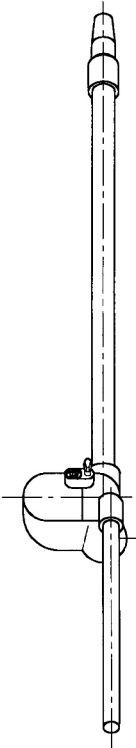


MARK	SIZE	RATING	PART NO.
A	2" NPT	3000#	
B	1/2"	3000#	0156-250
	5/8" Std.	3000#	0156-625
	3/4"	3000#	0156-678

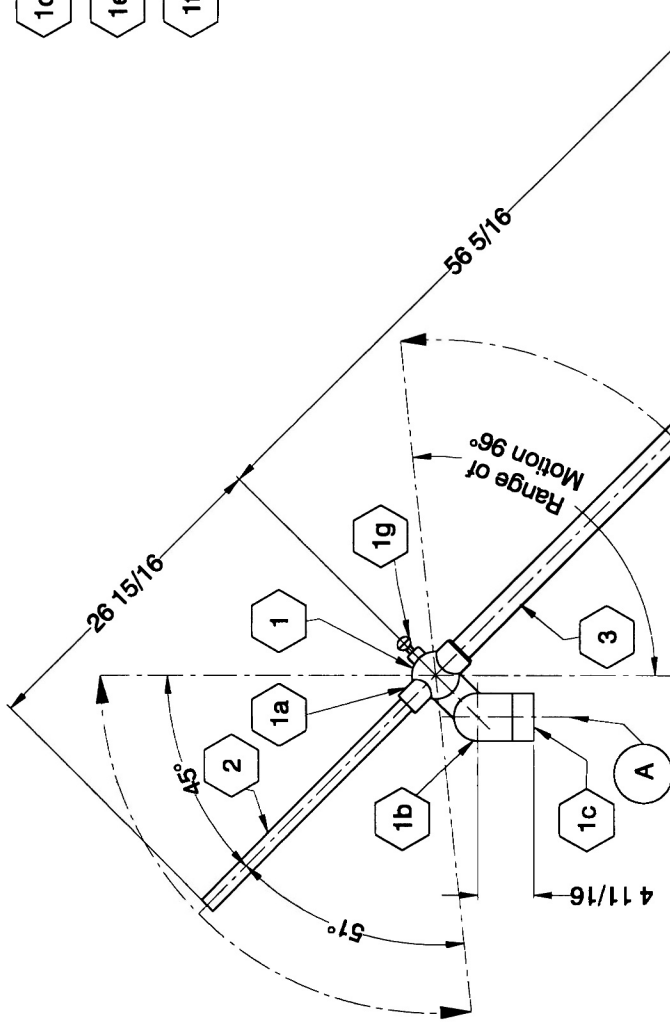
**PARTS LISTING**

MARK	PART NO.	QUAN.	DESCRIPTION	WEIGHT	MARK	PART NO.	QUAN.	DESCRIPTION	WEIGHT
1	0386	1	Swivel Assembly	33.00	1d	0388B	52	Steel Balls	0.50
Item 1 consists of the following (1a thru 1j):					1e	0389A	2	Seal	0.19
1a	0397	1	Head	8.50	1f	0399C	2	O-Ring	0.01
1b	0385	1	Body	17.62	1g	8696-28025	1	Lock Screw	0.18
1c	0398	1	Sub	5.76	1h	8696-28024	1	Lock Screw	0.18
<b>TOTAL WEIGHT (Lbs.):</b>									<b>56.21</b>

P/N 0399, 2" Swivel Repair Kit contains items 1d, 1e, 1f & 1j for one of the two swivel heads.  
Two Repair Kits are required for the complete Swivel Assembly.

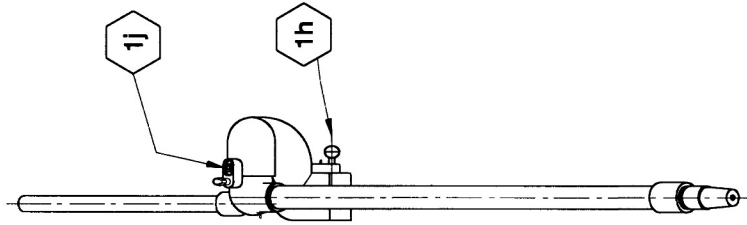


**PLAN VIEW**

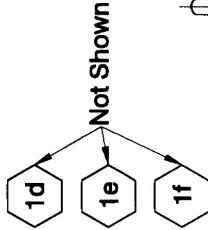


**NOTE:** Mud Gun Head Assembly swivels 360° about item 1c. Lock Screw is shown at End View.

**SIDE VIEW**



**END VIEW**



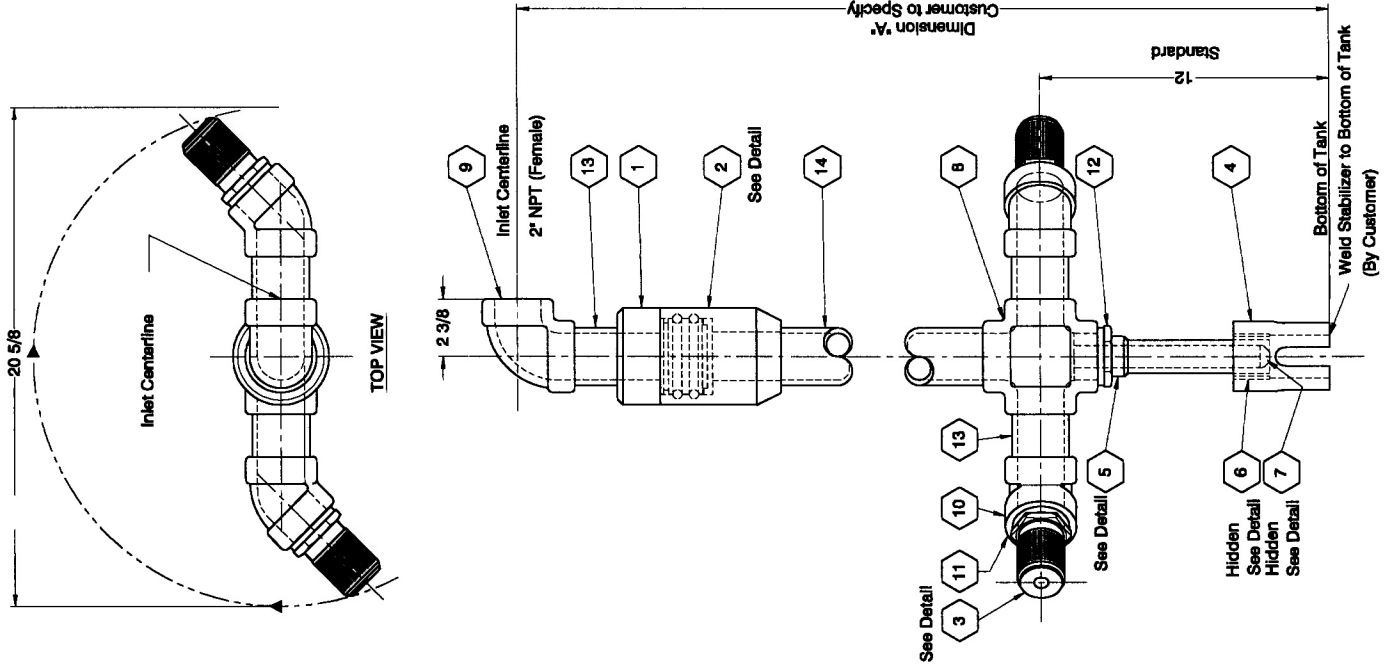
REVISIONS		NOTES	
NO.	ZONE	1. All dimensions are in inches unless otherwise noted.	
1	All	General Revision	9/23/99
2	All	Part Number	MW 12-27-02

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**TITLE**  
CUSTOMER DRAWING  
INSTALLATION DRAWING & PARTS LISTING  
2" PIVOT TYPE MUD GUN ASSEMBLY

PART NO.	DRAWING PART	SCALE
0341-00X	MW	5/5/99
SHEET NO.	DRAWING NO.	REV. NO.
1/1	99-00756	2
		A
		1



BILL OF MATERIAL						
MARK	PART NO.	QUAN.	DESCRIPTION	LENGTH	WIDTH	WEIGHT
1	0425B	1	Mud Gun Sub			6.09
2	0340-021	1	Mud Gun Body			9.09
3	0155-278	2	Choke Nipple - 7/8"			4.70
4	0340-042	1	Stabilizer Body	0'-4"		3.88
5	0340-053	1	Pivot Pin	0-7 1/8"		2.04
6	0340-064-M	1	Pivot Bushing	0'-1 1/2"		0.39
7	0340-075	1	Pivot Pin Plug	7/8" Dia.		0.06
8	0340-086	1	Cross			5.00
9	0340-097	1	Top Elbow			3.38
10	0340-108	2	Bottom Elbow			5.28
11	8130-122	2	Coupling			1.68
12	0340-129	1	Coupling			0.84
13	0340-130	3	Riser	0'-3"		3.78
14	0379	1	Discharge Tube	Varies (See Below)		(See Below)
*15	0399D	1	Grease Zerk			0.01
*16	0398E	1	Plug			0.02
*17	0398A	1	Seal			0.19
*18	0398B	30	Steel Ball			0.28
*19	0398C	1	O-Ring			00.00
						**TOTAL WEIGHT (Lbs.): **46.69

\*Not Shown on Drawing  
 \*\*Does Not Include Weight of Item 14. See Calculation Below.

Item 14 Length = Dimension "A" (Inches) - 24 1/16"  
 Item 14 Weight = Item 14 Length (Inches) X 0.418 lbs./in.

REVISIONS		NOTES	
BY	DATE	NO.	DESCRIPTION
DH	01/27/97	1	General Revision

1. All dimensions are in inches unless otherwise noted.

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TITLE  
 INSTALLATION DRAWING  
 2" SPINNER-TYPE MUD GUN

PART NO.	ISSUE/REV. DATE	SCALE
0340-XXXXX	JDH 1/27/97	NTS
ISSUE/REV. DATE	ISSUE/REV. DATE	ISSUE/REV. DATE
1/1	99-00802	1 A 1

PORT SCHEDULE			
MARK	QUAN.	DESCRIPTION	SIZE
A	1	Inlet	2" NPT
B	1	Discharge	5/8" Orifice

**BILL OF MATERIALS**

MARK	QUAN.	DESCRIPTION	LENGTH	3000#		6000#	
				P/N 0342-XXXXX	WEIGHT	P/N 0343-XXXXX	WEIGHT
1	1	2" 90° Elbow		8201-185	5.44	8201-186	13.00
2	1	1 1/2" 90° Elbow		8201-122	4.89	8201-126	7.06
3	1	2" Riser	3	8481-0163208	1.26	8481-0163209	2.26
4	1	2" Swivel Assembly		0425	17.50	0425	23.00
4A	1	Thumb Screw (Part of Item 4)		8696-28024	[0.19]	8696-28024	[0.19]
4B	2	Grease Fitting (Part of Item 4)		720782	[0.13]	780782	[0.13]
5	1	Jet Nozzle, 1-1/2" x 6" Long, 5/8" Bore		0156-625	4.00	0156-625	4.00
6	1	Handle Assembly		0429	8.60	0429	8.60
6A	1	Handle Bracket (Part of Item 6)		0352	[5.24]	0352	[5.24]
6B	1	Arm (Part of Item 6)		0353	[3.36]	0353	[3.36]
7	2	Bolt, HH, Gr. 5, Plated 1/2-13, 1" L		B03F52081300016	0.23	B03F52081300016	0.23
8	2	Lockwasher, Std. Spiral, Plated, 1/2"		L030520000080000	0.06	L030520000080000	0.06
9	1	1 1/2" Discharge Tube	Note 1	0490-XXXXX	Note 2	0493-XXXXX	Note 2
10		Swivel Assembly Repair Kit		0366		0366	
				WEIGHT (Items 1 thru 8) (Lbs.):		41.97	
				WEIGHT (Items 1 thru 8) (Lbs.):		58.21	

NOTE 1: 3000# (P/N 0342-XXXXX): Length = Dim. A - 13 1/4"

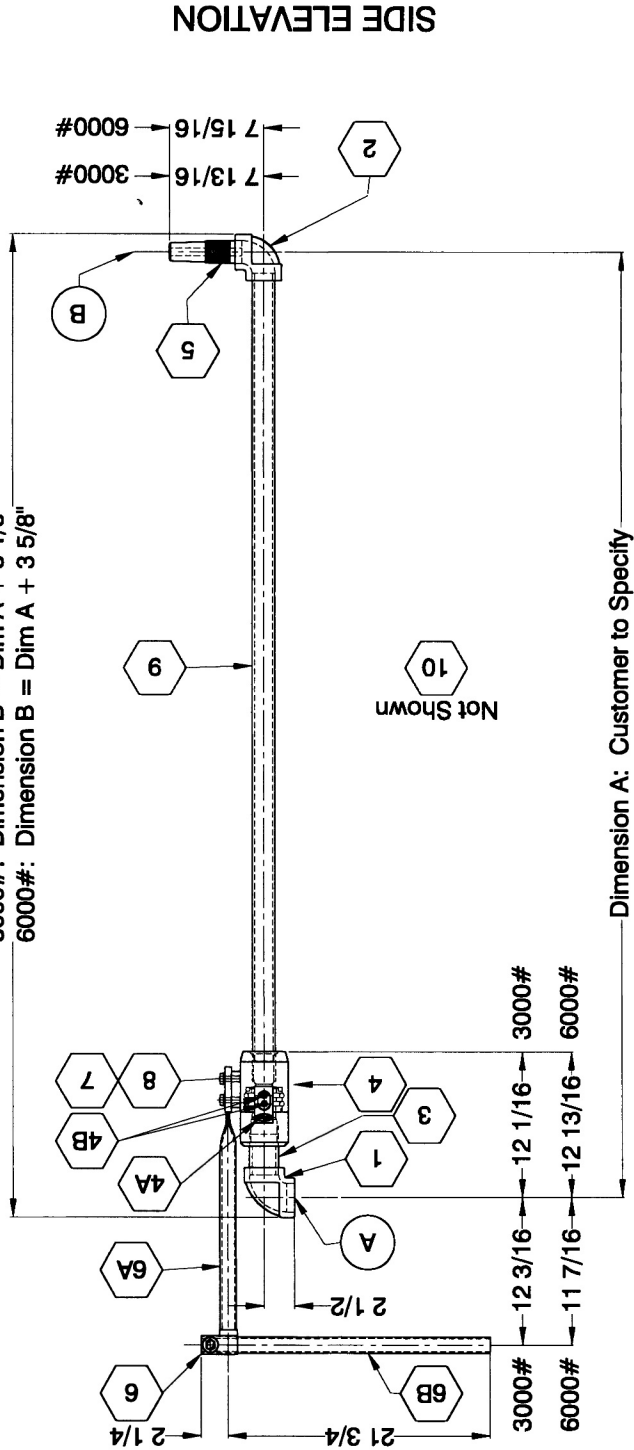
6000# (P/N 0343-XXXXX): Length = Dim. A - 14 3/4"

NOTE 2: 3000# (P/N 0342-XXXXX): Weight = Length (Ft.) x 5.02 Lb./Ft.

6000# (P/N 0343-XXXXX): Weight = Length (Ft.) x 6.41 Lb./Ft.

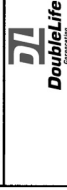
3000#: Dimension B = Dim A + 3 1/8"

6000#: Dimension B = Dim A + 3 5/8"



**SIDE ELEVATION**

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**TITLE**  
INSTALLATION DRAWING & PARTS LISTING  
2" HIGH PRESSURE  
BOTTOM-TYPE MUD GUN

PART NO.	ISSUE DATE	SCALE
0342-XXXXX	JDH 5/29/01	NTS
REV. NO.	QUANTITY	REQ.
1/1	99-00209	0 A 1

REVISIONS		DESCRIPTION	NO.	ZONE	DATE
BY	DATE				

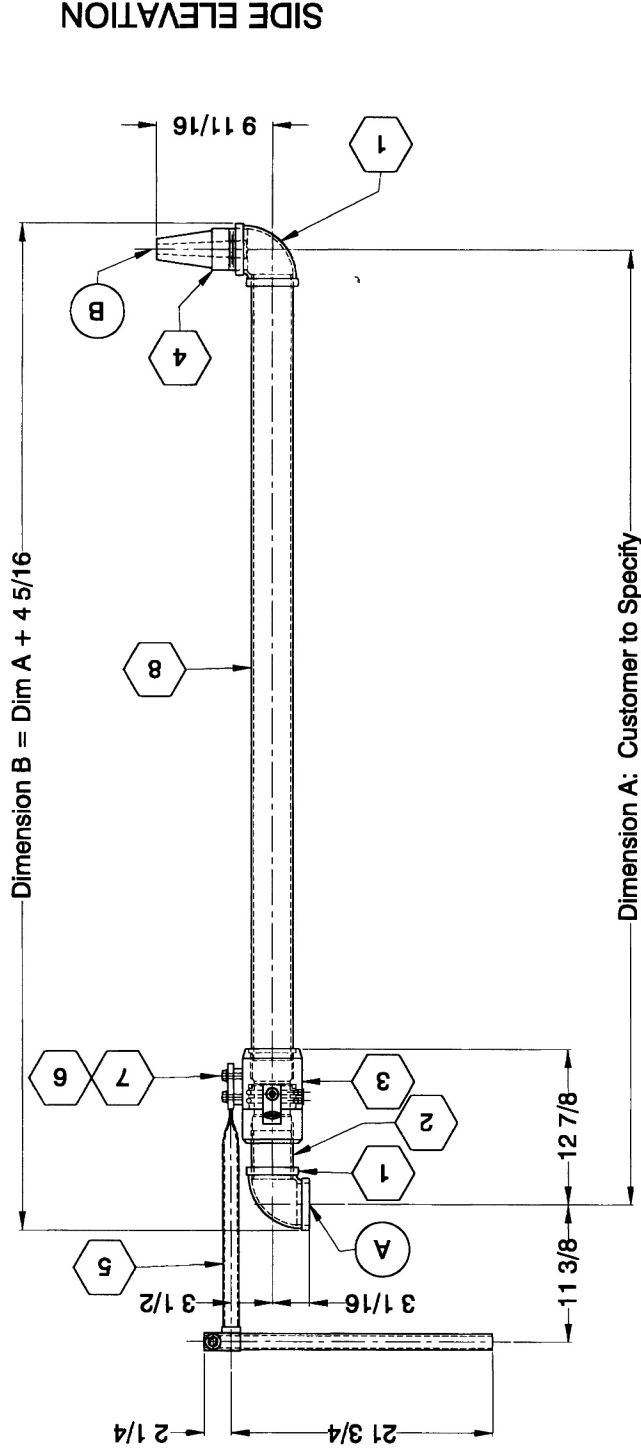
1. All dimensions are in inches unless otherwise noted.

PORT SCHEDULE			
MARK	QUAN.	DESCRIPTION	SIZE
A	1	Inlet	3" NPT
B	1	Discharge	3/4" Orifice

BILL OF MATERIALS							
MARK	PART NO.	QUAN.	DESCRIPTION	LENGTH	WIDTH	WEIGHT	
1	8201-241	2	3" 90° Elbow			10.72	
2	8481-024-2208	1	3" L.P. Riser	4		2.53	
3	0427	1	3" L.P. Swivel Assembly			24.87	
4	0153-3330	1	Jet Nozzle, Rubber, 3" x 3/4" Bore, 7 5/8" L.			3.00	
5	0429	1	Handle Assembly			8.15	
6	B03F52081300016	2	Bolt, HH, Gr. 5, Plated 1/2-13, 1" L.			0.23	
7	L030520000050000	2	Lockwasher, Std. Spiral, Plated, 1/2"			0.06	
8	0434-XXXXXX	1	3" L. P. Discharge Tube	Note 1		Note 2	49.56

WEIGHT (Items 1 thru 7) (Lbs.):

NOTE 1: Length = Dim. A - 13 15/16  
 NOTE 2: Weight = Length (Ft.) x 7.58 Lb./Ft.



SIDE ELEVATION

REVISIONS		NOTES	
NO.	ZONE	1. All dimensions are in inches unless otherwise noted.	
1	All	General Revision	
2		X-ed Item 4 frm. P/N 8482-24122, & Port B Size	
3		X-ed Item 4 to new design; description & weight	
DATE	BY	DATE	
4/27/00	DH	11/16/01	DH
		3/29/02	DH

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**THIS INSTALLATION DRAWING  
 GENERAL ARRANGEMENT**

**3" LP BOTTOM-TYPE MUD GUN**

PART NO.	DESCRIPTION	SCALE
0844-XXXXXX	JDH	1/24/88
DRAWING NO.	REV. NO.	SEC.
1/1 99-00341	3	A 1

6" HOPPER OPERATING DATA	
Choke Nipple Bore:	2" [51 mm]
Pressure:	40 - 65 psi [2.812-4.569 Kg/cm <sup>2</sup> ]
MUD	
Volume:	600 lb./min. [273 Kg./min.]
Volume with Venturi:	725-965 gpm [2744-3653 lpm]
BULK SOLIDS	

6" MUD HOPPER				
MARK	PART NO.	QUAN.	DESCRIPTION	WEIGHT
1	0355	1	6" Mud Hopper (without Venturi)	300.00
2	0141	1	6" Venturi	51.00
3	0128	1	6" (Top Part) Cone with Table	119.00
4	BG0600411125	1	6" Butterfly Valve	22.75
5	12089	1	6" Flange Assembly	18.36
6	8080-48241	1	Bushing for 6" Hopper	7.75
7	312-200	1	Jet Nipple with 2" Bore (Standard Item with Hopper Order)	14.75
8	312-150	1	Jet Nipple with 1-1/2" Bore (Must be specified with Hopper Order)	17.33
9	0364	1	Tee with Stand for 6" Hopper	93.12
10	N19052121000000	16	Hex Nut, 3/4"	1.90
11	B16092121000080	8	Stud Bolt, 3/4"	5.00

4" HOPPER OPERATING DATA	
Choke Nipple Bore:	3/4" [19 mm]
Pressure:	40 - 60 psi [2.812-4.218 Kg/cm <sup>2</sup> ]
MUD	
Volume:	110-140 gpm [426-530 lpm]
Volume with Venturi:	117 lb./min. [53 Kg./min.]
BULK SOLIDS	

4" MUD HOPPER				
MARK	PART NO.	QUAN.	DESCRIPTION	WEIGHT
1	0354	1	4" Mud Hopper (without Venturi)	175.00
2	0140	1	4" Venturi	40.25
3	0100	1	4" (Top Part) Cone with Table	84.66
4	BG0400411125	1	4" Butterfly Valve	14.75
5	0185	1	4" Flange Assembly	7.40
6	808-32161	1	Bushing for 4" Hopper	3.11
7	210-175	1	Jet Nipple with 3/4" Bore (Standard Item with Hopper Order)	8.00
8	Not Used			
9	0363	1	Tee with Stand for 4" Hopper	52.08
10	N19052101100000	16	Hex Nut, 5/8"	1.17
11	B16092101100080	8	Stud Bolt, 5/8"	3.48

REVISIONS		
DATE	BY	DESCRIPTION
7/19/01	DH	X-ed 6" Mud Vol. f/m 1100-1400gpm
7/19/01	DH	X-ed 6" Press. f/m 40-60 psi
7/19/01	DH	Rem. 4" Mud Vol. w/ Venturi

NOTES

1. All dimensions are in inches unless otherwise noted.

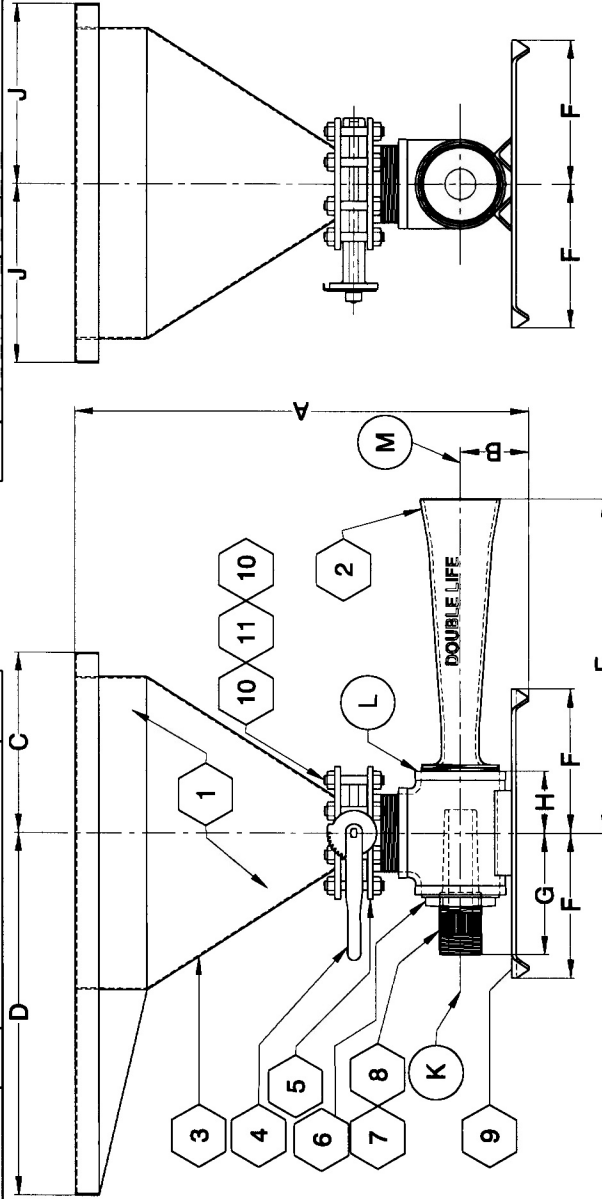
NO. ZONE

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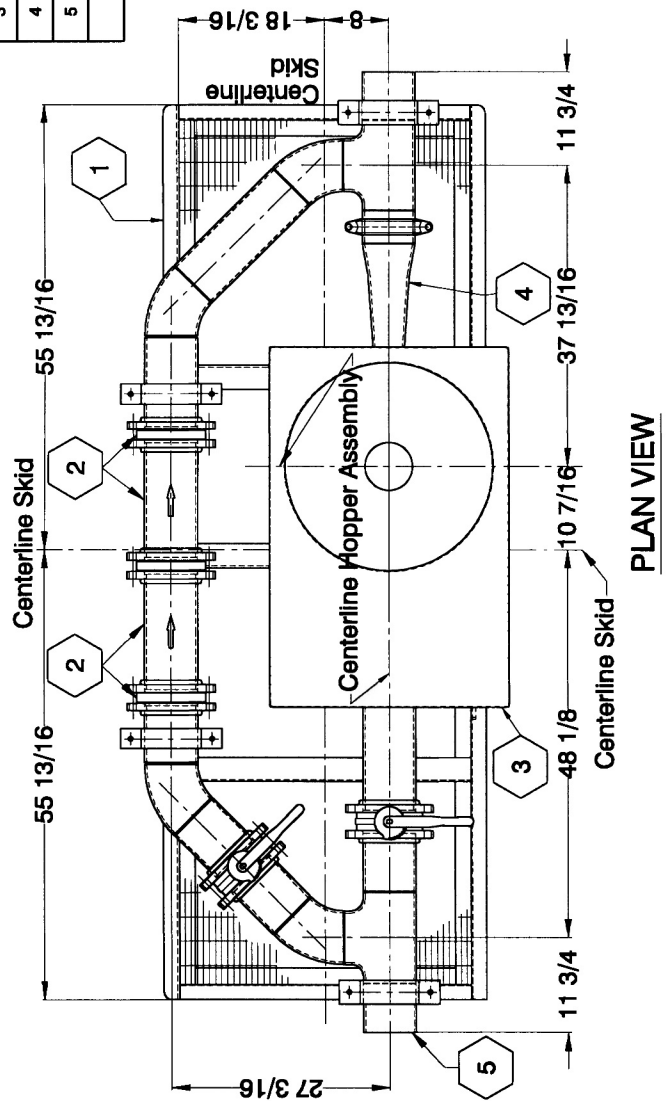


CUSTOMER DRAWING		
MODEL 0355, 6" MUD HOPPER	SCALE	
MODEL 0354, 4" MUD HOPPER	DATE	
DIMENSIONS & PARTS LISTING		
PART NO.	QUANTITY	DATE
See Above	JDH	1/21/00
1/1	99-00606	1
		A

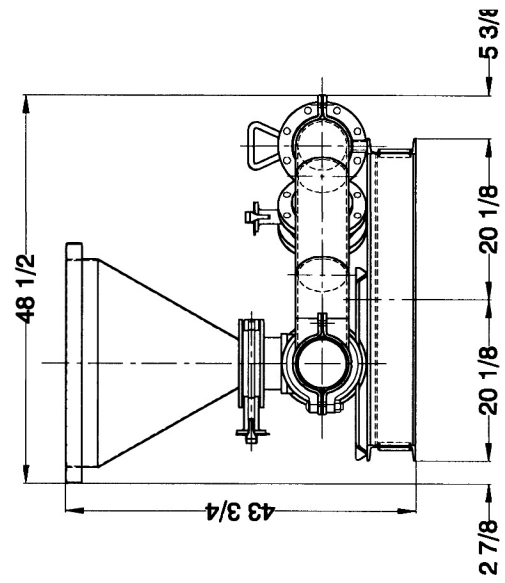


SIZE	DIMENSIONS											PORT DESIGNATIONS							
	A	B	C	D	E	F	G	H	J	K	L	M	K	L	M				
4" Hopper	37	840	4 3/4	121	12	305	24	610	26 5/8	667	9	229	3 13/16	97	12	305	2" NPTM	4" NPTF	6" Pipe
6" Hopper	37 3/4	959	5 3/4	146	15	381	30	762	27 13/16	706	12	305	5 1/8	130	15	381	3" NPTM	6" NPTF	6" Pipe

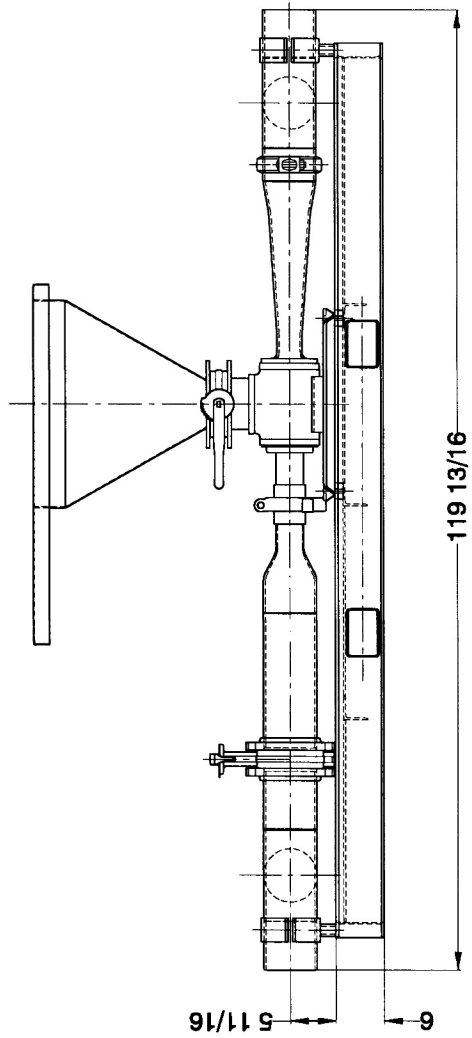
BILL OF MATERIAL			WEIGHT
MARK	PART NO.	QUAN. DESCRIPTION	
1	F801	1 Skid	262.79
2	01020	1 6" In-Line Shearing Device	243.60
3	0355	1 6" Hopper Assembly	305.00
4	0141	1 6" Venturi Tube	49.50
5	F602	1 6" Std. Piping Assembly	374.75
TOTAL WEIGHT (Lbs.):			1235.64



PLAN VIEW



END ELEVATION VIEW



SIDE ELEVATION VIEW

REVISONS		NOTES	
BY	DATE	NO.	ZONE
DH	12/20/97	1	
X-ed Union frm. F.S. Hex to Hammer Union			

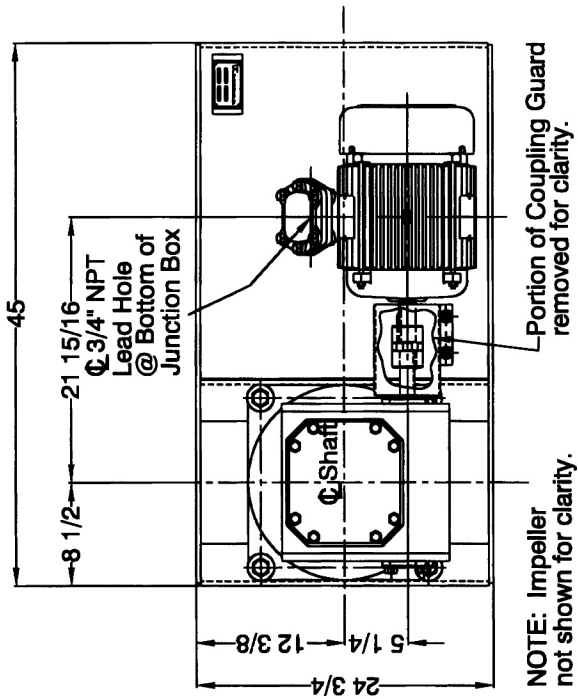
1. All dimensions are in inches unless otherwise noted.

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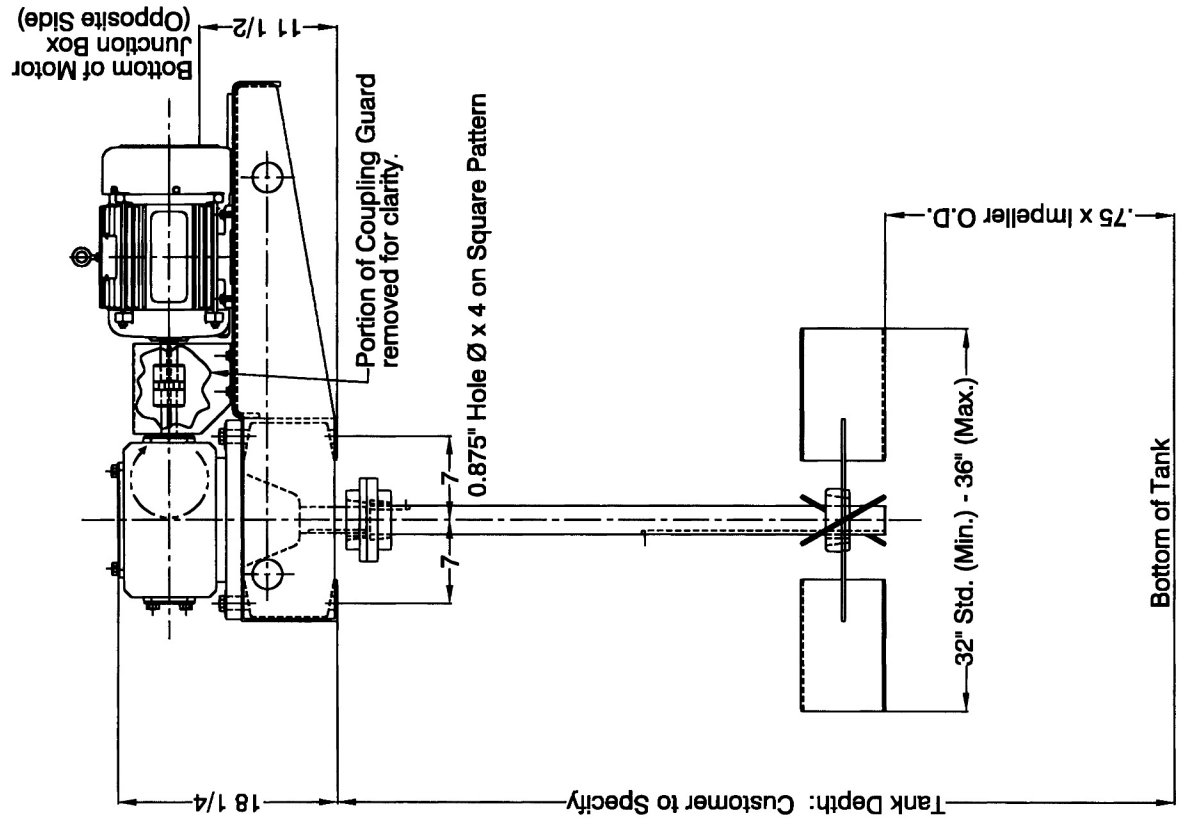
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TITLE  
INSTALLATION DRAWING  
6" MID-HOPPER WITH VENTURI!  
& 6" IN-LINE SHEARING DEVICE

PART NO.	QUANTITY	DATE	SCALE
1/1	99-00603	4/8/97	NTS
REV. NO.	SIZE	REV. NO.	SCALE
1	A	1	A



**PLAN VIEW**



**SIDE VIEW**

REVISONS		NOTES	
NO.	1	1.	All dimensions are in inches unless otherwise noted.
ZONE	All		
DESCRIPTION	General Revision		
BY	DH		
DATE	11/24/99		

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**INSTALLATION DRAWING**  
MODEL NO. MA-7.5-301  
7-1/2 H.P. MECHANICAL AGITATOR


DATE	1/1	99-00330	1	A	1
DRAWN BY	JDH	1/28/97	NTS		
SHEET NO.	1				

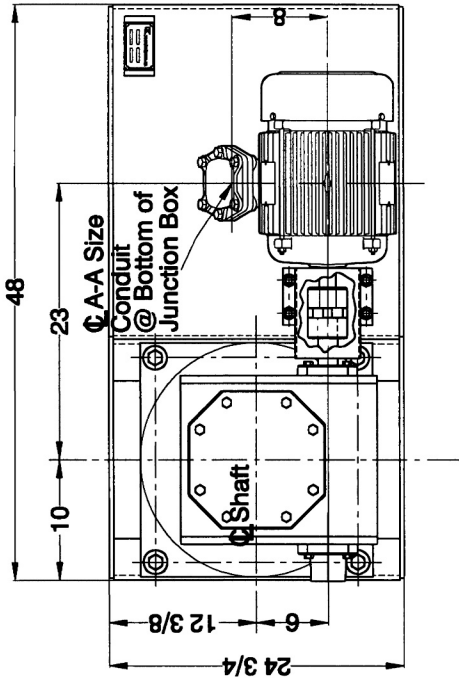
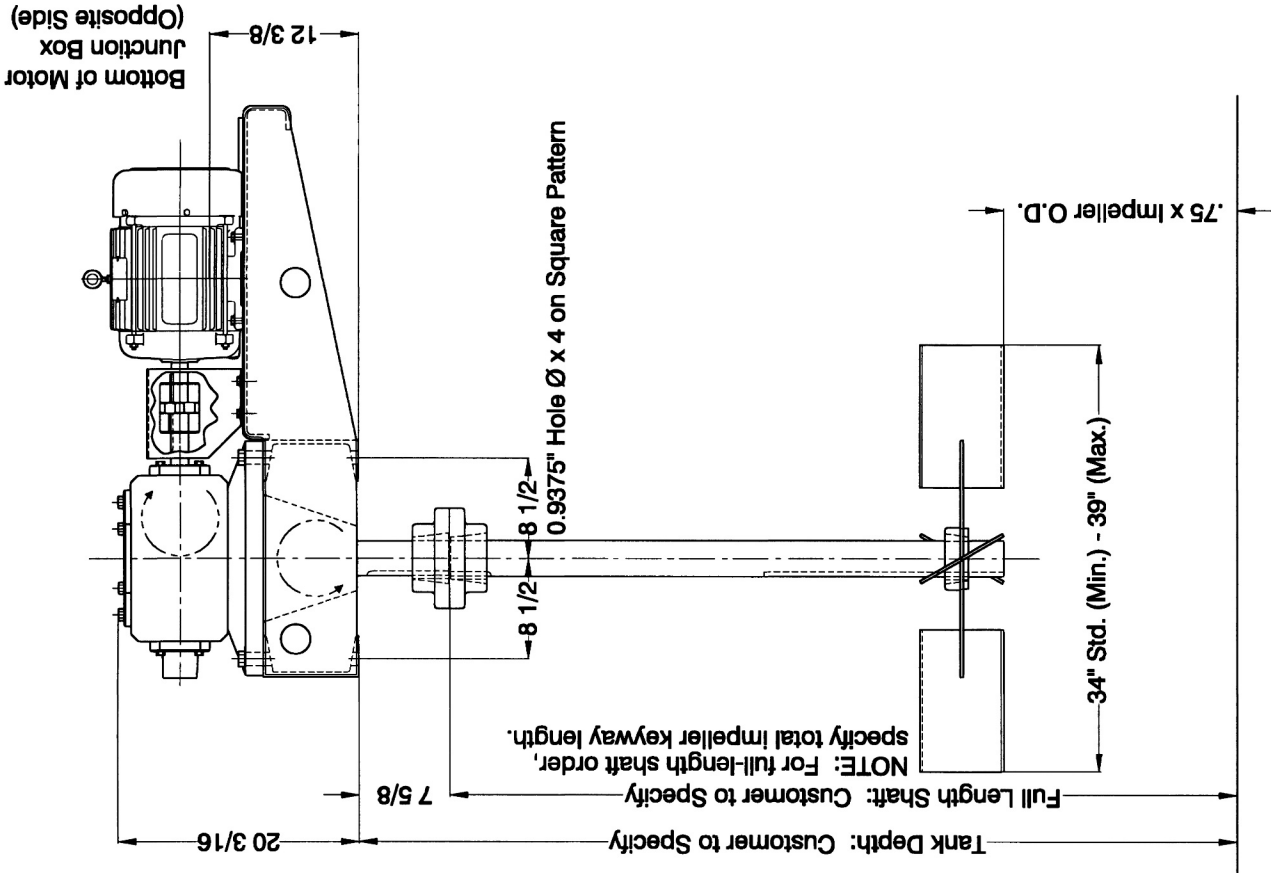




REVISIONS		NOTES	
NO.	ZONE	DESCRIPTION	DATE
1		X-ed dimen. @ Plan Cl. to end, from 8-3/4" to 10".	DH 1/8/98
2	All	+ Full-Length Shaft Notes & Dimen.	DH 4/11/9
3		General Revision	DH 6/18/02

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 DoubleLife <small>Corporation</small>	
<b>INSTALLATION DRAWING</b> MODEL NO. MA-10-301 10 H.P. MECHANICAL AGITATOR	
<small>TITLE</small>	
<small>PART NO.</small> MA10-301	<small>ISSUE DATE</small> JDH 1/28/97
<small>DESIGN NO.</small> 99-00320	<small>SCALE</small> NTS
<small>REV. NO.</small> 1/1	<small>SIZE</small> 3 A 1

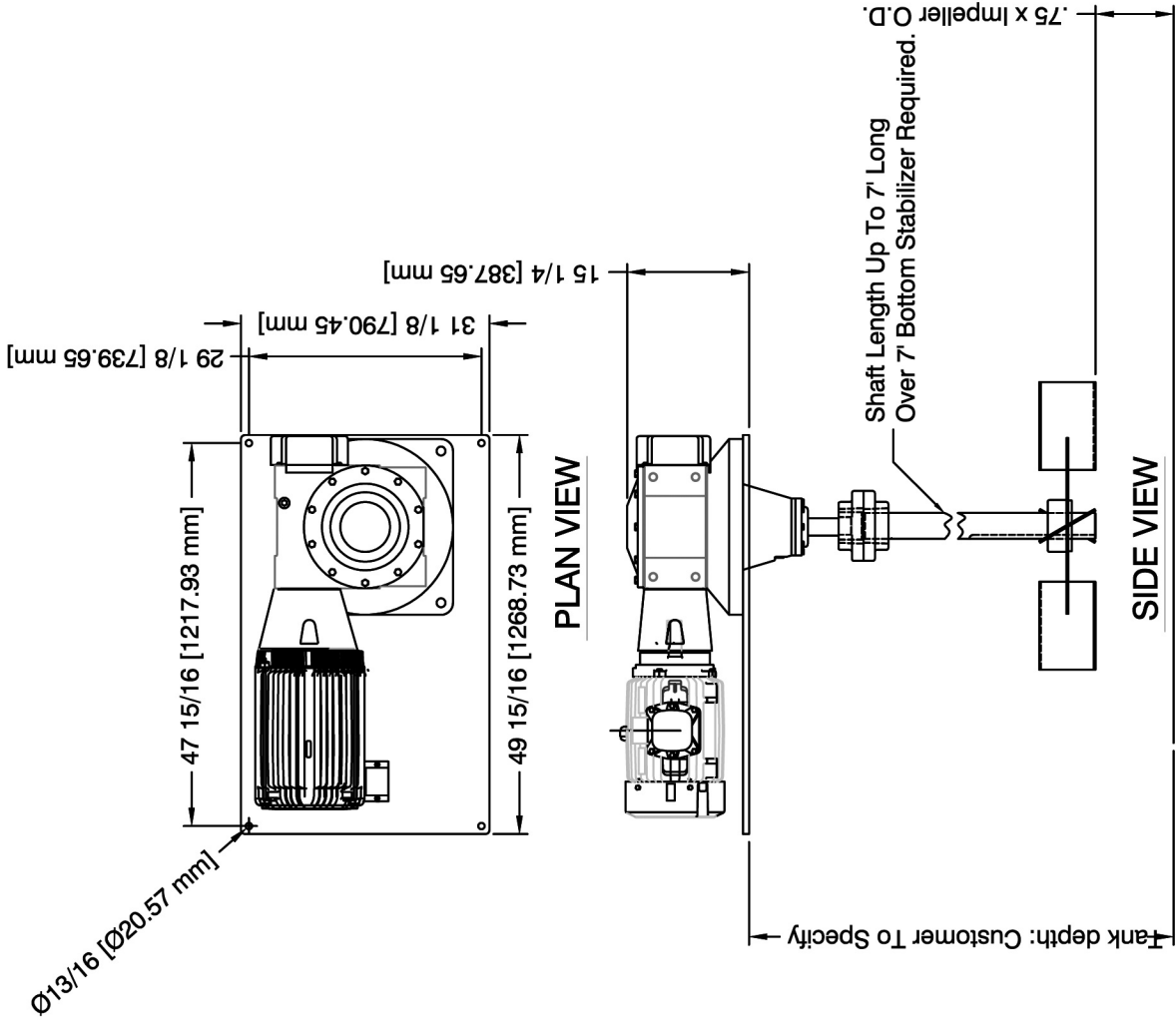


NOTE: Impeller not shown for clarity.

PLAN VIEW







REVISIONS		DESCRIPTION	NO. ZONE	NO.	NOTES
DATE	BY				

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CORPORATION

TITLE  
**PROCESSOR DRAWING**  
**CLOSE COUPLED AGITATOR**

PART NO.	DRAWN BY	DATE	SCALE
MA15-251CQ MW	MW	11-24-03	Noted
SHEET NO.	DRAWING NO.	REV. NO.	SIZE
1/1	99-00503	0	A 1