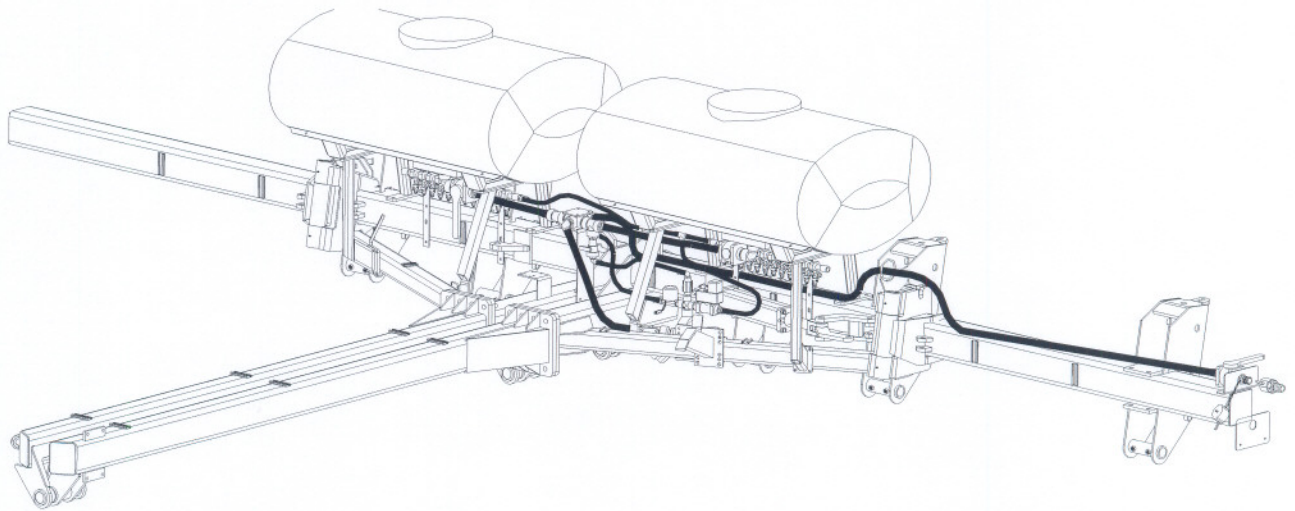




# ASSEMBLY/OPERATORS MANUAL

## ROW CROP CULTIVATOR SADDLE TANKS



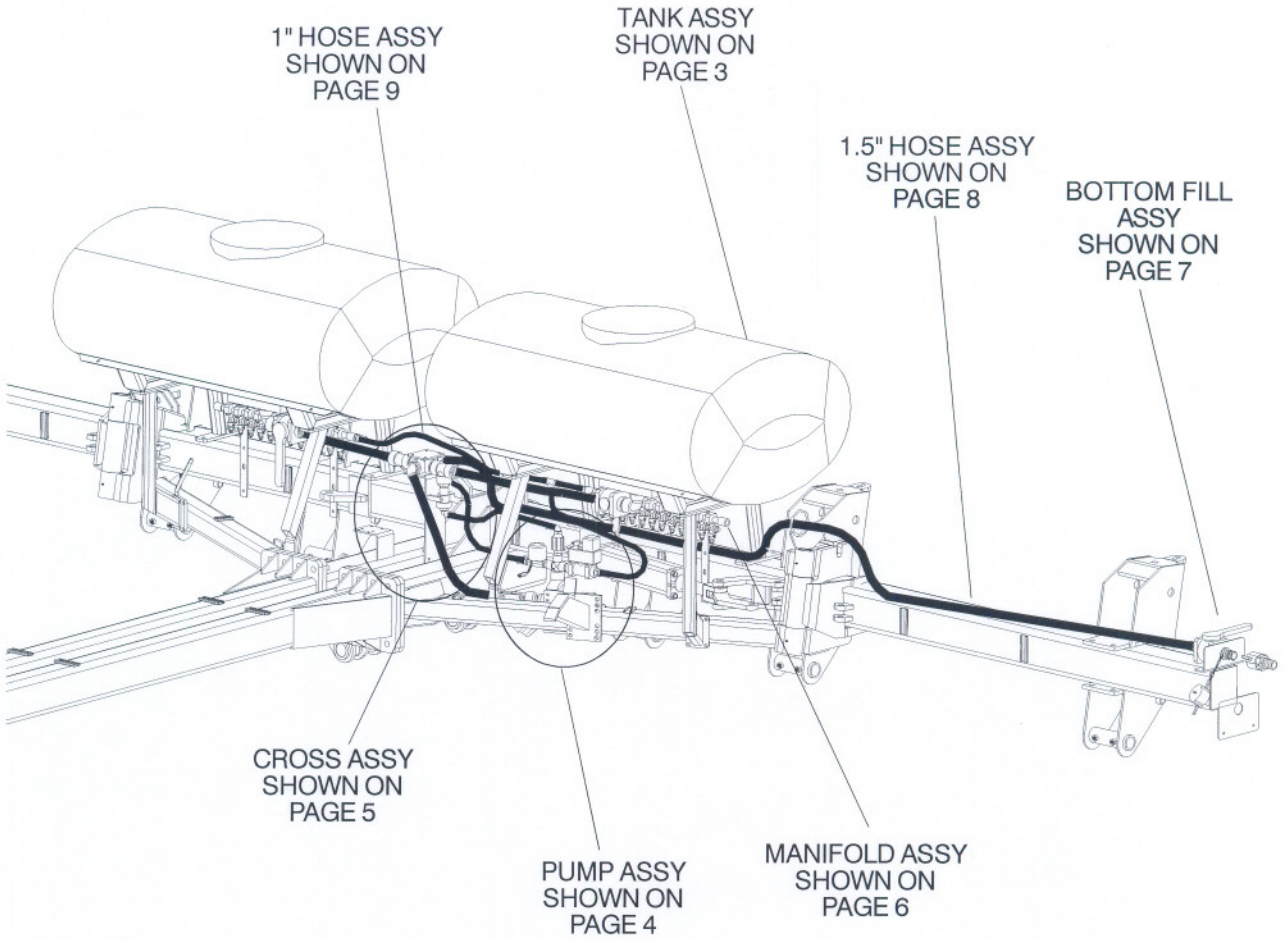
700116

**Note: Tanks must be  
empty when transporting  
Cultivator**

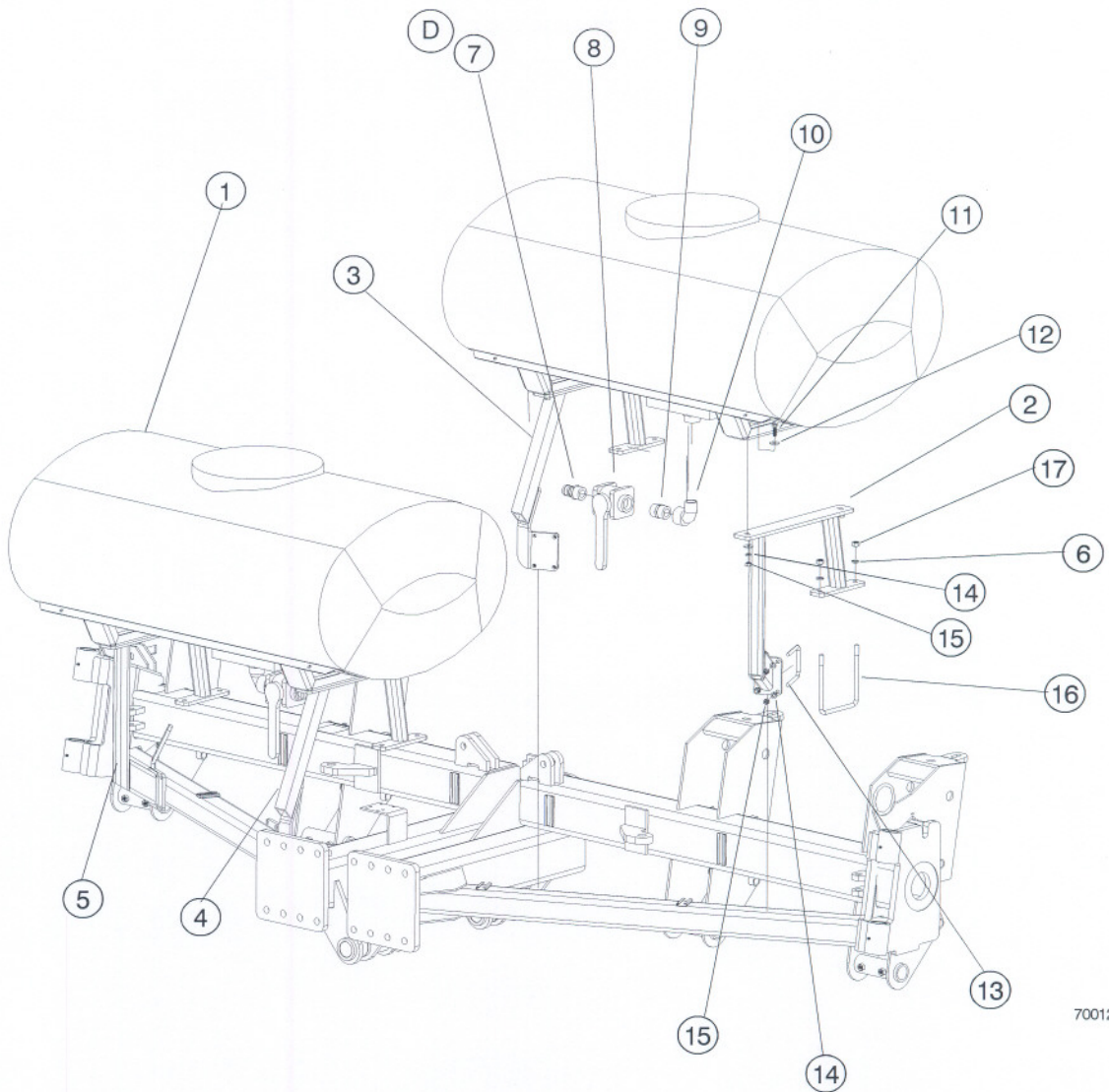
 **WIL-RICH**

PO Box 1030  
Wahpeton, ND 58074  
PH (701) 642-2621  
Fax (701) 642-3372  
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# GENERAL OVERVIEW



700116

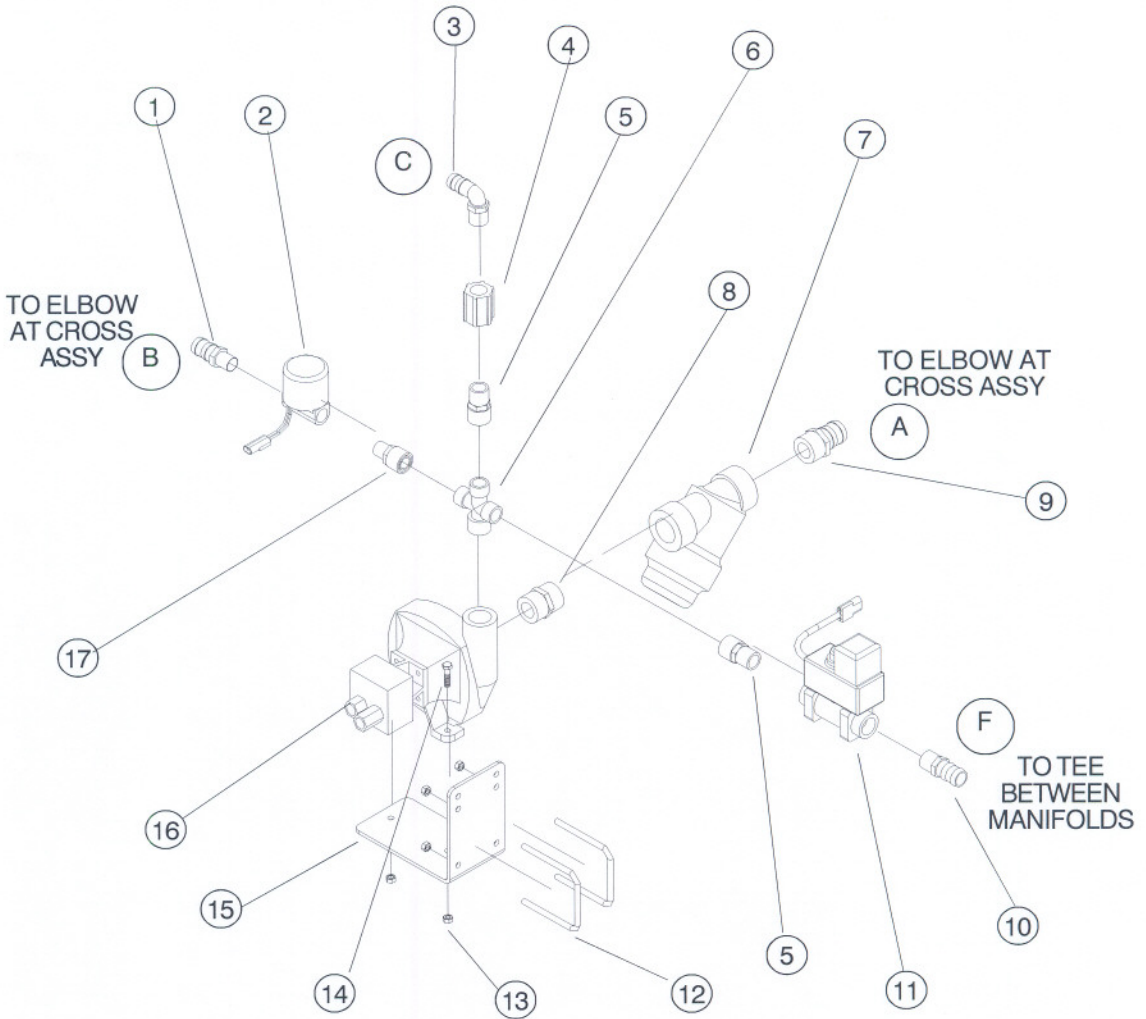


700121

ITEM	PART NO.	DESCRIPTION
1	239765	200 GALLON TANK W/SADDLE ASSY
2	239290	L OUTSIDE STAND (18R45CM) (SHOWN)
	239278	L OUTSIDE STAND (24R22IN)
	239299	L OUTSIDE STAND (24R45CM)
3	239288	L INSIDE STAND (18R45CM) (SHOWN)
	239280	L INSIDE STAND (24R)
4	239287	R INSIDE STAND (18R45CM) (SHOWN)
	239279	R INSIDE STAND (24R)
5	239289	R OUTSIDE STAND (18R45CM) (SHOWN)
	239277	R OUTSIDE STAND (24R22IN)
	239298	R OUTSIDE STAND (24R45CM)
6	88129	WSHR HLK 5/8
7	46175	1-1/2MPT x 1-1/2HB ADAPTER
8	46614	1-1/2 BALL VAVLE
9	45903	1-1/2MPT NIPPLE

ITEM	PART NO.	DESCRIPTION
10	46254	1-1/2FPT x 1-1/2MPT ST ELBOW
11	88475	BLT HEX 1/2-13NCx1-1/2
12	89054	WSHR FLAT 1/2SAE
13	89270	BLT-U 1/2-13NCx4x5-1/4
14	88303	WSHR HLK 1/2
15	88104	NUT HEX 1/2-13NC
16	89351	BLT-U 5/8-11NCx7x8-1/2
17	88126	NUT HEX 5/8-11NC

# HYPRO PUMP PLUMBING



700123

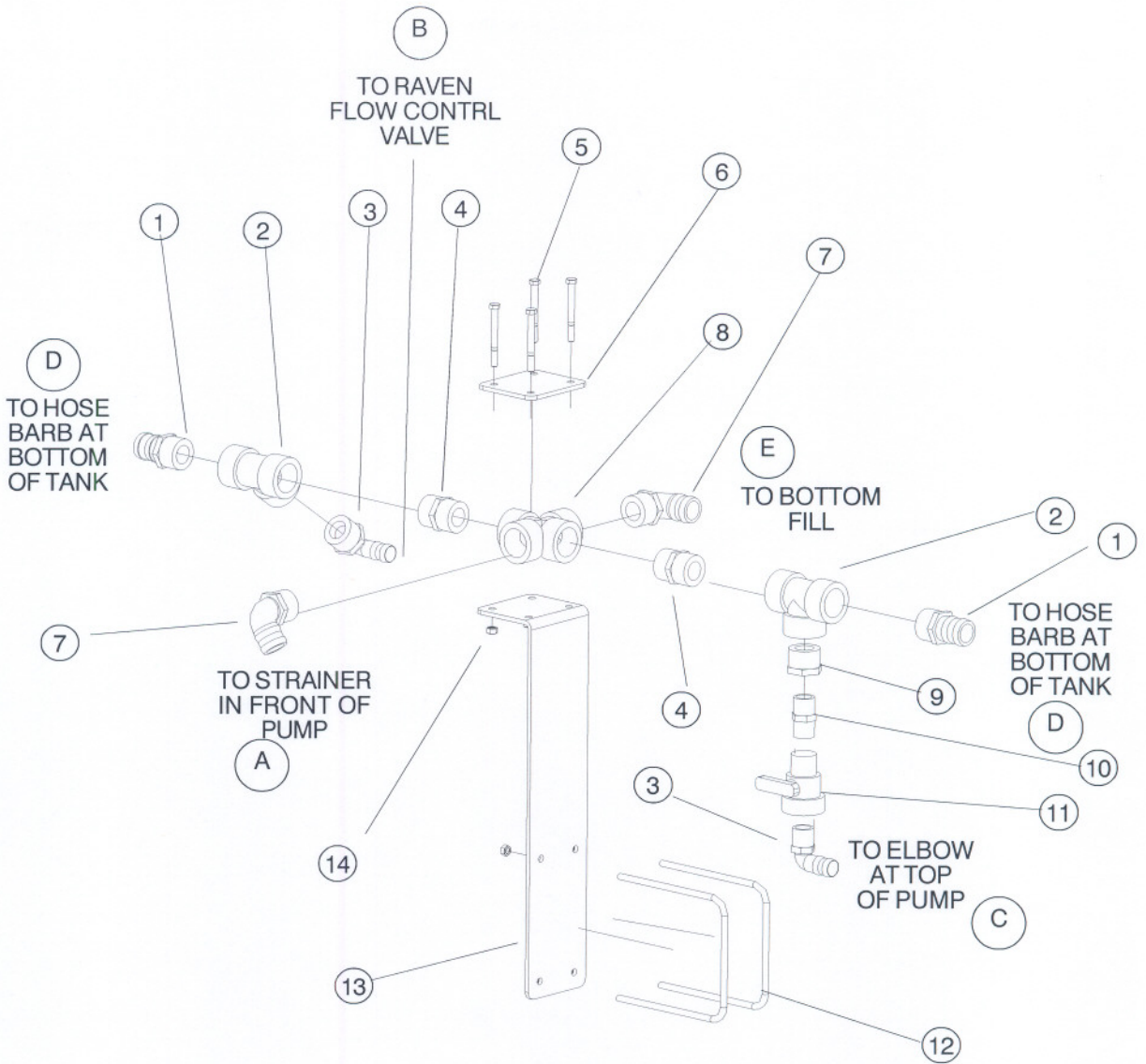
**ITEM PART NO. DESCRIPTION**

1	239839	3/4 MPTx1HB
2		RAVEN FLOW CONTROL
3	239838	1MPTx1HB 90 ELB
4	239841	1 CLOSED COUPLER FPT
5	45985	1MSPTx1MPT NIPPLE
6	47872	4WAY CROSS 1-1/4MPTx1MSPT (3)
7	46358	LINE STRAINER 1-1/2 50 MESH
8	45903	1-1/2MPT NIPPLE
9	46175	1-1/2MPTx1-1/2HB ADAPTER
10	239837	1MPTx1HB
11	B112992	TEE JET BALL VALVE

**ITEM PART NO. DESCRIPTION**

12	88385	BLT-U 3/8-16NCx4x5
13	88626	NUT NLK 3/8
14	88553	BLT HEX 3/8-16NCx1-1/2
15	239824	FORMED PLATE - PUMP MNT
16	47636	HYPRO PUMP #9303C-HM4
17	45968	1MSPTx3/4MPT REDUCER

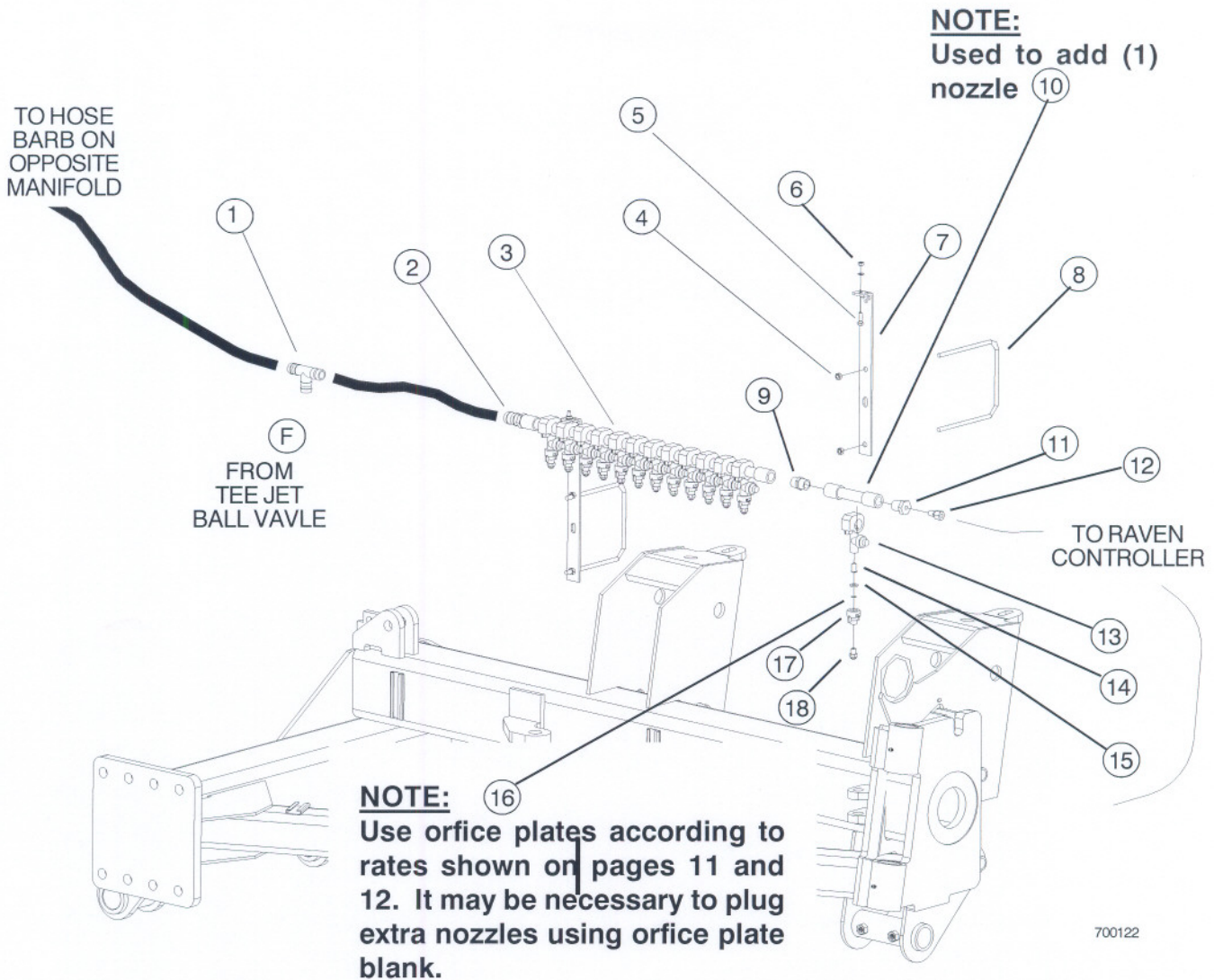
# CENTER CROSS PLUMBING



700120

ITEM	PART NO.	DESCRIPTION
1	46175	1-1/2MPTx1-1/2HB ADAPTER
2	46258	1-1/2 FPT TEE
3	239838	1MPTx1HB 90 ELB
4	45903	1-1/2 MPT ADAPTER
5	88412	BLT HEX 3/8-16NCx3-1/2
6	239767	PLATE
7	46243	1-1/2MPTx1-1/2HB ELB
8	239795	1-1/2FPT CROSS
9	239794	1-1/2MPTx1FPT REDUCER
10	B112130	NIPPLE POLY 1 CLOSE
11	47906	1" BALL VALVE
12	89277	BLT-U 3/8-16NCx7x8
13	239766	FORMED PLATE - CROSS MNT
14	88626	NUT NLK 3/8

# MANIFOLD ASSY

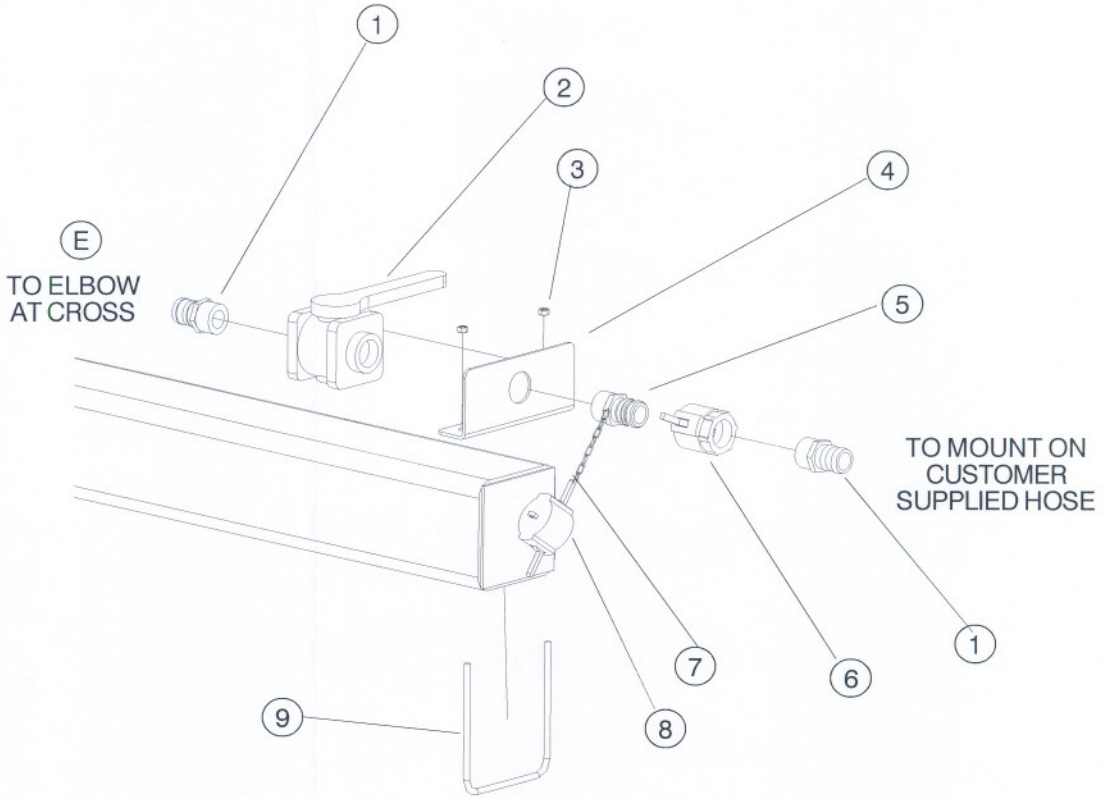


700122

ITEM	PART NO.	DESCRIPTION
1	239769	TEE 1HB (3)
2	239839	3/4MPTx1HB
3	239830	12 NOZZLE MANIFOLD KIT
4	88626	NUT NLK 3/8
5	88478	BLT HEX 5/16x1
6	88832	NUT NLK 5/16
7	239826	STRAP
8	89277	BLT-U 3/8-16NCx7x8
9	239842	3/4 MPT NIPPLE
10	239836	MANIFOLD EXT 6IN
11	239840	3/4MPTx1/4FPT REDUCER

ITEM	PART NO.	DESCRIPTION
12		RAVEN COUPLER
13	239827	NOZZLE BODY
14	61192	50 MESH STRAINER
15	B112261	GASKET SEAT
16	239844	ORIFICE PLATE 4916-35
	239845	ORIFICE PLATE 4916-49
	239846	ORIFICE PLATE 4916-70
	239847	ORIFICE PLATE 4916-98
	239848	ORIFICE PLATE BLANK
17	239828	NOZZLE BODY CAP
18	239829	HOSE CONN 1/4MPTx1/4OD

# BOTTOM FILL ASSY



ITEM	PART NO.	DESCRIPTION
1	46175	1-1/2MPTx1-1/2HB
2	46614	1-1/2 BALL VALVE
3	88626	NUT NLK 3/8
4	239768	FORMED PLATE
5	46609	1-1/2Mx1-1/2MPT ADAPTER
6	46607	1-1/2Fx1-1/2FPT COUPLER
7	44522	CHAIN ASSY
8	46606	CAM LOCK DUST CAP 1-1/2
9	89277	BLT-U 3/8-16NCx7x8

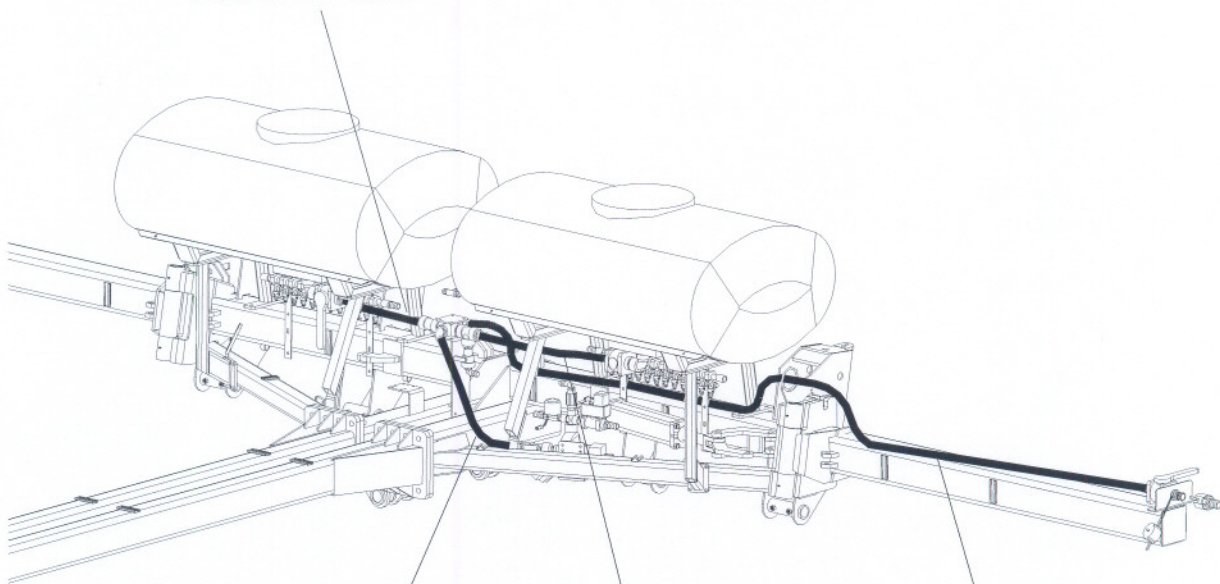
# 1-1/2 INCH HOSE PLUMBING

1-1/2 INCH HOSE FROM  
CROSS IN CENTER  
OF MACHINE TO  
HOSE BARB ON  
BOTTOM OF TANK

1-1/2 INCH HOSE FROM  
CROSS IN CENTER  
OF MACHINE TO  
HOSE BARB ON PUMP

1-1/2 INCH HOSE FROM  
CROSS IN CENTER  
OF MACHINE TO  
HOSE BARB ON  
BOTTOM OF TANK

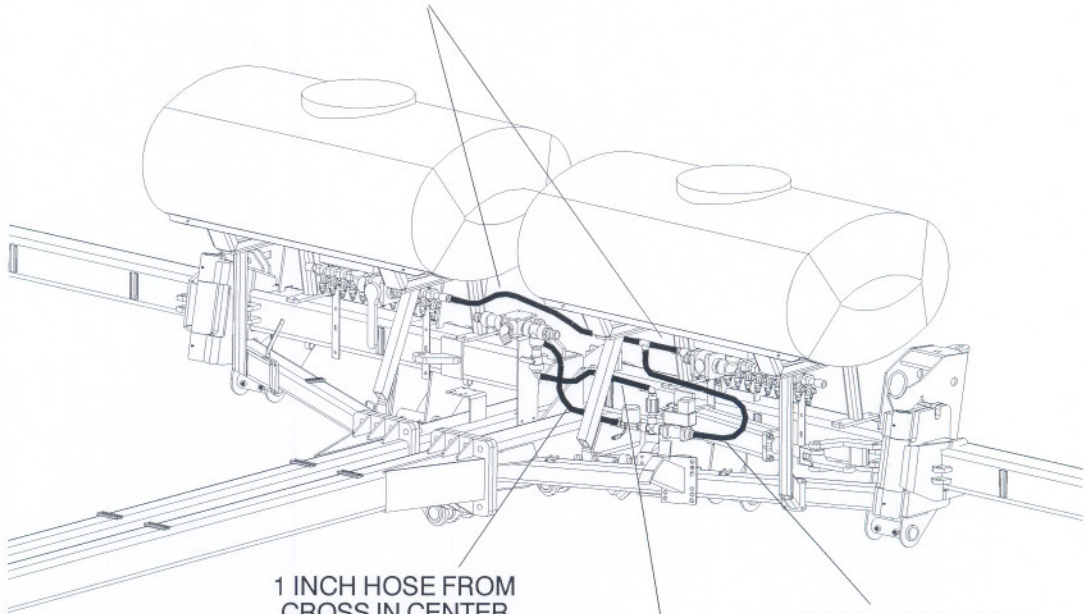
1-1/2 INCH HOSE FROM  
CROSS IN CENTER  
OF MACHINE TO  
BOTTOM FILL ON WING





# 1 INCH HOSE PLUMBING

1 INCH HOSE FROM  
TEE BETWEEN MANI-  
FOLDS TO MANIFOLD

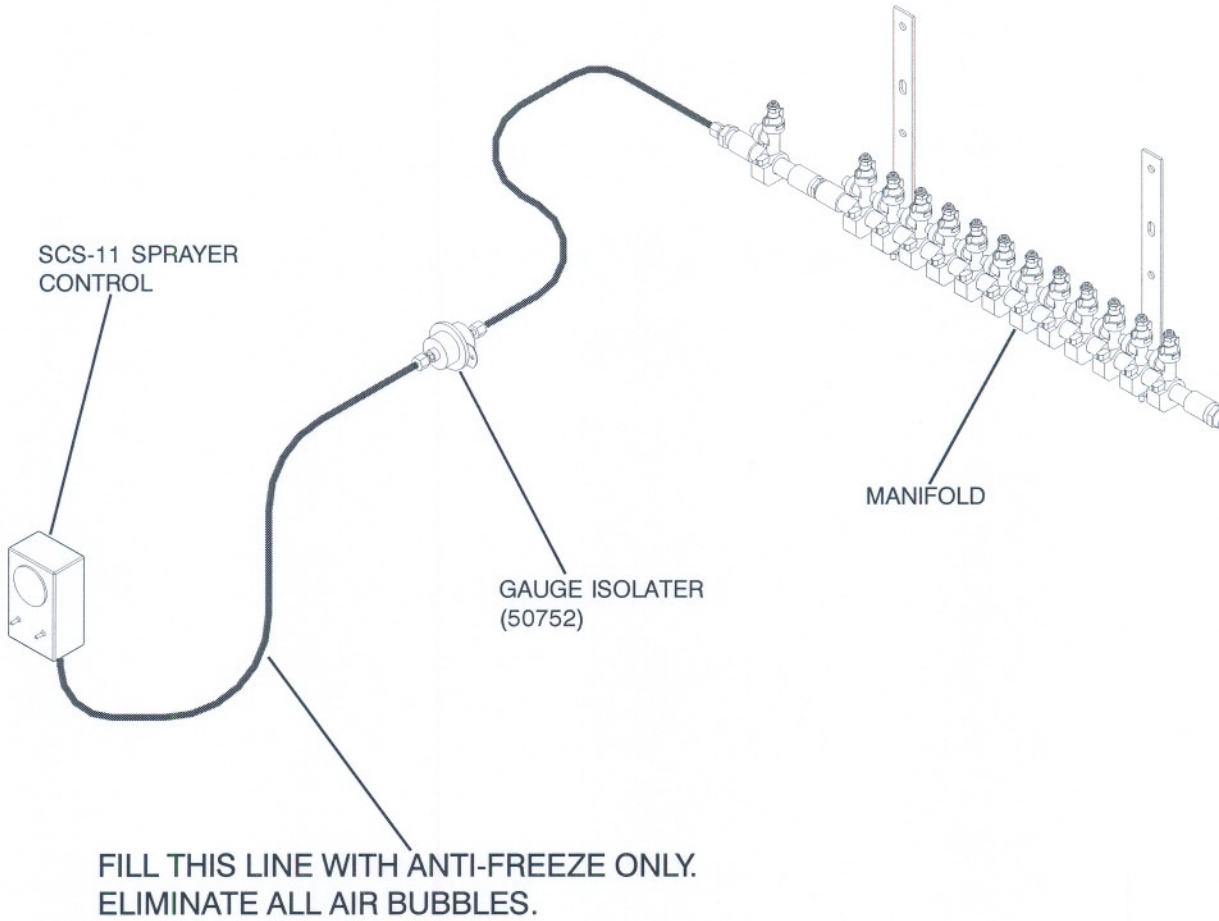


1 INCH HOSE FROM  
CROSS IN CENTER  
OF MACHINE TO  
RAVEN CONTROL  
VALVE

1 INCH HOSE FROM  
TEE JET VALVE  
TO TEE BETWEEN  
MANIFOLDS

1 INCH HOSE FROM  
CROSS IN CENTER  
OF MACHINE TO  
ELBOW ON TOP OF  
PUMP

# GAUGE ISOLATER

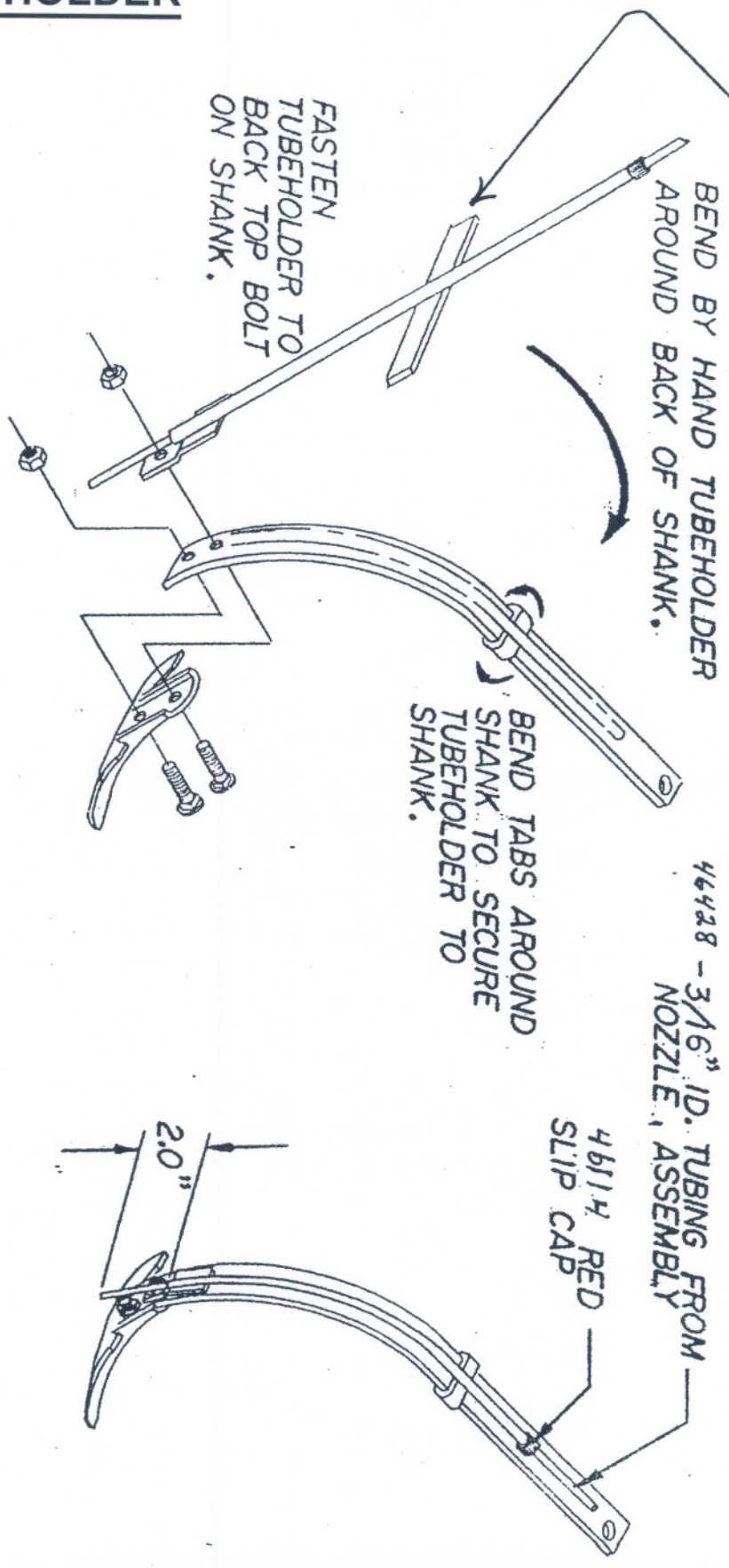


MOUNT THE SCS-11 SPRAYER CONTROL IN THE TRACTOR CAB. MOUNT THE GAUGE ISOLATER ON THE REAR OF THE TRACTOR (3PT AREA). WHEN DETACHING IMPLEMENT GAUGE ISOLATER WILL STAY WITH TRACTOR.

# TUBE HOLDER

45-497

## TUBE HOLDER MOUNTING ILLUSTRATION



# **RATE CHART 45CM CULTIVATORS**

CHART FOR 28% LIQUID NITROGEN.  
APPLICATOR: 45CM ROW CROP CULTIVATOR

Orifice plate number	PSI	LPM/ NOZZLE	LITERS PER HECTARE @ KM/H				
			4.83	6.44	8.05	9.66	12.88
4916-35	5	0.1971	51.364	38.29	30.819	25.215	19.612
4916-35	10	0.2767	72.844	54.166	43.893	36.422	27.083
4916-35	20	0.3942	102.73	76.58	61.637	51.364	38.29
4916-35	30	0.4813	125.14	94.324	75.646	62.571	46.695
4916-49	5	0.3942	96.191	71.91	57.902	48.563	36.422
4916-49	10	0.5571	136.35	101.79	82.183	68.175	51.364
4916-49	20	0.7883	196.12	144.75	115.8	96.191	71.91
4916-49	30	0.9665	233.47	177.44	141.95	117.67	88.72
4916-70	5	0.8186	196.12	150.36	119.54	99.927	74.712
4916-70	10	1.1597	280.17	214.8	169.97	141.02	106.46
4916-70	20	1.6373	401.58	298.85	242.81	196.12	150.36
4916-70	30	2.0087	485.63	364.22	289.51	242.81	183.98
4916-98	5	1.6752	410.92	308.19	242.81	205.46	153.16
4916-98	10	2.3688	579.02	429.59	345.54	289.51	214.8
4916-98	20	3.3466	812.49	616.37	485.63	410.92	308.19
4916-98	30	4.0932	999.27	747.12	597.69	504.3	373.56

**NOTE: ALWAYS INSERT ORIFICE PLATE  
WITH SIDE MARKED WITH NUMBER FACING  
THE OUTLET OF THE NOZZLE BODY**

# **RATE CHART 22 INCH CULTIVATORS**

CHART FOR 28% LIQUID NITROGEN.  
APPLICATOR: ROW CROP CULTIVATOR ON 22" SPACING

Orifice plate		LPM/	LITERS PER HECTARE @ KM/H				
number	PSI	NOZZLE	4.83	6.44	8.05	9.66	12.88
4916-35	5	0.1971	41.37	30.84	24.82	20.31	15.8
4916-35	10	0.2767	58.67	43.63	35.35	29.34	21.81
4916-35	20	0.3942	82.74	61.68	49.65	41.37	30.84
4916-35	30	0.4813	100.8	75.97	60.93	50.4	37.61
4916-49	5	0.3942	77.48	57.92	46.64	39.12	29.34
4916-49	10	0.5571	109.8	81.99	66.19	54.91	41.37
4916-49	20	0.7883	158	116.6	93.27	77.48	57.92
4916-49	30	0.9665	188.1	142.9	114.3	94.78	71.46
4916-70	5	0.8186	158	121.1	96.28	80.49	60.18
4916-70	10	1.1597	225.7	173	136.9	113.6	85.75
4916-70	20	1.6373	323.5	240.7	195.6	158	121.1
4916-70	30	2.0087	391.2	293.4	233.2	195.6	148.2
4916-98	5	1.6752	331	248.2	195.6	165.5	123.4
4916-98	10	2.3688	466.4	346	278.3	233.2	173
4916-98	20	3.3466	654.4	496.5	391.2	331	248.2
4916-98	30	4.0932	804.9	601.8	481.4	406.2	300.9

**NOTE: ALWAYS INSERT ORIFICE PLATE  
WITH SIDE MARKED WITH NUMBER FACING  
THE OUTLET OF THE NOZZLE BODY**