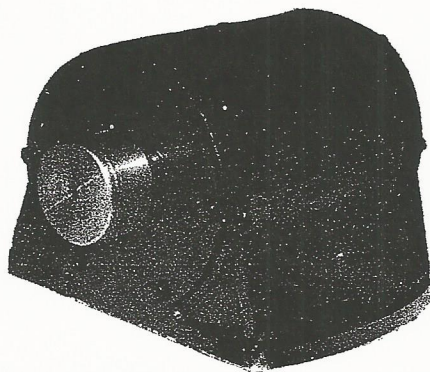
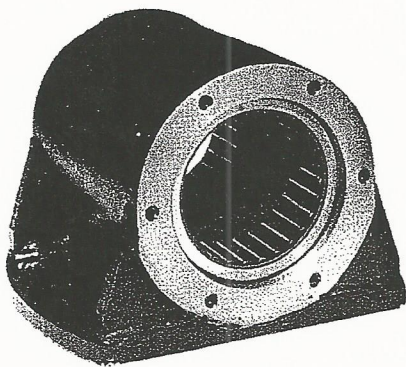
BIG M UNITS



All crankpin assemblies are furnished with heavy duty Spherical Roller Bearings.

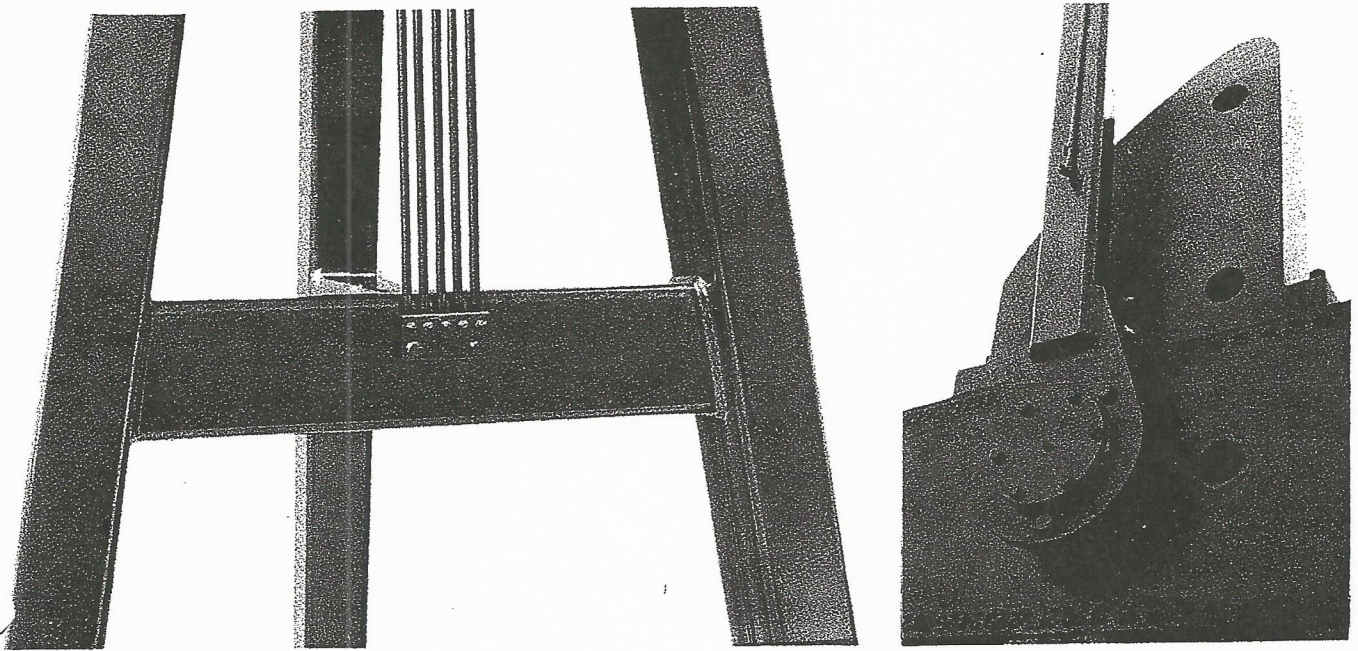


Equalizer housings are Ductile Iron with Heavy Duty Roller Bearings on all sizes.

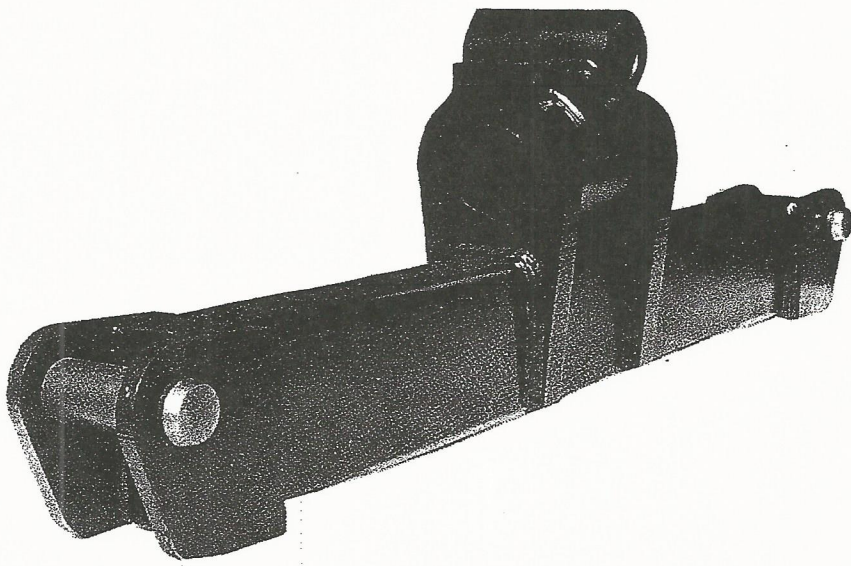


Center Bearing Housing are Ductile Iron with Heavy Duty Roller Bearings on all sizes.

MAGEE INDUSTRIES INC.



The new concept of rectangular tubing in our structural design is a first. Our Sampson Post, Equalizer Beam and Pitman Arms are heavy wall rectangular tubing.

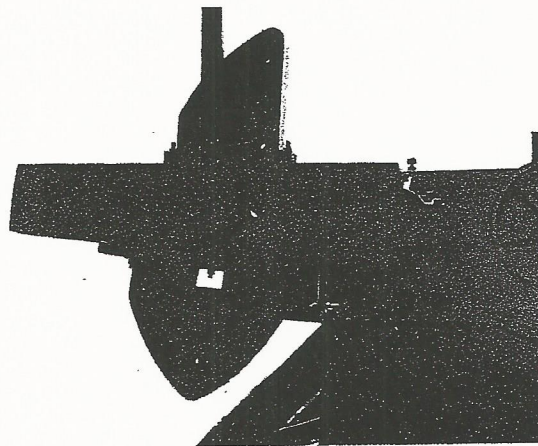


Since rectangular tubing is manufactured in a completely different process from structural metal shapes, this eliminates the possibility of structural failure that is so common in the industry today.

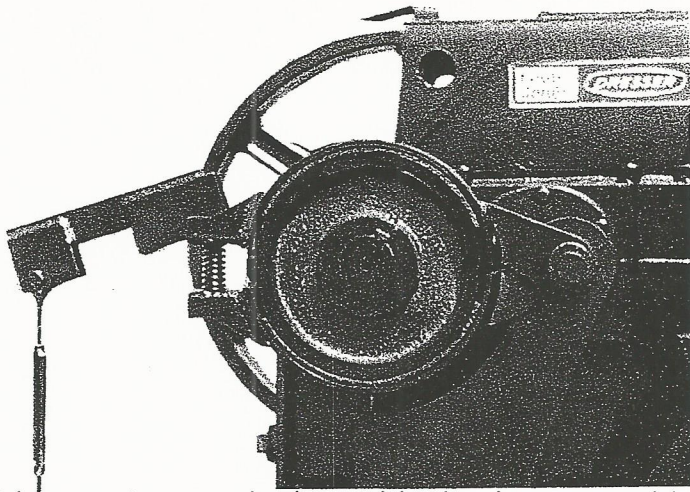
MAGEE INDUSTRIES INC.



"Big M" Horsehead is easily aligned with polished rod without disconnecting well. Two piece reinforced plate used for greater strength.

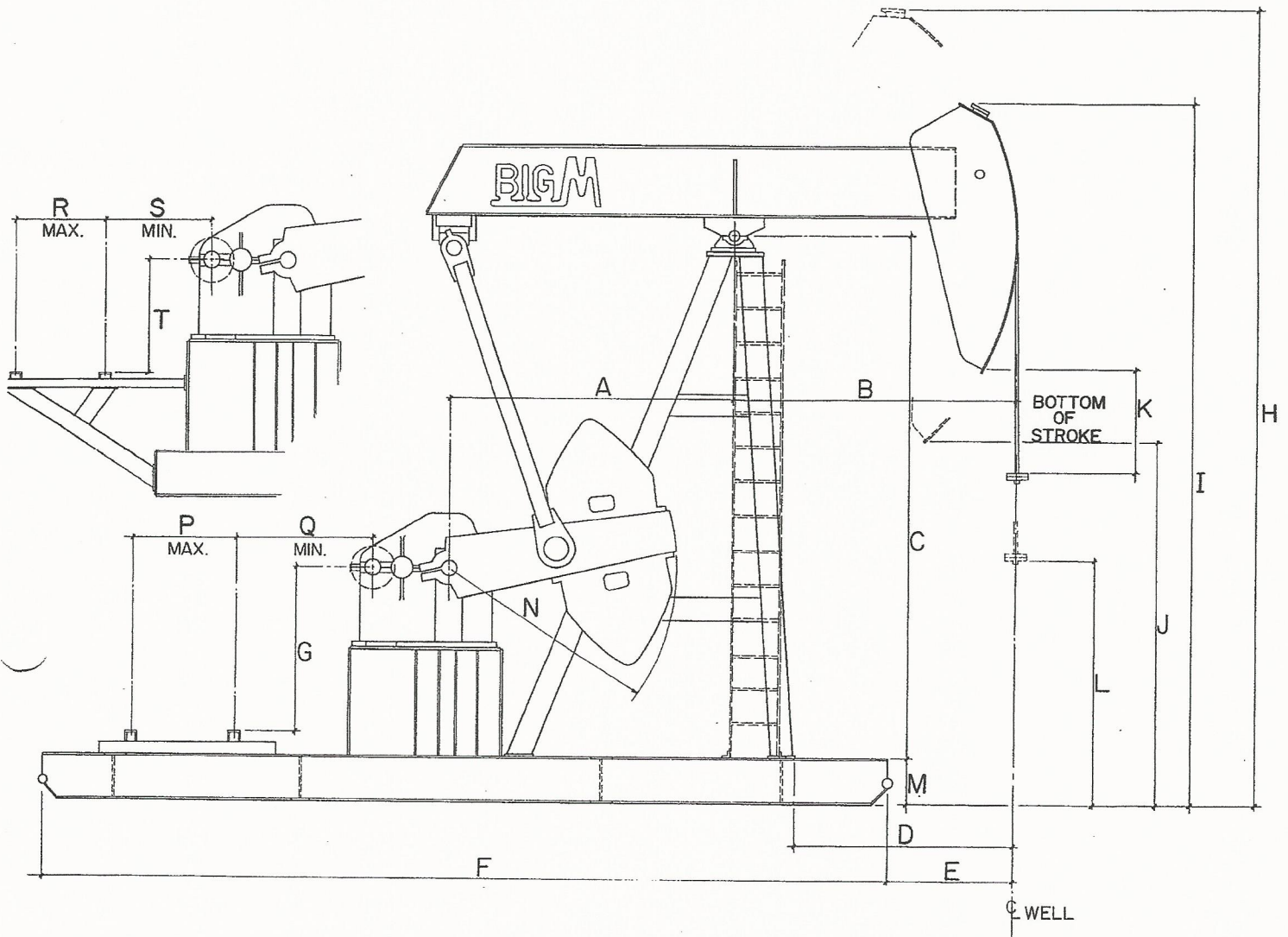


All "Big M" counterweights can be easily adjusted by one man. Various combinations of counterweights are available to meet your counterbalance requirements.



"Big M" locomotive type brake and brake drum assembly gives you greater holding capacity for safe operating conditions. Has no "grabbing effect" with smoother action when applied.

MAGEE INDUSTRIES INC.



BIGM Pumping Unit General Dimensions

UNITS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	BASE	
																				MAX.	MIN.
C 114 - 143 - 64	6'-0"	7'-0"	11'-0"	5'-10 ¹ / ₂ "	3'-4 ¹ / ₂ "	22'-1 ¹ / ₂ "	3'-3 ¹ / ₂ "	17'-11"	15'-8 ¹ / ₂ "	7'-0 ¹ / ₂ "	18 ³ / ₄ "	4'-7 ¹ / ₂ "	12"	54"	33"	4'-11 ¹ / ₂ "	15"	25"	2'-6"	6'-8 ¹ / ₂ "	4'-9 ³ / ₄ "
160 - 200 - 74	8'-0"	8'-0"	15'-0"	6'-2 ³ / ₄ "	3'-6 ¹ / ₄ "	24'-0"	5'-0"	22'-8 ¹ / ₂ "	20'-1 ³ / ₄ "	10'-5 ¹ / ₂ "	35 ³ / ₄ "	7'-1 ¹ / ₂ "	16"	78"	"	4'-6 ¹ / ₂ "	35"	32 ¹ / ₂ "	3'-0 ¹ / ₂ "	6'-11"	5'-1 ³ / ₄ "
228 - 246 - 86	9'-3"	9'-3"	18'-0"	6'-2 ³ / ₄ "	5'-0 ¹ / ₄ "	27'-0"	6'-5 ¹ / ₂ "	26'-5"	23'-4 ¹ / ₂ "	13'-3 ¹ / ₂ "	60 ³ / ₄ "	7'-3 ¹ / ₂ "	"	95"	"	5'-9 ³ / ₄ "	30 ³ / ₄ "	31 ¹ / ₂ "	4'-4 ³ / ₄ "	7'-7"	5'-10 ³ / ₄ "
320 - 305 - 100	"	10'-9"	"	9'-8 ¹ / ₂ "	6'-8 ³ / ₄ "	"	6'-4 ¹ / ₂ "	"	23'-9 ¹ / ₂ "	10'-7"	46 ¹ / ₂ "	6'-5 ³ / ₄ "	"	"	"	6'-5"	"	31"	4'-5"	"	"
C 456 - 365 - 120	10'-0"	12'-8"	20'-2"	8'-11"	8'-11"	31'-3"	7'-8"	31'-0"	27'-5 ¹ / ₂ "	12'-5"	55 ³ / ₄ "	7'-10"	"	110"	48"	8'-0 ¹ / ₂ "	50 ¹ / ₂ "	33"	4'-3"	8'-0"	6'-9 ¹ / ₂ "
C 640 - 365 - 144	"	15'-0"	"	11'-3"	11'-3"	"	"	32'-9"	28'-4"	10'-7"	33 ¹ / ₂ "	7'-11"	"	"	"	7'-9 ¹ / ₂ "	"	30 ³ / ₄ "	"	"	"
C 912 - 365 - 168	"	17'-6"	"	13'-9"	13'-9"	"	7'-10"	34'-10"	29'-3"	9'-1"	20 ¹ / ₂ "	7'-4"	"	"	"	7'-2 ¹ / ₂ "	"	23 ³ / ₄ "	4'-5"	"	"

MAGEE INDUSTRIES INC.

BIGM Pumping Unit Counter Balance Chart

EFFECTIVE COUNTER BALANCE (MAX.)
INCLUDING STRUCTURAL UNBALANCE

UNIT		912-365-168	640-365-144	456-365-120	320-305-100	228-246-86	160-200-74	114-143-64
CRANK NO.		7-DL	7-DL	7-DL	7-BL	7-B	7-CL	7-A
'B'		-1502	-686	+88	+452	+619	+832	+521
TF		79,559	67,979	57,404	47,457	40,835	36,299	31,33
C BAL - CRANK		5372	7358	9614	8202	6116	6020	2308
9-E	4	20,780	25,391	30,969	.....	.....	.....	.....
9-EI	4	25,464	30,870	37,461	.....	.....	.....	.....
9-EI	8	30,148	36,356	.....	.....	.....	.....	.....
9-D	4	19,021	23,334	28,532	26,768	.....	.....	.....
9-DI	4	23,758	28,877	35,097	33,210	.....	.....	.....
9-DI	8	28,495	34,420	.....	.....	.....	.....	.....
9-C	4	13,673	17,075	21,120	19,692	19,469	.....	.....
9-CI	4	16,808	20,743	25,465	24,242	24,511	.....	.....
9-CI	8	19,943	24,412	29,810	28,250	.....	.....	.....
9-A	4	11,601	14,649	18,248	16,875	16,195	14,967	8,050
9-AI	4	14,311	17,820	22,003	20,648	20,580	18,860	10,548
9-AI	8	17,021	20,992	25,759	24,421	.....	.....	13,046
9-B	4	9,572	12,275	15,436	14,104	12,975	12,195	6,483
9-BI	4	11,216	14,199	17,715	16,413	15,659	14,611	8,116
9-BI	8	12,860	16,123	19,993	18,723	.....	17,028	9,750

MAGEE INDUSTRIES INC.

API SIZE 57D

"BIG M" B57D-109-48 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:	10,900#
WALKING BEAM:	16" WF x 45#/Ft.
LENGTH OF STROKE:	48" and 36"
CENTER BEARING:	Bronze Bushed
EQUALIZER BEARING:	Bronze Bushed
CRANKPIN BEARING:	Double Row Timken Roller Bearings
PITMAN SIDEMEMBERS:	5"x2" Heavy Wall Rectangular Tubing
COUNTER BALANCE:	5240# with 17-1" Beam Weights
BASE:	8" WF x 17# Heavy Duty Portable and Bolted Extensions For Engines and/or Electric Motors

GEAR REDUCER DATA

GEARS:	57D API Helical
PEAK TORQUE RATING:	57,000 in. lbs.
GEAR RATIO:	32.79 to 1
CRANKSHAFT DIAMETER:	4½" O.D.
HIGH SPEED PINION DIAMETER:	2" O.D.
SHEAVE:	20" PD-4B Standard
OIL CAPACITY:	10 U.S. Gallons

MAGEE INDUSTRIES INC.

API SIZE 114D

"BIG M" C114D-143-64 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:	14,300#
WALKING BEAM:	18" WF x 71#/Ft.
LENGTH OF STROKE:	64", 52" and 40"
CENTER BEARING:	Heavy Duty Roller Bearings
EQUALIZER BEARING:	Heavy Duty Roller Bearings
CRANKPIN BEARING:	Heavy Duty Spherical Roller Bearings
PITMAN SIDEMEMBERS:	Banjo Type w/5"x2" Heavy Wall Rectangular Tubing
HANGER:	Standard Horsehead w/Wireline and Carrier Bar
BASE:	12" WF x 30# Heavy Duty Portable and Bolted Extensions For Engines and/or Electric Motors

FOOTE-JONES GEAR REDUCER DATA

GEARS:	114D API Helical
PEAK TORQUE RATING:	114,000 in. lbs.
GEAR RATIO:	31.8 to 1
CRANKSHAFT DIAMETER:	5" O.D.
HIGH SPEED PINION DIAMETER:	3" O.D.
SHEAVE:	30" PD-4C Standard
OIL CAPACITY:	30 U.S. Gallons

BRAD FOOTE GEAR REDUCER DATA

114D API Double Helical
114,000 in. lbs.
29.28 to 1
4 ⁷ / ₁₆ " O.D.
1 ⁵ / ₁₆ " O.D.
30" PD-4C Standard
24 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS & OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

MAGEE INDUSTRIES INC.

API SIZE 160D
"BIG M" C160D-200-74 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:	20,000#
WALKING BEAM:	24" WF x 94#
LENGTH OF STROKE:	74", 64" and 54"
CENTER BEARING:	Heavy Duty Roller Bearings
EQUALIZER BEARING:	Heavy Duty Roller Bearings
CRANKPIN BEARING:	Heavy Duty Spherical Roller Bearings
PITMAN SIDEMEMBERS:	Banjo Type w/5"x3" Heavy Wall Rectangular Tubing
BASE:	Heavy Duty 16" WF x 36# Portable and/or Bolted Extensions For Engines and/or Electric Motors

FOOTE-JONES GEAR REDUCER DATA

GEARS:	160D API Helical
PEAK TORQUE RATING:	160,000 in. lbs.
GEAR RATIO:	31.4 to 1
CRANKSHAFT DIAMETER:	5 $\frac{7}{16}$ " O.D.
HIGH SPEED SHAFT DIAMETER:	3" O.D.
SHEAVE:	30" PD-4C Standard
OIL CAPACITY:	35 U.S. Gallons

BRAD FOOTE GEAR REDUCER DATA

160D API Double Helical
160,000 in. lbs.
28.6 to 1
5 $\frac{7}{16}$ " O.D.
2 $\frac{3}{16}$ " O.D.
30" PD-4C Standard
60 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS & OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

MAGEE INDUSTRIES INC.

API SIZE 228T and 228D

"BIG M" C228T-246-86 and C228D-246-86 PUMPING UNITS

STRUCTURAL DATA

API POLISHED ROD CAPACITY:	24,600#
WALKING BEAM:	24" WF x 117#
LENGTH OF STROKE:	86", 74" and 61"
CENTER BEARING:	Heavy Duty Roller Bearings
EQUALIZER BEARING:	Heavy Duty Roller Bearings
CRANKPIN BEARING:	Heavy Duty Spherical Roller Bearings
PITMAN SIDEMEMBERS:	Banjo Type w/5"x3" Heavy Wall Rectangular Tubing
HANGER:	Standard Horsehead w/Wireline and Carrier Bar
BASE:	Heavy Duty 16" WF x 36# Portable and/or Bolted Extensions For Engines and/or Electric Motors

FOOTE-JONES GEAR REDUCER DATA

GEARS:	228T API Helical
PEAK TORQUE RATING:	228,000 in. lbs.
GEAR RATIO:	37.3 to 1
CRANKSHAFT DIAMETER:	6" O.D.
HIGH SPEED SHAFT DIAMETER:	3" O.D.
SHEAVE:	30" PD-5C Standard
OIL CAPACITY:	60 U.S. Gallons

BRAD FOOTE GEAR REDUCER DATA

GEARS:	228D API Double Helical
PEAK TORQUE RATING:	228,000 in. lbs.
GEAR RATIO:	29.1 to 1
CRANKSHAFT DIAMETER:	6" O.D.
HIGH SPEED SHAFT DIAMETER:	2 $\frac{7}{16}$ " O.D.
SHEAVE:	30" PD-5C Standard
OIL CAPACITY:	65 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS & OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

MAGEE INDUSTRIES INC.

API SIZE 320T AND 320D
"BIG M" C320T-305-100 AND C320D-305-100 PUMPING UNITS

STRUCTURAL DATA

API POLISHED ROD CAPACITY:	30,500#
WALKING BEAM:	27" WF x 146#
LENGTH OF STROKE:	100", 85" and 70"
CENTER BEARING:	Heavy Duty Roller Bearings
EQUALIZER BEARING:	Heavy Duty Roller Bearings
CRANKPIN BEARING:	Heavy Duty Spherical Roller Bearings
PITMAN SIDEMEMBERS:	Banjo Type w/6"x3" Heavy Wall Rectangular Tubing
HANGER:	Standard Horsehead w/Wireline and Carrier Bar
BASE:	Heavy Duty 16" WF x 45# Portable and/or Bolted Extensions For Engines and/or Electric Motors

FOOTE-JONES GEAR REDUCER DATA

GEARS:	320T API Helical
PEAK TORQUE RATING:	320,000 in. lbs.
GEAR RATIO:	38.7 to 1
CRANKSHAFT DIAMETER:	7 ³ / ₄ " O.D.
HIGH SPEED SHAFT DIAMETER:	3 ¹ / ₂ " O.D.
SHEAVE:	36" PD-6C Standard
OIL CAPACITY:	84 U.S. Gallons

BRAD FOOTE GEAR REDUCER DATA

320D API Double Helical
320,000 in. lbs.
30.12 to 1
6 ⁷ / ₁₆ " O.D.
2 ¹⁵ / ₁₆ " O.D.
36" PD-6C Standard
85 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS & OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

MAGEE INDUSTRIES INC.

API SIZE 456D
"BIG M" C456D-365-120 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:	36,500#
WALKING BEAM:	30" WF x 191#
LENGTH OF STROKE:	120", 105" and 90"
CENTER BEARING:	Heavy Duty Roller Bearings
EQUALIZER BEARING:	Heavy Duty Roller Bearings
CRANKPIN BEARING:	Heavy Duty Spherical Roller Bearings
PITMAN SIDEMEMBERS:	Banjo Type w/6"x3" Heavy Wall Rectangular Tubing
HANGER:	Standard Horsehead w/Wireline and Carrier Bar
BASE:	16" WF x 77# Heavy Duty Portable and/or Bolted Extensions For Engines and/or Electric Motors

GEAR REDUCER DATA

GEARS:	456D API Double Helical
PEAK TORQUE RATING:	456,000 in. lbs.
GEAR RATIO:	29.2 to 1
CRANKSHAFT DIAMETER:	7" O.D.
HIGH SPEED SHAFT DIAMETER:	3 ⁷ / ₁₆ " O.D.
SHEAVE:	36" PD-8C Standard
OIL CAPACITY:	107 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS & OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

MAGEE INDUSTRIES INC.

API SIZE 640D
"BIG M" C640D-365-144 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:	36,500#
WALKING BEAM:	33" WF x 201#
LENGTH OF STROKE:	144", 124" and 106"
CENTER BEARING:	Heavy Duty Roller Bearings
EQUALIZER BEARING:	Heavy Duty Roller Bearings
CRANKPIN BEARING:	Heavy Duty Spherical Roller Bearings
PITMAN SIDEMEMBERS:	Banjo Type w/6"x3" Heavy Wall Rectangular Tubing
HANGER:	Standard Horsehead w/Wireline and Carrier Bar
BASE:	16" WF x 77# Heavy Duty Portable and/or Bolted Extensions For Engines and/or Electric Motors

GEAR REDUCER DATA

GEARS:	640D API Double Helical
PEAK TORQUE RATING:	640,000 in. lbs.
GEAR RATIO:	28.5 to 1
CRANKSHAFT DIAMETER:	7" O.D.
HIGH SPEED SHAFT DIAMETER:	3 $\frac{7}{16}$ " O.D.
SHEAVE:	36" PD-8C Standard
OIL CAPACITY:	107 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS & OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

MAGEE INDUSTRIES INC.

API SIZE 912D
"BIG M" C912D-365-168 PUMPING UNIT

STRUCTURAL DATA

API POLISHED ROD CAPACITY:	36,500#
WALKING BEAM:	33" WF x 221#
LENGTH OF STROKE:	168", 145" and 124"
CENTER BEARING:	Heavy Duty Roller Bearings
EQUALIZER BEARING:	Heavy Duty Roller Bearings
CRANKPIN BEARING:	Heavy Duty Spherical Roller Bearings
PITMAN SIDEMEMBERS:	Banjo Type w/6"x3" Heavy Wall Rectangular Tubing
HANGER:	Standard Horsehead w/Wireline and Carrier Bar
BASE:	16" WF x 77# Heavy Duty Portable and/or Bolted Extensions For Engines and/or Electric Motors

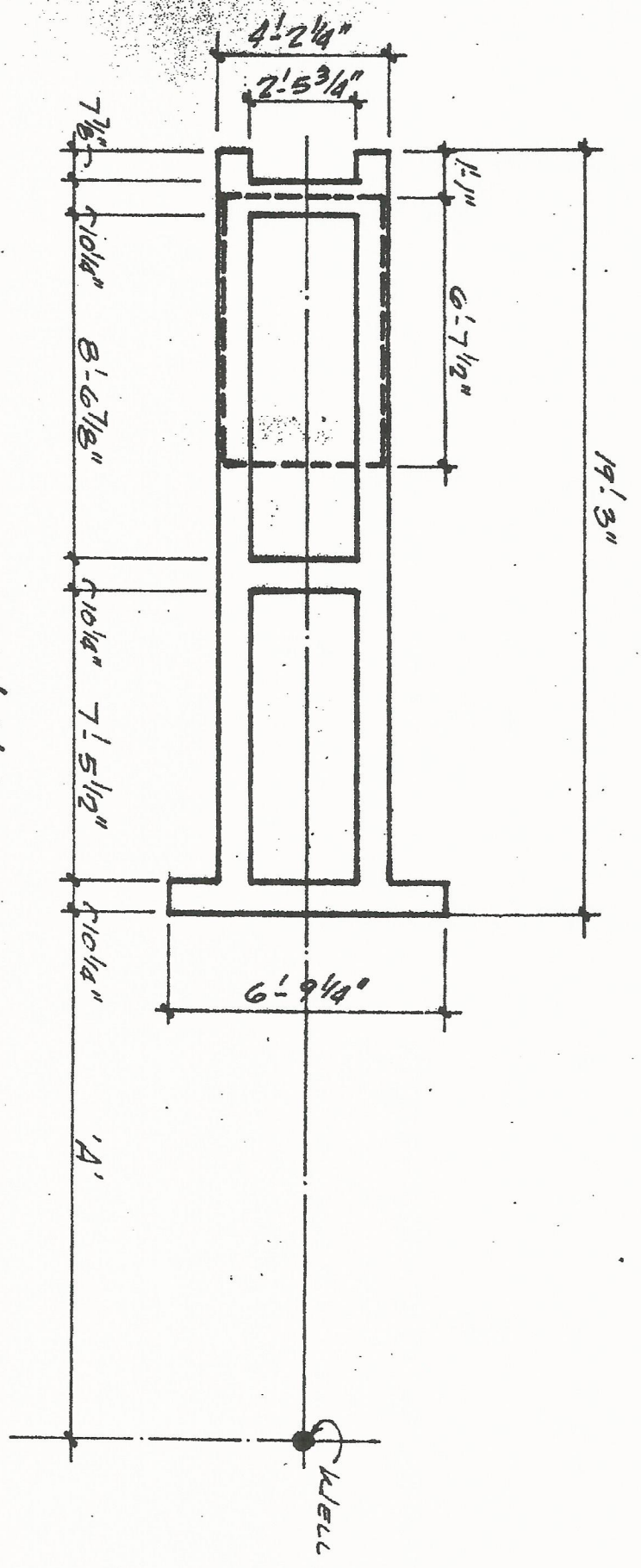
GEAR REDUCER DATA

GEARS:	912D API Double Helical
PEAK TORQUE RATING:	912,000 in. lbs.
GEAR RATIO:	28.6 to 1
CRANKSHAFT DIAMETER:	7" O.D.
HIGH SPEED SHAFT DIAMETER:	4 ³ / ₁₆ " O.D.
SHEAVE:	36" PD-8D or 50" PD-10C Standard
OIL CAPACITY:	122 U.S. Gallons

OPTIONAL ITEMS

AUXILIARY WEIGHTS
OILFIELD ELECTRIC MOTORS & OILWELL PUMPING ENGINES
V-BELTS AND SHEAVES

H. PRIME ELECTRIC MOTOR BASE



UNIT	'A'
C 456 · 365 · 120	8' 11"
C 640 · 365 · 144	11' 3"
C 912 · 365 · 168	13' 9"

BASE LAYOUT



3900 FORNEY ROAD
MESQUITE, TEXAS 75149

"BIG M" OPERATOR'S MANUAL

CAUTION: "BIG M" CRANK BALANCED PUMPING UNITS ARE EQUIPPED WITH ROTATING AND RECIPROCATING PARTS. ONLY QUALIFIED PERSONNEL SHOULD WORK ON OR AROUND THE UNIT. BODILY INJURY AND/OR DEATH MAY OCCUR IF PROPER SAFETY PRECAUTIONS ARE NOT OBSERVED. ALL UNITS CAN MOVE DUE TO GRAVITY. ALL UNITS CAN START WITH TIMERS. TAKE NOTHING FOR GRANTED. MAKE CERTAIN UNIT WILL NOT START AND BRAKE IS SET BEFORE ATTEMPTING TO APPROACH UNIT.

PREPARING THE FOUNDATION:

Many types of foundations are used. Whichever foundation is used must be level and flat. A good foundation is essential to a trouble free installation. Pumping units require foundations for either the T-Base or Wide Base (portable).

ERECTION OF PUMPING UNIT

When shipped from the factory, all "BIG M" pumping units are shipped as sub-sections as follows:

1. Base Assembly - which contains the sub-base, gearbox. (228 units and smaller), crankarms, slide rails and adjusting screws. (320 and larger gear boxes are shipped separately).
2. Samson Post Assembly and Ladder
3. Walking Beam Assembly which includes center bearing mounted and equalizer assembly with pins for pittman arms.
4. Pitman Arm Assemblies - which contains two (2) pitman arms.
5. Bolt Package
6. Wireline and carrier bar assembly
7. Horsehead Assembly
8. Counterweights shipped loose
9. Belt Cover

STEP 1 - SETTING BASE ASSEMBLY:

Using a chalk line, strike a center line from the well head to the rear centerline of the foundation.

Page 2 - "BIG M" OPERATOR'S MANUAL

Place the base assembly over the foundation so that the base assembly is centered over the chalk line. For convenience, "Vee" notches are cut in the center of the front crossmember and the center of the rear Samson Post crossmember. A line between these two "Vee" notches represents the center line of the walking beam and should line up directly with the well head. Do not measure from other structural members to align the unit as these dimensions will vary due to fabrication tolerance. The base assembly can be set from the well head according to the dimension shown on dimensional drawing. This dimension represents the dimension from the wellhead center line to the leading edge of the front crossmember.

NOTE: This dimension is only an approximate dimension. Final adjustments should be made with a plumbob off the horsehead.

STEP 2 - SETTING THE SAMSON POST:

The Samson Post is a fabricated tripod type. Pick the Samson Post up and bolt post to base using bolts provided.

Attach ladder to samson post using bolts provided.

STEP 3 - INSTALLATION OF WALKING BEAM ASSEMBLY:

EQUALIZER BEAM IS INSTALLED ON WALKING BEAM AT FACTORY, REFER TO STEP 5 INSTALLING PITMAN ARMS ON CRANK PINS. INSTALL HORSEHEAD ASSEMBLY, WIRELINE AND CARRIER BAR USING A LIFTING DEVICE, LIFT THE WALKING BEAM INTO POSITION. INSTALL THE BOLTS THROUGH THE CENTER BEARING TO THE TOP OF THE SAMSON POST.

STEP 4 - INSTALLING PITMAN ARMS

Remove pins from equalizer and install pitman arm to equalizer. Slide the pitman arms over the crank pins and tighten cap screws.

STEP 5 - CHECKING ALIGNMENT

For proper unit operation, it is important that the Pitman arms are equal distance from cranks and walking beam properly aligned with wellhead.

STEP 6 - LUBRICATION

See ground lubrication lines on front of samson post.

NOTE: GEARBOX IS FILLED WITH OIL PRIOR TO SHIPPING. NO ADDITIONAL LUBRICATION IS REQUIRED WITH GEARBOX.

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Use correct oil for longest gear life. See gear box nameplate for correct lubricant. When checking oil levels oil should show on dip-stick. Lubricate the structural bearings with a good grade of chassis grease.

STEP 7 - ATTACH WIRELINE AND CARRIER BAR TO THE POLISHED ROD

STEP 8 -CHECK BEFORE STARTING:

- 1) All bolts torqued to specifications.
- 2) Lubrication of all points required
- 3) Counterweights pre-adjusted.
- 4) Additional auxiliary counterweights may be added if needed in the field.
- 5) Clear unit of all tools, loose bolts, pieces of steel, wood, etc.

START UP:

Start prime mover. Check relationship between horsehead and stuffing box. Entire unit may have to be 'fine tuned' or moved on the foundation to give exact alignment.

STEP 9 BALANCE UNIT:

- A) Electric motor, use ammeter
- B) Engine, use vacum gauge or tachometer - when a unit is properly balanced the ammeter and/or vacum gauge peaks should be equal on the upstroke and downstroke. A higher amp reading on the upstroke indicates a need for more counterbalance. (Adjust away from gearbox center). A lower vacum reading on the downstroke indicates a need for less counterbalance. (Adjust weight toward gearbox center). It is important that the unit is properly balanced to increase life and reduce operating costs. Unit should have equal load on gearbox on the up stroke and down stroke.

STEP 10 - AFTER UNIT HAS REACHED OPERATING TEMPERATURE AND "RUN IN"

- a) Check all bolts for tightness
- b) Check polished rod alignment after unit settles
- c) Check pitman arms to make sure pitman arms are equal distance from cranks for proper clearance, they should be the same on each side.

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- d) Check oil seals on unit and structural bearings.
- e) Check oil in gear box and lubrication to structural bearings.
- f) Check V-belts for tension. New belts tend to loosen after first few hours of operation.
- g) Units subjected to sand and dust storms require periodic preventative maintenance more often.

GENERAL OFFICES AND MANUFACTURING PLANT LOCATED AT
3900 FORNEY ROAD, MESQUITE, TEXAS 75149
TELEPHONE (214) 288-9315

FOR SERVICE AND SPARE PARTS CONTACT:
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PUMP JACK REDUCER LUBRICANT SPECIFICATION

AMBIENT TEMPERATURE	15°-60°F	50°-125°F
AGMA LUBRICANT NO.	4 EP	5 EP
VISCOSITY RANGE ASTM SYSTEM SUS @ 100°F	626-675	918-1122

RECOMMENDED LUBRICANTS	4 EP	5 EP
AMERICAN OIL CO.	Permagear EP Grade 70(0)	Permagear EP Grade 90(+5)
ATLANTIC RICHFIELD CO.	Penvant EP Oil S-700(-5)	Pennant NL S-1000(0)
CHEVRON OIL CO.	Chevron NL Gear Compound 80(0)	Chevron NL Gear Compound 90(0)
CITIES SERVICE OIL CO.	Citgo EP Compound 75(0)	Citgo EP Compound 90(+5)
EXXON CO.	Spartan EP 2 (0)	Spartan EP 3 (+5)
GULF OIL CO.	EP Lube S70 (+10)	EP Lube S100 (+10)
SHELL OIL CO.	Macoma 69(-5)	Omala 71(-15)

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