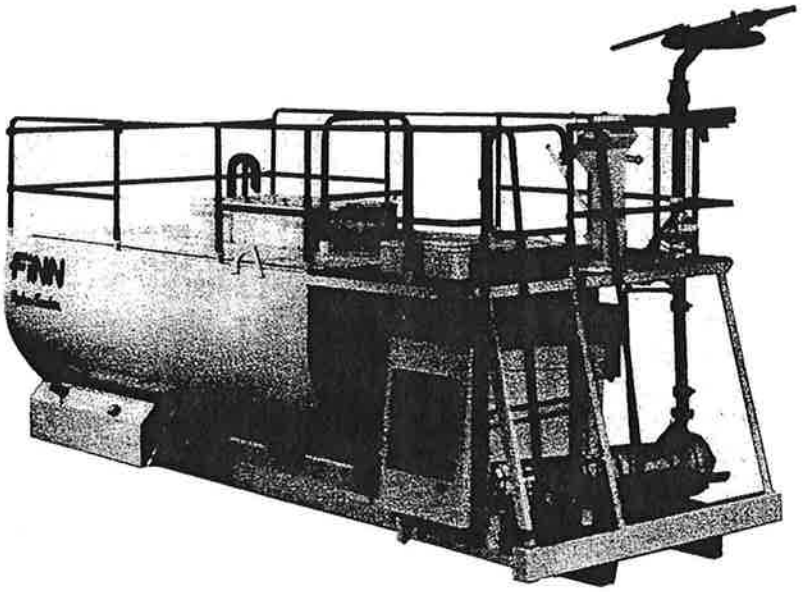
FINN CORPORATION

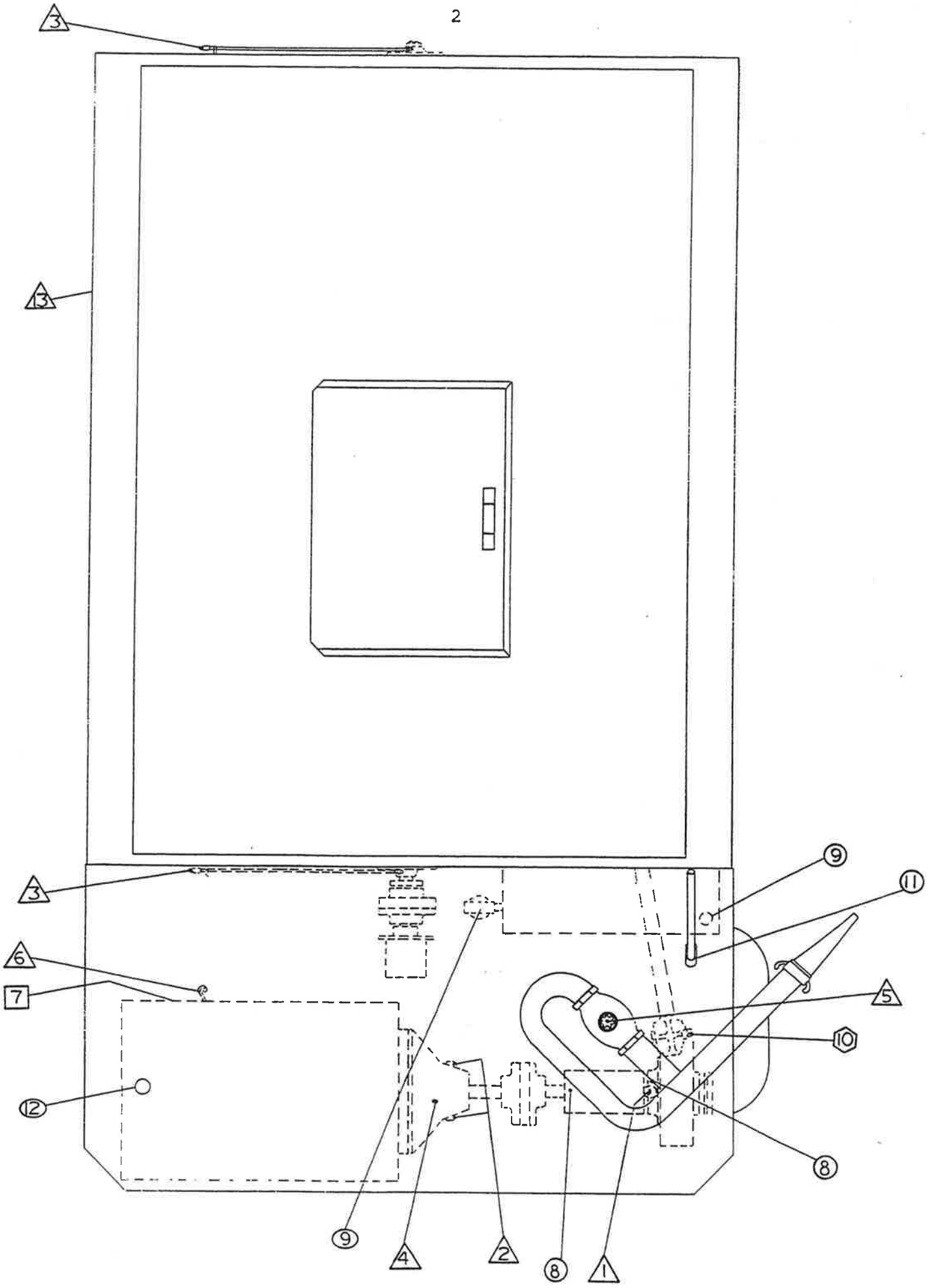


Hydroseeder

PARTS MANUAL

MODEL NO. T-170 SERIAL NO. RN

INDEX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1

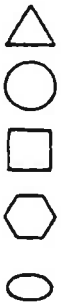
LUBRICATION AND FLUIDS CHART

	Location	Lubricant or Fluid Used	Frequency	Number Fittings
1.	Check grease level in pressure lubricator	BL	Daily	1
2.	Check clutch lever bearings	CL	Daily	2
3.	Grease agitator shaft bearings	CL	Daily	4
4.	Grease clutch shaft bearings	CL	Daily	1
5.	Grease discharge swivels	CL	Daily	2
6.	Check engine oil level	MO	Daily	1
7.	Change engine oil and filter	MO	See engine manual	1
8.	Grease pump bearings	BL	Weekly	2
9.	Check hydraulic fluid level	HO	Weekly	1
	Change hydraulic fluid and filter	HO	Seasonally or 500 hrs	1
10.	Grease discharge & recirculation valves	SL	Each Load	2
11.	Grease valve arm lever	CL	Weekly	1
12.	Change engine coolant	AF	Seasonally	1
13.	Check fuel tank	DF	Daily	1
14.	Grease Clutch Handle	CL	Weekly	1

LUBRICANT OR FLUID USED

BL	Bearing lube (soda base)
CL	Chassis lubricant
MO	Motor Oil SAE 30 CD/SF
HO	Hydraulic fluid 10W-40 SE Motor Oil
SL	Special stick lubricant
AF	50/50 antifreeze-water mixture
DF	Diesel Fuel

TIME KEY



DAILY

WEEKLY

SEE ENGINE MANUAL

EACH LOAD

SEASONALLY OR 500 HOURS

FLUID CAPACITIES

Diesel fuel	41 gallons
Engine oil	See engine manual
Engine coolant (50/50 antifreeze-water mixture	4 gallons
Hydraulic fluid	25 gallons

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

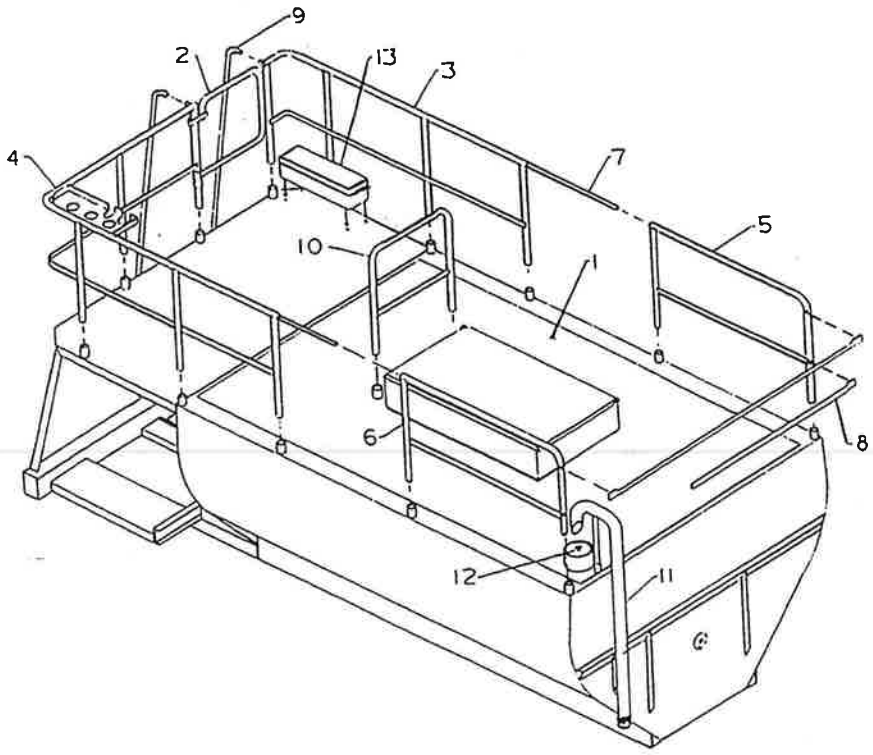
TOOL KIT

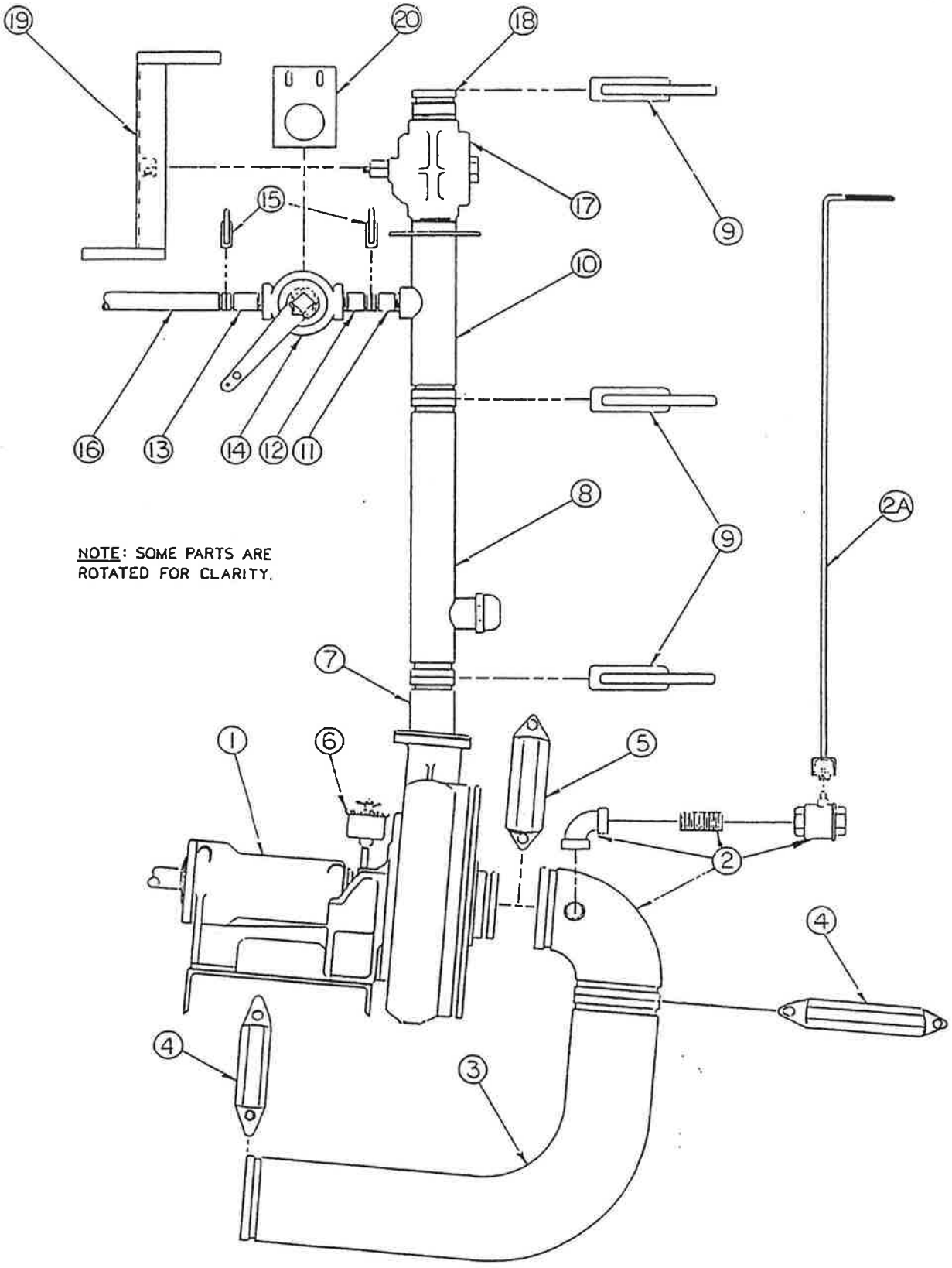
Part No.	Description	No. Req'd
008465	Nozzle, Long Distance	1
011703	Nozzle Assembly, Long Distance	1
	001042 Nozzle, Long Distance	1
	006512 Gasket, Nozzle	1
	002191 Coupling, Male	1
	160540 Nipple	1
	160768 Bushing	1
011890	Nozzle Assembly, Wide Ribbon	1
	011861 Nozzle, Wide Ribbon	1
	002191 Coupling, Male	1
	160769 Bushing	1
011891	Nozzle Assembly, Narrow Ribbon	1
	011860 Nozzle, Narrow Ribbon	1
	002191 Coupling, Male	1
	160769 Bushing	1
011706	Nozzle Assembly, Wide Ribbon	1
	006604 Nozzle, Wide Ribbon	1
	002191 Coupling, Male	1
	160766 Bushing	1
011707	Nozzle Assembly, Narrow Ribbon	1
	006605 Nozzle, Narrow Ribbon	1
	002191 Coupling, Male	1
	160766 Bushing	1
021375	Grease Gun	1
	020365 Cartridge, Grease	1
000698	Grease, Automatic Lubricator	1
007469	Lube Sticks, Discharge and Recirculation Valves	1
002190	Cap w/Gasket-Main Tank Drain	1
006513	Gasket, Coupler	1
005220	Impeller Wrench	1
008204	Paint, Touch Up	1
008376	Engine Parts Manual	1
008375	Engine Operator's Manual	1
	Parts Manual	1
	Instruction Manual	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

TANK TOP PARTS

Ref. No.	Part Number	Description	No. Req'd
1	008447	Tank Top	1
	190047	Gasket	32'
2	008413	Gate Assembly	1
	008411-03	Top Hinge	1
	008411-04	Bottom Hinge	1
	008412	Gate	1
	012052	Spring, Gate	1
3	041001	Left Rear Guard Rail	1
4	041000	Right Rear Guard Rail	1
	012042	Boom Holddown Arm	1
	031245	Snapper Pin	1
	005161	Nozzle Tie-Down Strap	1
	008454-02	Boom Clamping Strap	1
	002258	Boom Locking Handle	1
5	041002-01	Left Front Guard Rail	1
6	041002-02	Right Front Guard Rail	1
7	005121	Slide Gate	2
8	008265	Front Rail	1
9	012273	Hand Rail	2
10	007523	Hatch Rail	1
11	008457	Fill Port	1
	002191	Adapter	1
12	008470	Fill Plug	1
13	011313	Tool Box	1
	011398	Mounting Pad	4



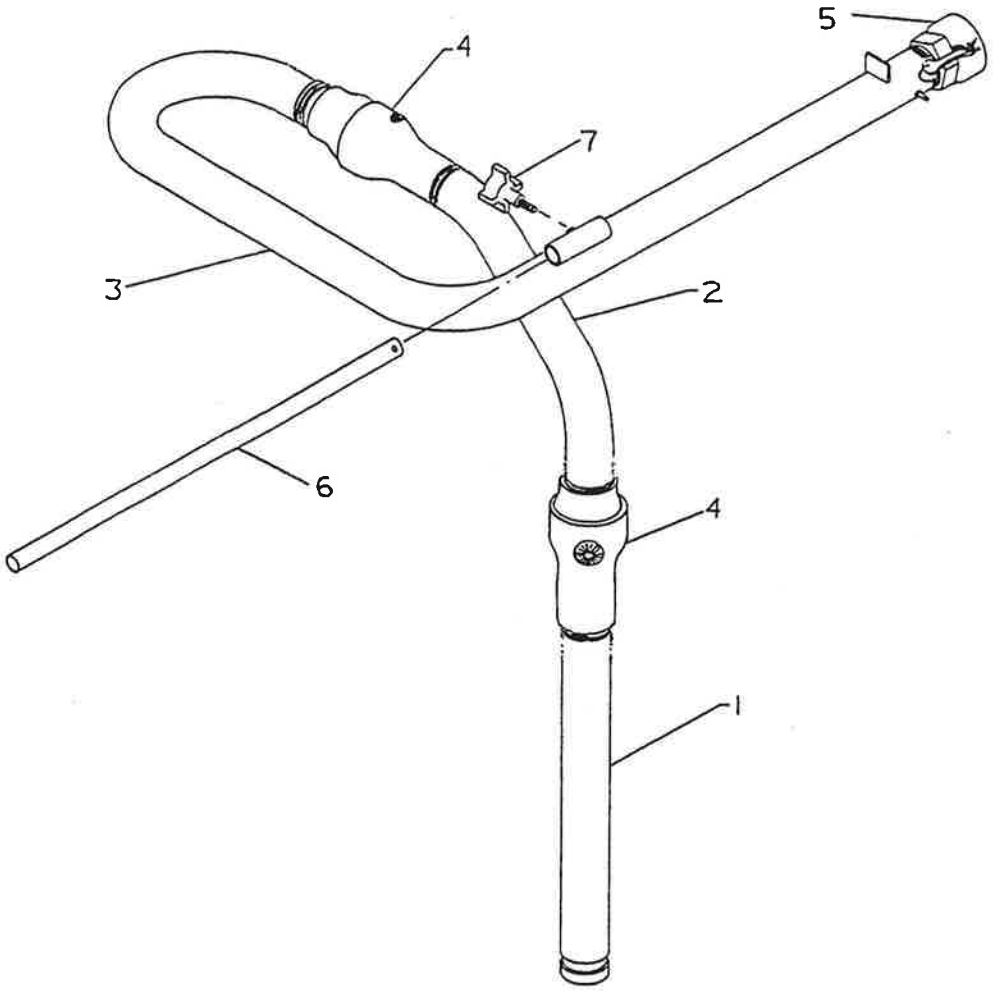


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

PUMP, PIPING, AND DISCHARGE ASSEMBLY

Ref No.	Part No.	Description	No. Req'd
1	005143	Pump Assy (See pg 9 for parts)	1
	X1032	Bolt, Washer, Locknut	4
2	12142	Suction Elbow/Bleed Valve Assy	1
	12142-01	Suction Elbow	1
	160010	Elbow	1
	160305	Nipple	1
	21559	Valve	1
2A	12143-01	Bleed Valve Handle	1
	12143-09	Bearing Pad	1
3	12141	Suction Pipe	1
4	011736	Pipe Clamp	2
	011919	Seal, Pipe Clamp	2
5	008471	Pipe Clamp, Reducing	1
	008472	Seal, Pipe Clamp	1
6	002383	Pump Lubricator	1
	008189	Plunger	1
	008190	Screw, Nut,Follower,Spring	1
	160160	Coupling	1
	006869	Decal	1
	160389	Nipple	1
7	011726-01	Discharge Flange	1
	008469	Gasket	1
	X0828	Bolt & Nut	1
8	011726-11	Lower Discharge Pipe	1
	160263	Pipe Cap	1
9	002771	Pipe Clamp	3
	002820	Seal, Pipe Clamp	3
10	011726-04	Upper Discharge Pipe	1
11	011727-09	Recirculation Nozzle	1
12	011727-10	Valve Inlet Nozzle	1
13	011727-11	Valve Outlet Nozzle	1
14	011776	Recirculation Valve	1
	011909	Handle	1
	004962	Lube Screw	1
	011950	Gasket	1
	011951	Spring	1
15	006721	Pipe Clamp	2
	006722	Seal, Pipe Clamp	2
16	008456-05	Recirculation Pipe	1
	160038	Direction Elbow	1
17	011777	Discharge Valve	1
	004962	Lube Screw	1
	011952	Gasket	1
	011953	Spring	1
18	011882	Discharge to Boom Connector	1
19	011822	Valve Control Foot Pedal	1
	Z0612SCP	Set Screw	2
20	011803-01	Valve Stabilizer Plate	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

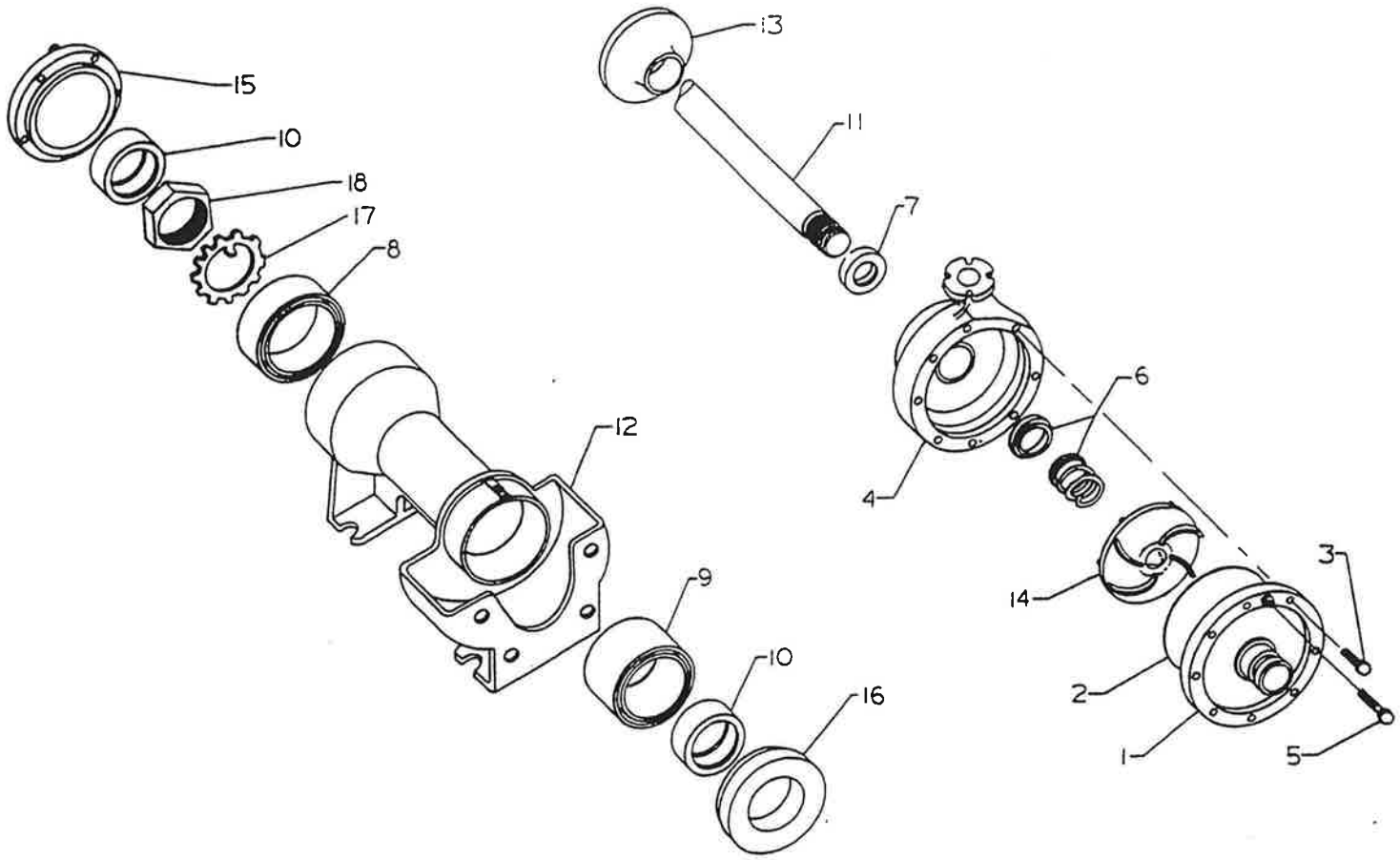


DISCHARGE BOOM ASSEMBLY

Ref. No.	Part No.	Description	No. Req'd
	012043	Discharge Boom Assembly Includes:	1
1	012043-16	Stand Pipe	1
2	012043-02	Lower Boom Pipe	1
3	012043-01	Upper Boom Pipe	1
4	012283	Swivel	2
5	010544	Coupler, Nozzle	1
	006513	Gasket	1
6	012043-19	Boom Handle	1
7	011914	Knob	1
	011917*	Swivel Repair Kit	2

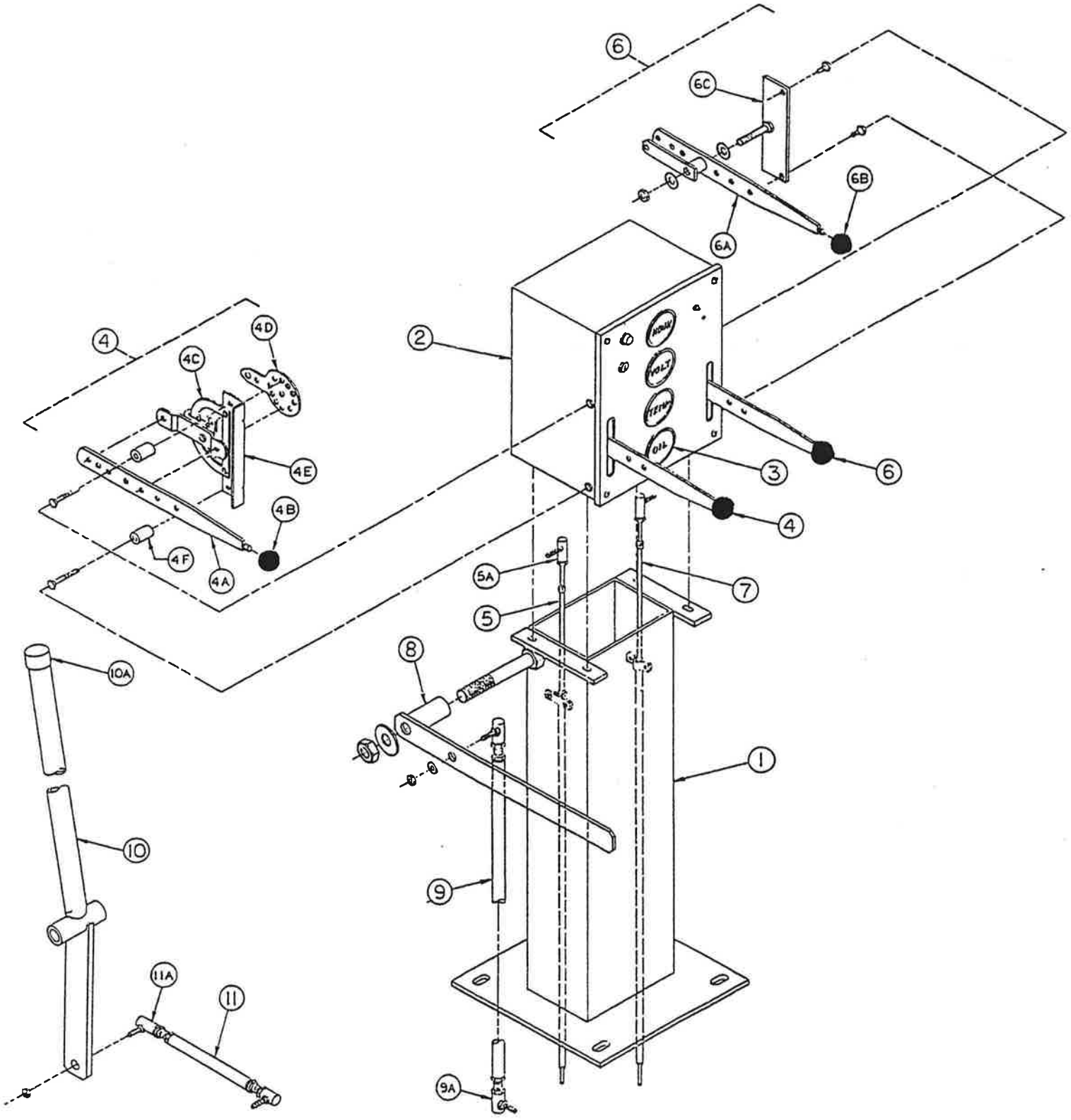
* Not included with #012043

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



Ref No.	Part No.	Description	No.Req'd
	005143	Pump Assembly Consisting Of:	
5-1	005146	Cover, Pump Suction	1
5-2	005150	O-Ring, Suction Cover	1
5-3	X0824	Bolts, Suction Cover	8
5-4	005144	Casing	1
5-5	X0828	Bolts, Adjusting	4
5-6	006443	Seal Assembly (60BC18)	1
5-7	006444	Seal, Grease Retainer	1
5-8	006445	Bearing, Radial	1
5-9	006446	Bearing, Thrust	1
5-10	006447	Seal, Grease Retaining	2
5-11	002945	Shaft	1
5-12	002960	Frame	1
5-13	006450	Slinger, Radial Bearing	1
5-14	005145	Impeller	1
5-15	002961	Retainer, Thrust Bearing	1
5-16	006537	Retainer, Radial Bearing	1
5-17	007366	Lock, Shaft Nut	1
5-18	007367	Nut, Shaft	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

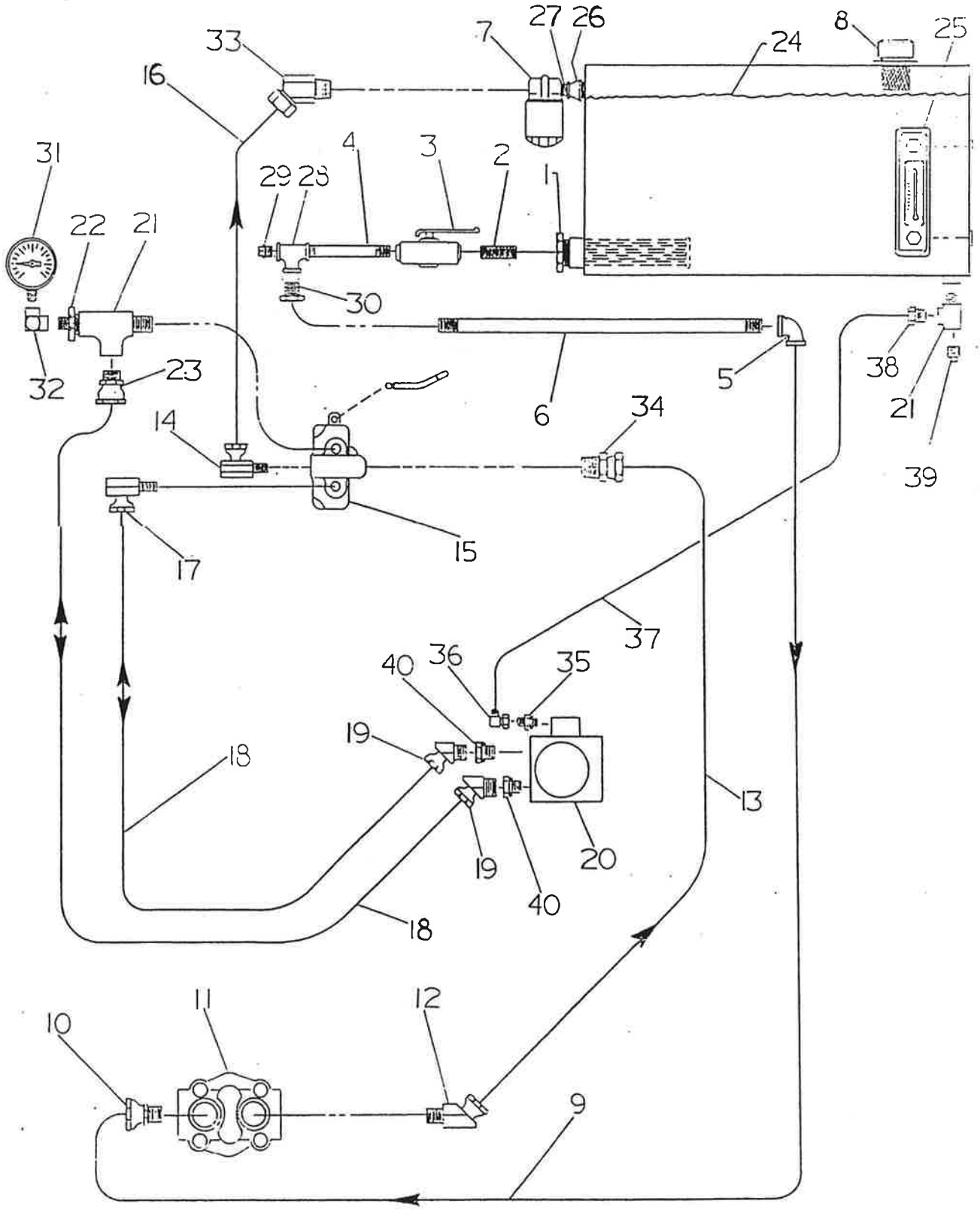


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

CONTROLS

REF NO.	PART NO.	DESCRIPTION	NO. REQ'D
	011794-01	Control Tower Assembly (includes items 1-7)	1
1	011795	Control Tower	1
2	011814-01	Control Box w/Cover (Less Components)	1
3		Gauges, Switches and Tower Wiring Harness- Order Separately (See pages 18 and 19)	
4	008474	Throttle Control Assembly	1
4A		008475 Input Lever	1 per
4B		011954 Knob	1 per
4C		011912 Control Locking Unit	1 per
4D		011918 Output Lever	1 per
4E		011212 Mounting Bracket	1 per
4F		011796-05 Spacers - 1-1/4"	2 per
5	010347	Throttle Cable	1
5A		007675 Ball Joint	1
6	008519	Agitator Control Assembly	1
6A		008519-01 Agitator Control Handle	1 per
6B		011954 Knob	1 per
6C		008519-02 Control Pivot Plate	1 per
7	006596	Agitator Control Cable	1
7A		007675 Ball Joint (control end)	1
7B		020682 Clevis (valve end- not shown)	1
8	011823	Clutch Control Handle	1
8A		000427 Handle Grip (not shown)	1
9	011819	Clutch Control Linkage	1
9A		006737 Ball Joint	2
10	011051	Recirculation Valve Handle	1
10A		022871 Plastic Cap	1
11	011818	Valve Control Linkage	1
11A		006737 Ball Joint	2

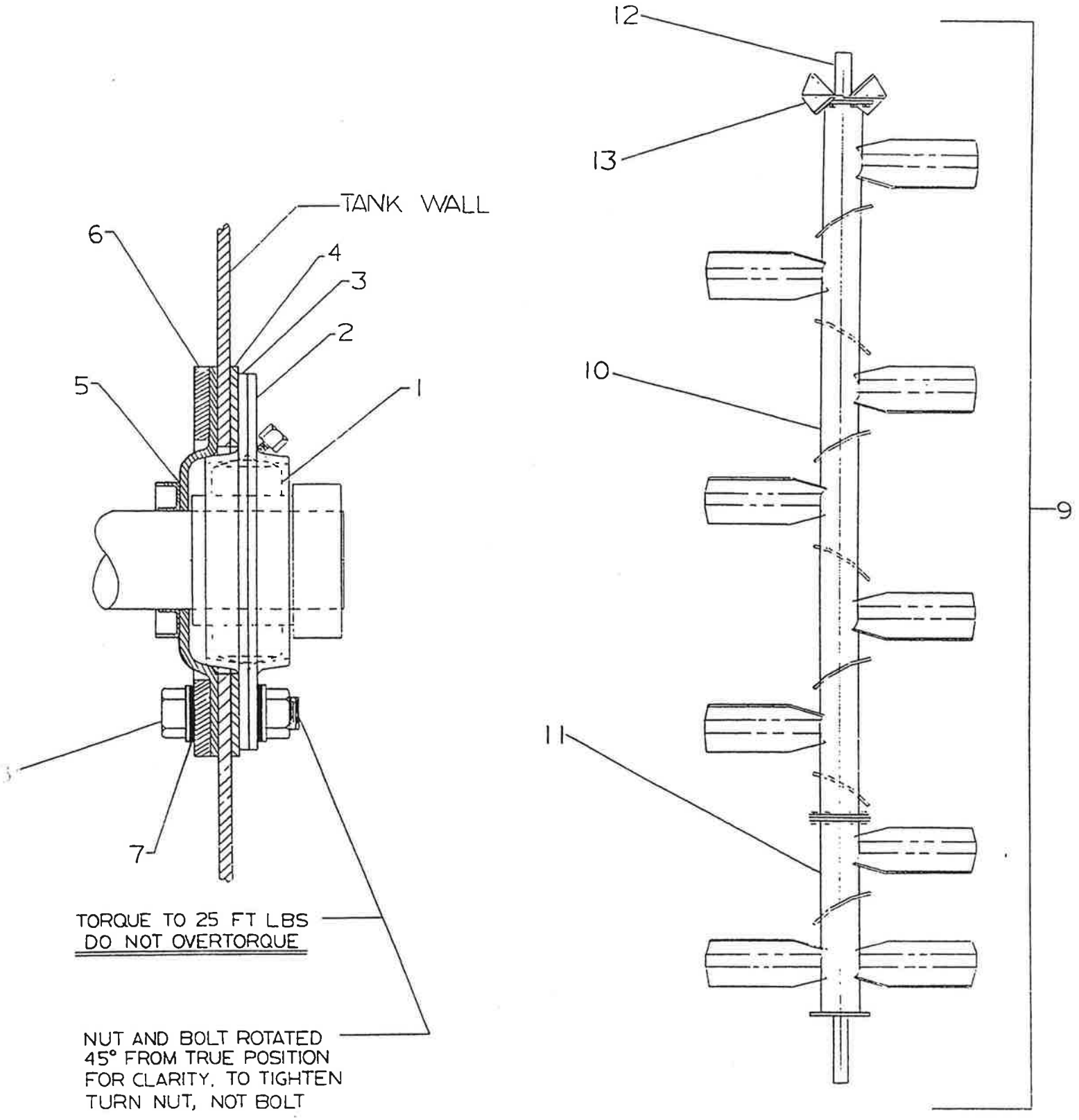
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HYDRAULIC SYSTEM

REF. NO.	PART NO.	DESCRIPTION	NO. REQ'D
1	011648	Suction Strainer	1
2	160307	Close Nipple	1
3	012083	Ball Valve	1
4	160535	Pipe Nipple	1
5	160010	90° Elbow	1
6	011883-01	Suction Pipe	1
7	021617	Return Filter	1
	021618	Filter Element	1
8	011783	Filler Breather Cap	1
	011784	Filter Element	1
9	008521	Suction Hose	1
10	070374	Straight Boss Adapter	1
11	008523	Hydraulic Pump	1
12	008499	90° Adapter Union	1
13	008527	High Pressure Pump Discharge Hose	1
14	022862	90° Swivel Adapter Union	1
15	008293	Hydraulic Valve	1
	011492	Valve Handle	1
16	008515	Return Hose	1
17	021669	90° Swivel Adapter Union	1
18	008505	Work Horse	2
19	008558	45° Adapter Union	2
20	012333	Hydraulic Motor	1
21	022592	Tee	2
22	004741	Hex Nipple	1
23	022305	Straight Adapter Union	1
24	190073	Hydraulic Oil	25 Gallon
25	080329	Sight Gauge	1
26	160709	Bell Reducer	1
27	160303	Close Nipple	1
28	160216	Tee	1
29	160242	Pipe Plug	1
30	160750	Reducer Bushing	1
31	012044	Pressure Gauge	1
32	012045	90° Adapter Union	1
33	080234	45° Swivel Adapter Union	1
34	000668	Straight Adapter Union	1
35	055308	Straight Adapter	1
36	FW71909	90° Adapter	1
37	008563	Case Drain Hose	1
38	055229	Hex Bushing	1
39	160236	Pipe Plug	1
40	008562	Straight Adapter Bushing	1

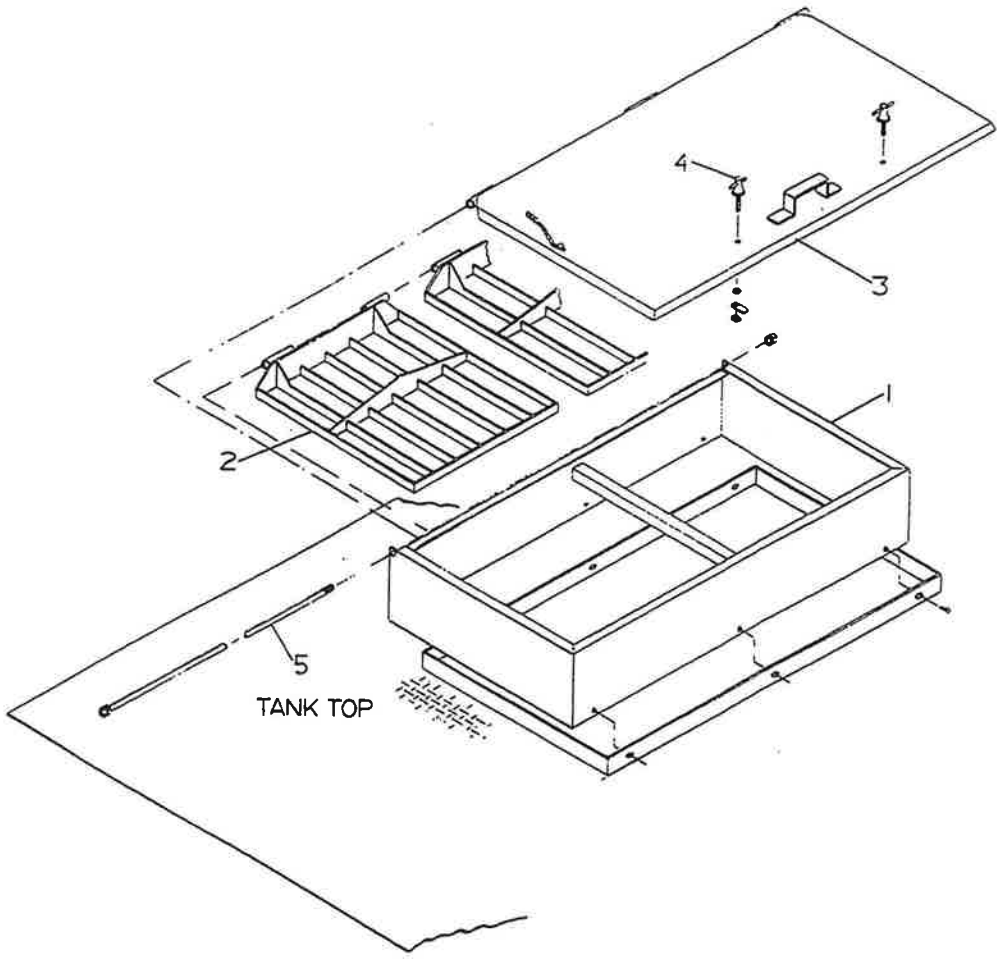


WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

AGITATOR ASSEMBLY

Ref No.	Part No.	Description	No. Req'd
	007420	Bearing and Seal Assembly includes:	2
1	003022	Bearing	1 per
2	007211	Flangette w/Lube Coupling	1 per
3	007212	Flangette	1 per
4	006975	Gasket	1 per
5	007416	Shaft Seal	1 per
6	007417	Clamping Ring	1 per
7	008008	Rubber Washer	8 per
8	X0824	Bolt, Nut, Washer (2)	4 per
9	008442	Agitator Assembly	1
10	008444	Main Agitator Shaft w/Paddles	1
11	008443	Shaft Extension w/Paddles	1
12	008440-01	Stub Shaft	1
13	005027-03	Bolt-On-Paddle	2

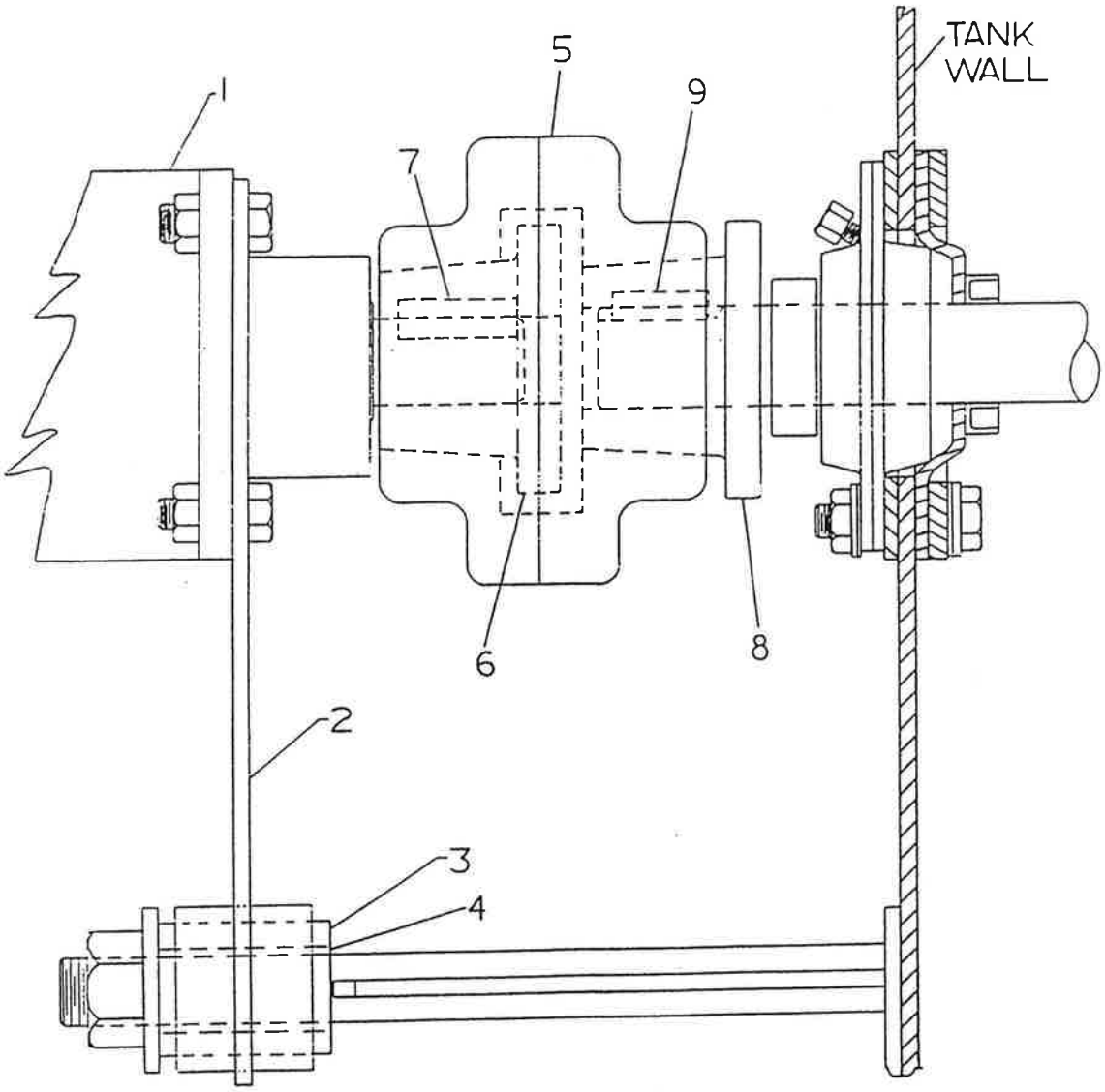
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



HATCH ASSEMBLY

Ref No.	Part No.	Description	No. Req'd
	011881	Hatch Assembly, Includes:	1
1	008439	Hatch Liner	1
	190044	Gasket	100"
2	011798	Bag Cutter-Grate Assembly	2
3	011802	Hatch Lid	1
	190001	Chain	15"
4	005136	T-Handle Latch	2
5	011798-09	Hinge Rod	1
	Y08L	Locknut	1

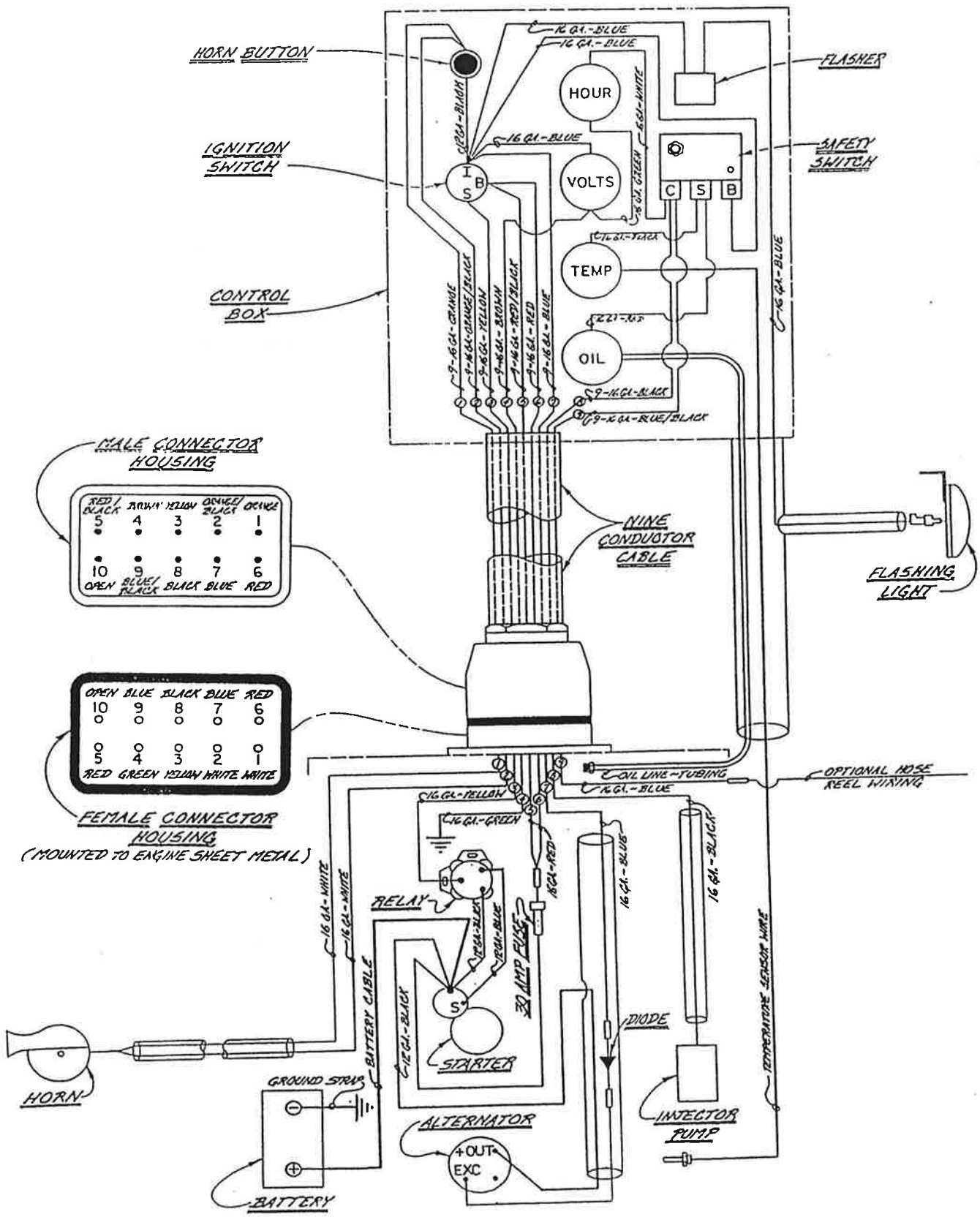
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



HYDRAULIC AGITATOR DRIVE

REF NO.	PART NO.	DESCRIPTION	NO. REQ'D
1	012333	Hydraulic Motor	1
	X0840	Bolt and Locknut	4
2	012354	Hydraulic Motor Mount	1
3	012522-02	Rubber Bushing	1
4	012522-04	Insert	1
5	011780	Coupling	1
6	003055B	Bushing, Motor	1
7	023191	Key	1
8	003055B	Bushing, Agitator	1
9	000536	Key	1
10	012348	Coupling Guard(not shown)	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

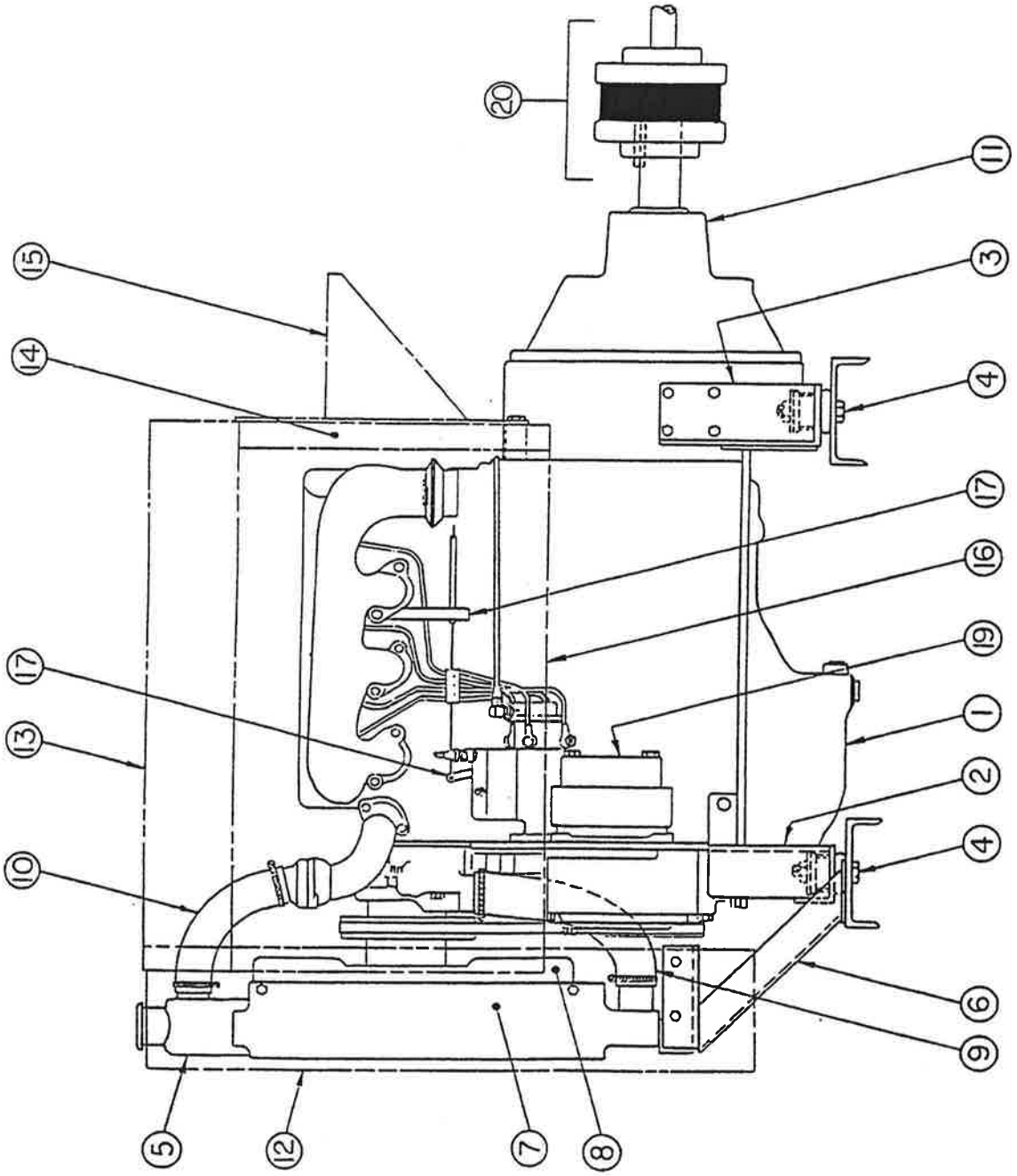

HORN BUTTON
IGNITION SWITCH
CONTROL BOX
MALE CONNECTOR HOUSING
FEMALE CONNECTOR HOUSING
(MOUNTED TO ENGINE SHEET METAL)
NINE CONDUCTOR CABLE
FLASHER
SAFETY SWITCH
FLASHING LIGHT
OPTIONAL HOSE REEL WIRING
HOUR
VOLTS
TEMP
OIL
I
B
S
C
S
B
RED/BLACK 5
BROWN 4
YELLOW 3
ORANGE/BLACK 2
ORANGE 1
10 OPEN
9 BLUE/BLACK
8 BLACK
7 BLUE
6 RED
OPEN BLUE BLACK BLUE RED
10 9 8 7 6
5 4 3 2 1
RED GREEN YELLOW WHITE WHITE
16 GA.-BLUE
16 GA.-WHITE
16 GA.-GREEN
16 GA.-ORANGE/BLACK
16 GA.-ORANGE
16 GA.-YELLOW
16 GA.-BROWN
16 GA.-RED/BLACK
16 GA.-RED
16 GA.-BLUE
16 GA.-BLACK
16 GA.-BLUE/BLACK
16 GA.-YELLOW
16 GA.-RED
OIL LINE-TUBING
RELAY
30 AMP FUSE
STARTER
DIODE
INJECTOR PUMP
TEMPERATURE SENSOR WIRE
ALTERNATOR
+OUT
EXC
BATTERY CABLE
GROUND STRAP
BATTERY
HORN

ELECTRICAL SYSTEM

PART NO.	DESCRIPTION	NO. REQ'D
012074	Tower Wiring Harness	1
012073	Engine Wiring Harness	1
012073-01	Horn Wiring Harness (T170 only)	1
012073-02	Horn Wiring Harness (T280 only)	1
012073-03	Horn Wiring Harness (T330 only)	1
020886	Horn Button	1
052076	Ignition Switch	1
022119	Safety Switch	1
021198	Flasher w/Bracket	1
007274	Hourmeter	1
007958	Voltmeter	1
011489	Temperature Gauge	1
007706	Oil Pressure Gauge	1
008473	Oil Pressure Line Kit	1
007336	Flashing Light	1
006499	Horn	1
022425	Diode	1
022891	Relay	1
023511	Alternator/Regulator Assembly	1
011712	Single Groove Pulley (T170 only)	1
011713	Double Groove Pulley (T280/330 only)	1
011851	Battery	1
080220	Battery Box Holddown	1
008171	Battery Cable	1
000241	Ground Cable	1
007091	Engine Ground Strap	1
011770	Battery Box	1

023076 Ignition Key

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

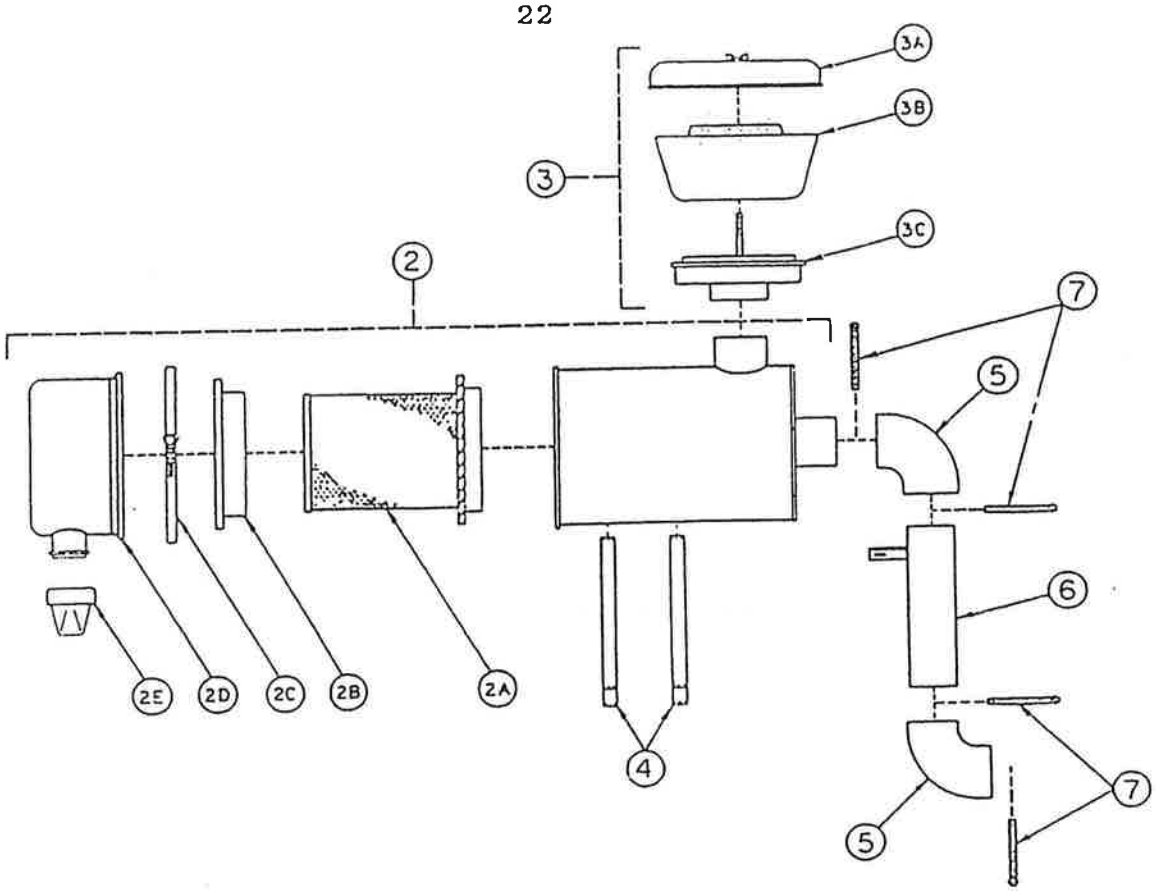
POWER SYSTEM

Ref. No.	Part No.	Description	No. Req'd
1	008462	Engine Assembly:Includes All Part No.'s Marked *	1
2	008460	Front Engine Mount	1
3	011344	Rear Engine Mount	2
4	007433	Shock Mount	4
	007887	Snubbing Washer	4
5	007676	Radiator Assembly	1
	008279	Rubber Mount	2
	022452	Drain Cock	1
	007878*	Radiator Cap	1
	007429	Decal "Drain Water Daily..."	1
6	008458	Radiator Mount	1
7	007677*	Fan Shroud	1
8	007678*	Fan	1
9	008510	Lower Radiator Hose	1
	022450	Clamp	2
10	007679*	Upper Radiator Hose	1
	022450	Clamp	2
11	012069	Clutch Assembly (See page 24 for parts)	1
	022314	Pilot Bearing	1
12	008479	Radiator Cover	1
	011885-02	Spacer	2
	011885-01	Spacer	1
13	008476	Engine Top Cover	1
14	008477	Engine Rear Cover	1
15	023526-01	Rear Cover and Air Cleaner Mntg Bracket	1
	008317	Spacer	2
16	008478	Engine Side Panel	1
17	011307	Throttle Control Mounting Bracket	1
	011670	Spacer	1
18	007724	Pivot, Throttle Cable	1
19	008467	Hydraulic Pump	1
20	011771	Coupling Assembly	1
	011773	Engine Coupling Half	1
	011772	Pump Coupling Half	1
	011774	Coupling Insert	1
	C 190124-32	Keyway Pump Shaft	1
	011441	Keyway Engine Shaft	

NOT ILLUSTRATED

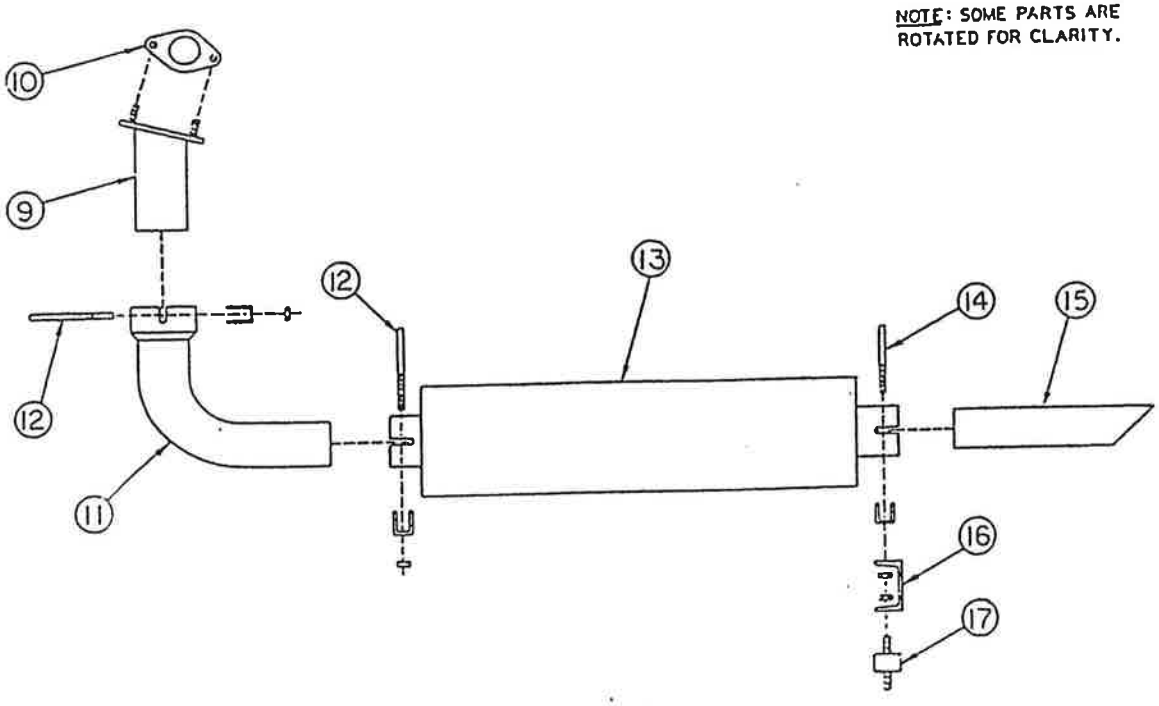
011824	Coupling Guard	1
008451	Fuel Tank	1
011867	Fuel Gauge	1
011889	Brass Adapter	1
007914	Cap, Fuel Tank	1
007907	Filler Neck, Fuel Tank	1
011925	Heat Shield	1
011885-06	Spacer	2
008556	Upper Fan/Alternator Belt Guard	1
023717	Lower Fan/Alternator Belt Guard	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



① AIR INTAKE ASSEMBLY

NOTE: SOME PARTS ARE ROTATED FOR CLARITY.



⑧ EXHAUST ASSEMBLY

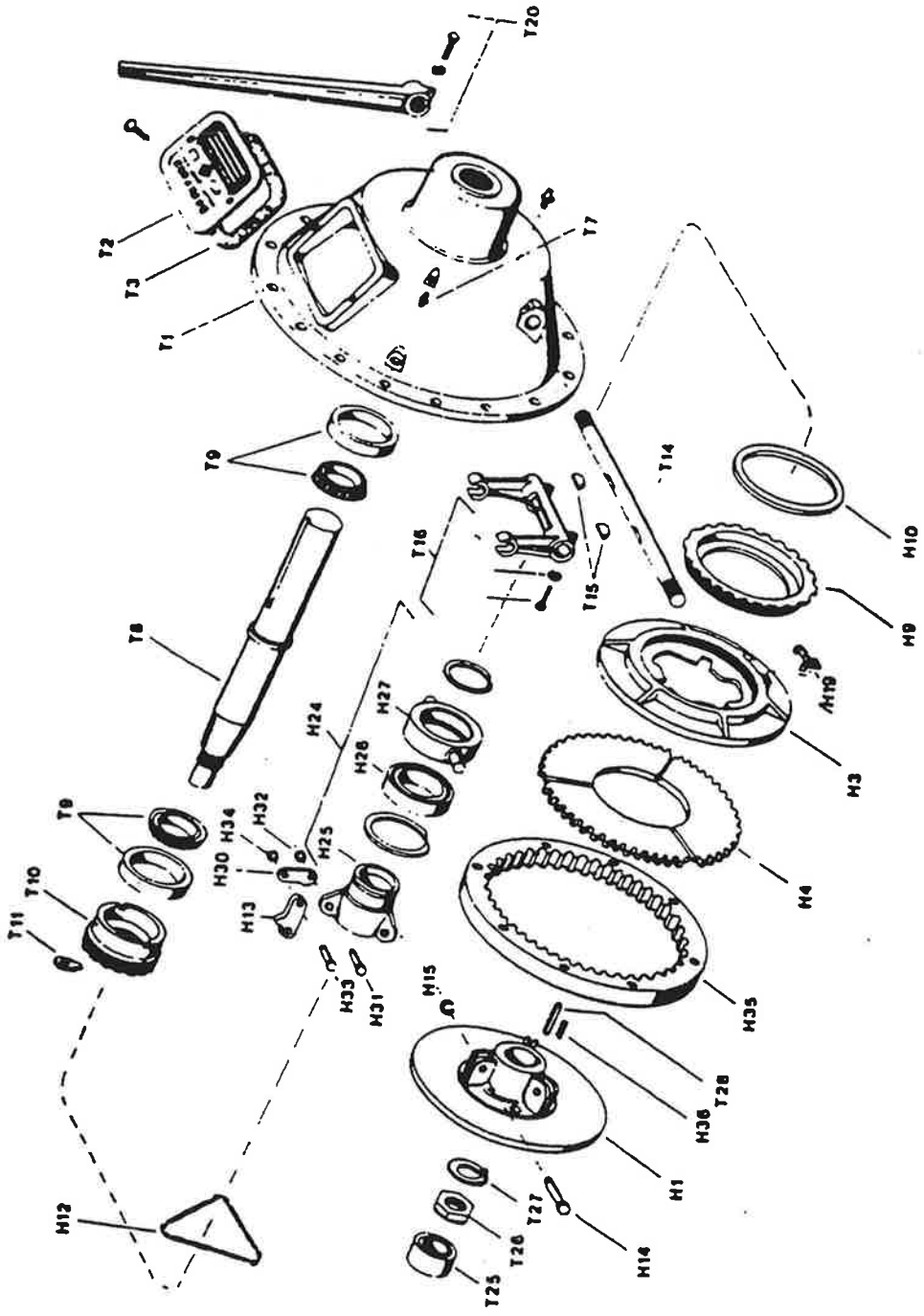
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

AIR INTAKE AND EXHAUST ASSEMBLIES

REF NO.	PART NO.	DESCRIPTION	NO.REQ'D
1	008520-01	Air Intake Assembly (includes items 2-7)	1
2	007987	Air Cleaner Assembly	1
2A		007739 Filter Element	1 per
2B		DNP10-2510 Baffle Assembly	1 per
2C		DNP00-2940 Clamp Assembly	1 per
2D		DNP10-3836 Vacuator Cup Assembly	1 per
2E		007994 Vacuator Valve	1 per
3	007988	Pre Cleaner Assembly	1
3A		DNP02-0648 Cover	1 per
3B		DNP02-0227 Bowl	1 per
3C		DNP02-0653 Sleeve	1 per
4	007990	Mounting Band	2
5	007993	Rubber Elbow	2
6	023581-05	Connecting Tube	1
7	022450	Clamp	4
8	008520-02	Exhaust Assembly (includes items 9-17)	1
9	011200	Exhaust Flange	1
10	011218	Flange Gasket	1
11	011211	Exhaust Pipe	1
12	020052	Exhaust Clamp	2
13	007456	Muffler	1
14	000461	Muffler Clamp	1
15	011220	Tail Pipe	1
16	011220-03	Support Channel	1
17	023438	Rubber Mount	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

POWER TAKE-OFF ASSEMBLY



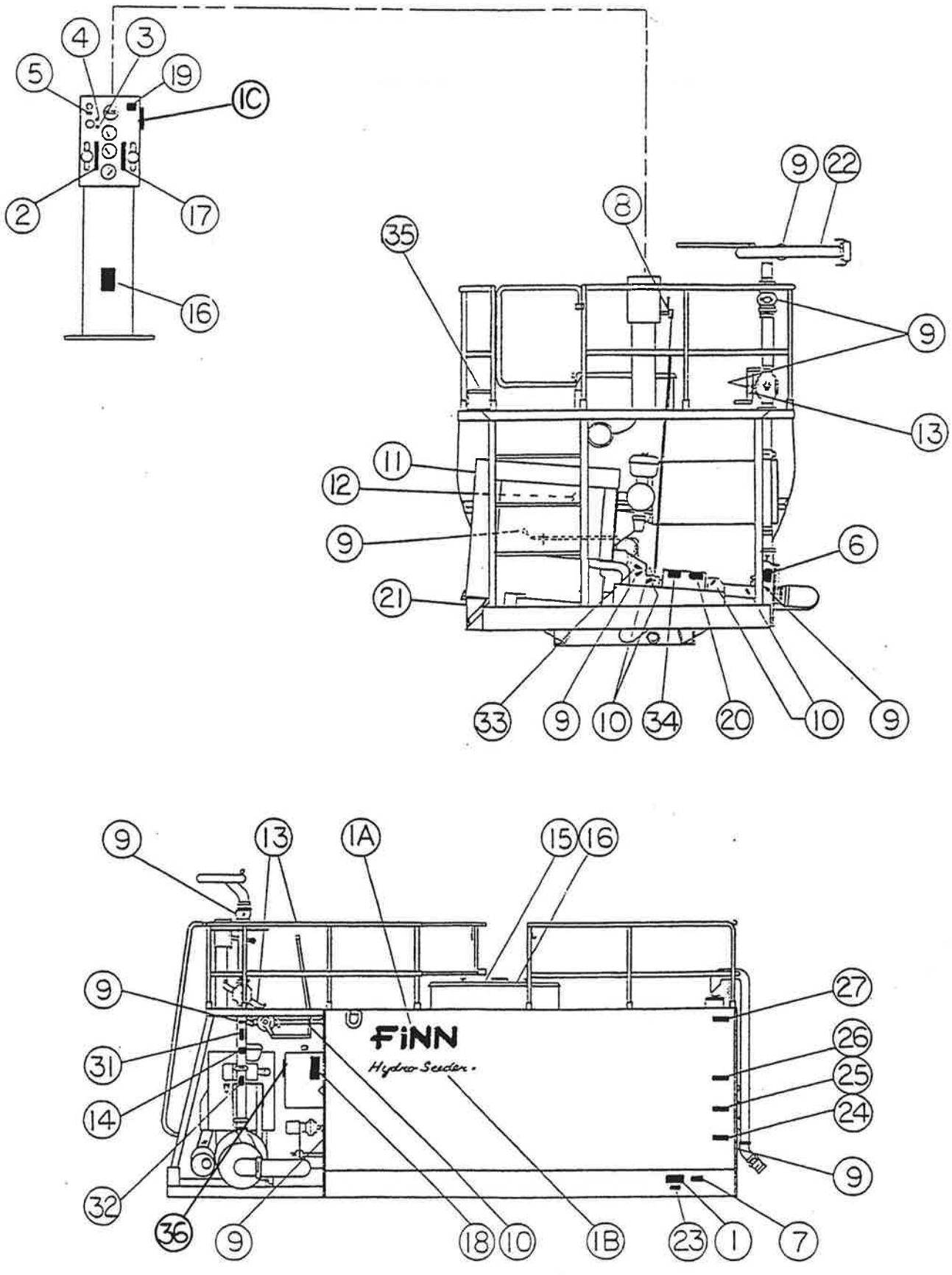
WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

POWER TAKE OFF ASSEMBLY

Ref No.	Part No.	Description	No.Req'd
	012069	Power Take Off	1
		Includes:	
H1	100011	Body, Clutch	1
H3	100028	Pressure Plate	1
H4	100341	Clutch Facing	1
H9	100013	Ring, Adjusting	1
H10	100032	Plate, Ring We-	1
H12	100026	Spring Lever	1
H13	100018	Lever	3
H14	100010	Pin, Pi-	3
H15	100007	Ring,	3
H19	100024	Loc' -ng	1
H24	100071	-eeve, & Bearing Assy	1
H25	100029	Release	1
H26	100031	-ng, Release	1
H27	100030	-rier, Bearing	1
H30	100019	-ink, Connecting	6
H31,H33	1000-	Pins, Link	6
H32,H34	1-	Ring, Retaining	6
H35	10	Ring, Driving	1
H36	100-	Spring, Separator	3
All H's	1003-0	Clutch Assembly	1
T1	100304	Clutch Housing	1
T2	100063	Instruction Plate	1
T3	100054	Gasket, Cover	1
T7	100043	Fitting, Lubrication	1
T8	100053	Drive Shaft	1
T9	100052	Bearing Cup & Cone (394A-390)	2
T10	100048	Retainer Bearing	1
T11	100039	Lock, Retainer	1
T14	100040	Shaft, Yoke	1
T15	100305	Key, Woodruff	2
T16	10032**3**	Yoke, Clutch	1
T20	010284	Lever, Shifting	1
T25	022314	Pilot Bearing	1
T26	100307	Nut, Drive Shaft	1
T27	100308	Lock Washer	1
T28	100061	Key, Clutch	1
T31	100224	Lube Fitting, Yoke Shaft	2

Please do not use this page to obtain clutch part numbers. See the Clutch Addendum Manual

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

DECALS AND LOCATION

Ref. No.	Part Number	Description	No. Req'd
1	023173	Finn Name Plate	1
1A	023174	Decal "Finn"	2
1B	011595	Decal "Hydroseeder"	2
1C	012260	Plate "Maintain Decals"	1
2	007535	Decal "Throttle"	1
3	006870-IGN	Decal "Ignition"	1
4	006870-START	Decal "Start"	1
5	006870-HORN	Decal "Horn"	1
6	006869	Decal "Caution! Pressure Lubricator"	1
7	020976	Decal "Patent Infringement"	1
8	004661	Decal " Clutch Engage"	1
9	007230	Decal "Service Daily"	9
10	007231	Decal "Service Weekly"	4
11	007429	Decal "Radiator Protection"	1
12	007607	Decal "Drain Water Daily"	1
13	012031	Decal "Valve Operation"	2
14	008209	Decal "Danger! Before Loosening"	1
15	008097	Decal "Danger! Before Entering"	1
16	023519	Decal "Caution Wear Eye Protection"	1
17	008286	Decal "Agitator Speed"	1
18	021665	Decal "Hydraulic Instruction"	1
19	022082	Decal "Hold Button For 10 Seconds"	1
20	022357	Decal "Caution! Turn Off Engine"	1
21	023391	Decal "Diesel Fuel Only"	1
22	011567	Decal "Danger! Do Not Aim Stream"	1
23	011662	Decal "U.S. Patent Numbers"	1
24	005186	Decal "500 Gallons"	1
25	005187	Decal "800 Gallons"	1
26	005188	Decal "1000 Gallons"	1
27	011790	Decal "1500 Gallons"	1
28	011791	Decal "2000 Gallons" (T-280/330 only)	1
29	011792	Decal "2500 Gallons" (T-280/330 only)	1
30	011793	Decal "3000 Gallons" (T-330 only)	1
31	005216	Decal "Danger! Open Recirculation	1
32	011569	Decal "Caution! Remote And Hose Reel only	1
33	007351	Decal "Use Hand Gun Only"	1
34	031297	Decal "Clutch Operation"	1
35	012041	Decal "Hydroseeder Operation"	1
36	012272	Decal "Hydraulic Fluid Only"	1

NOTE: Note: Safety Decals must be purchased as a kit
Part # 012820

DISCHARGE HOSE EXTENSION

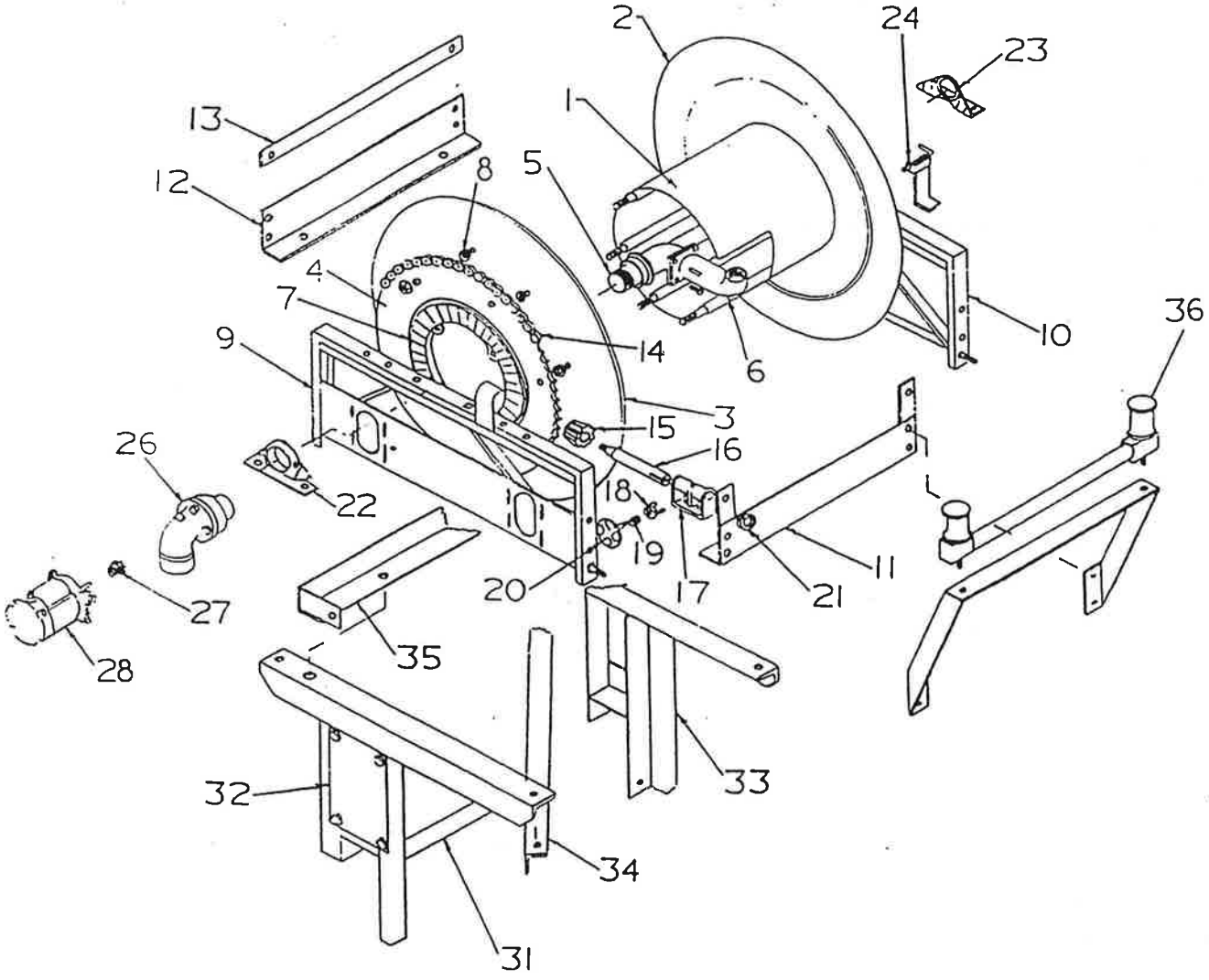
PART NO.	DESCRIPTION	NO.REQ'D
	TOWER TAKE OFF SYSTEM	
007930-02	Hose Assembly, Discahrge Extension-Tower	As Ordered
	007929 1-1/2" Hose, w/Nipples, 50 ft.	1-per
	002191 Adapter	1-per
	160768 Bushing	2-per
	010544 Coupler	1-per
	006513 Gasket	1-per
	PUMP TAKE OFF SYSTEM	
007930-01	Hose Assembly, Discharge Extension-Pump Remote	As Ordered
	007929 1-1/2" Hose w/Nipples, 50 ft.	1-per
	001207 Adapter	1-per
	002158 Coupler	1-per
	006515 Gasket	1-per
011908	Remote Valve Operation-Heavy Duty	1
	007711 Valve, Pump Take-Off	1
	007710 Valve	1
	002158 Coupler	1
	160540 Nipple	1
	007740 Remote Valve Assembly	1
	003242 Valve	1
	003243 Pipe	1
	160309 Nipple	1
	160763 Bushing	1
	006102 Coupler	1
	001207 Adapter	1
	006621 Nozzle Asembly, Wide Ribbon	1
	006604 Nozzle, Wide Ribbon	1
	006096 Adapter	1
	160761 Bushing	1
	006622 Nozzle Asembly, Narrow Ribbon	1
	006605 Nozzle, Narrow Ribbon	1
	006096 Adapter	1
	160761 Bushing	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

RECOMMENDED SPARE PARTS, REPAIR KITS AND MISCELLANEOUS PARTS

Recommended spare parts are available to avoid unnecessary down time. Repair kits are available to recondition parts which periodically need service.

Part No.	Description	No. Req'd
006443	Mechanical Seal, Slurry Pump	1
000698	Grease, Pump Automatic Lubricator	2
011919	Seal, Suction Pipe	1
008472	Seal, Reducer Suction Elbow	1
002820	Seal, Discharge Pipe	1
006722	Seal, Recirculation Pipe	1
006513	Gasket, Nozzle Coupler	2
007469	Lubricant, Recirculation & Discharge Valves	4
007739	Element, Air Cleaner	1
JDT24473	Belt, Fan	1
JDRE58367	Filter, Fuel	1
JDT19044	Filter, Oil	1
031245	Snapper Pin-Boom Hold down	1
	REPAIR KITS	
011917	Swivel Repair Kits	
005295	Pump Seal Kit Consisting of:	
	005150 O Ring	1
	006443 Seal Assembly	1
	006444 Grease Retainer	1
	006447 Grease Seal	2
023120	Hydraulic Valve Seal Kit	1
012378 & 79	Hydraulic Motor Repair Kits	1EA
008512	Hydraulic Pump Seal Kit	1
	MISCELLANEOUS PARTS	
002190	Cap. Tank Drain	1
002191	Coupling, Tank Drain	1
002290	Rear Marker Light	2
011666	Exterior Finish Paint-Neutral	
011667	Exterior Primer Paint	
011900	Interior Finish Paint	
011925	Heat Shield	1
190018	Safety Walk On Ladder	As Req'd



WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

HOSE REEL ASSEMBLY

REF NO.	PART NO.	DESCRIPTION	NO.REQ'D
	008212	Hose Reel Assembly, Includes:	1
1		Drum	1
2		Back Disc	1
3		Front Disc	1
4		Disc Sprocket	1
5		Hub, Less Riser	1
6		Flanged Riser	1
7	008144	Ring Gear	1
8		Spacer	6
9		Front Frame	1
10		Back Frame	1
11		Front Foot	1
12		Back Foot	1
13		Back Brace	1
14	008200	Chain w/Connecting Link	1
15		Pinion Gear	1
16		Pinion Shaft	1
17		Side Bearing	1
18	008111	Brake Pad	1
19	008112	Brake Spring	1
20	008109	Brake Wheel	1
21		Pinion Shaft-Collar & Set Screw	1
22	008314	Drive Side Bearing	1
23	008313	Idle Side Bearing	1
24	008433	Pin Lock Assembly W/Brackets	1
26	008210	Swivel Joint	1
27	008199	Chain Sprocket- 11 tooth	1
28	008188	Explosion Proof Motor	1
31	011893-01	Left Mounting Frame	1
32	011915-01	Control Panel w/o Switches	1
33	011893-02	Right Mounting Frame	1
34	011892-08	Cross Angle	1
35	011893-03	Top Connecting Angle	1
36	011894	Hose Rewind Guide (Optional)	1
	011916	Lead-In-Hose	1
	001207	Adapter	1
	011955	Wiring Harness	1
	011955-01	Panel w/Switches	1
	008420	Circuit Breaker	1
	020886	Button, Rewind	1
	008450	Solenoid	1

WHEN ORDERING PARTS, BE SURE TO STATE SERIAL NUMBER OF MACHINE

FINN®
CORPORATION

9281 LeSaint Drive • Fairfield, Ohio 45014
Phone (513) 874-2818 • Fax (513) 874-2914
Toll Free (800) 543-7166

Operator's Manual

Model No. RB-55 Serial No. _____

INDEX

SAFETY FIRST

With any piece of equipment, new or used, the most important part of its operation is SAFETY!

Finn Corporation encourages you and your employees to familiarize yourselves with your new equipment and to stress safe operation.

The first four pages of this manual are a summary of all the main safety aspects associated with this unit. Be sure to read completely before operation of machine.

This symbol is used throughout the operation and maintenance sections of this manual to call attention to safety procedures.
- Pay Attention -

DANGER: Immediate hazards which WILL result in severe personal injury or death.

WARNING: Hazards or unsafe practices which COULD result in severe personal injury or death.

CAUTION: Hazards or unsafe practices which COULD result in minor personal injury or product or property damage.

IMPORTANT: Indicates that equipment or property damage could result if instructions are not followed.

NOTE: Gives helpful information.

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

P/N 12304

Finn Corporation

HYDROSEEDER® SAFETY SUMMARY SECTION

It is important that all operators of this machine are familiar with all of the safety aspects mentioned below and have read the entire Operator's Manual before operating the machine. Always keep a copy of this manual with the machine. It is the responsibility of the operator of the machine to fully understand this safety sheet. Remember that YOU are the key to safety. Good safety practices protect not only you but also the people working with and around you. Keep in mind that this safety sheet is written for this type of machine only. Practice all other usual and customary safe working precautions; and above all, remember that safety is up to you.

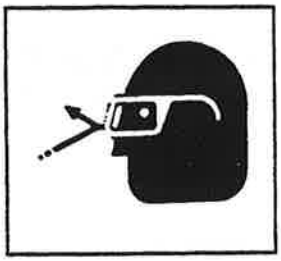
The FINN HydroSeeder® is designed to mix and apply water, seed, fertilizer, agricultural lime and hydraulic mulch to the prepared seedbed. The resultant slurry from mixing one or more of the above materials may react causing harmful or deadly gasses within the tank. Heat, evaporation or extended emptying period can/will accelerate the formation of these gasses. Please contact your supplier(s) of these slurry components regarding their potential reactivity.

I. PRE-START EQUIPMENT CHECK (equipment check is to be made with the engine off):

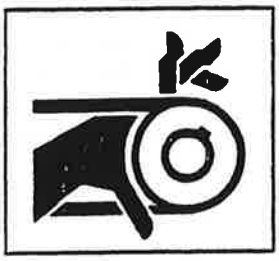
1. Check devices securing HydroSeeder® to the truck frame.
2. Make sure loading hatch bag cutter is in place and secure.
3. Check that all guard railing is in place and secure.
4. Verify that all guards are in place.
5. With the ignition switch on, verify that the signal horn is operating correctly.
6. By carefully looking down through the loading hatch, inspect the slurry tank for foreign objects. Never enter the tank without following the procedures described in #3 of the Maintenance section in this sheet.
7. Remove unnecessary objects (or material) from the tank top.
8. Make sure no one is working on or inside the machine. Signal "All Clear" before starting the engine.
9. Inspect all hydraulic hoses for cracks, bulges or damage. If hoses are bad replace immediately.
10. Inspect all discharge hoses for cracks, bulges or damage. If hoses are bad replace immediately.

II. MACHINE OPERATION:

1. Always wear safety goggles when operating the machine. Other safety attire such as safety shoes, ear protection, gloves, hard hats, dust masks, etc. should be worn as required by warning decals on machine, operator's manuals or job site requirements. Remove rings, watches, etc. Avoid loose fitting clothing that may get caught in rotating machinery.



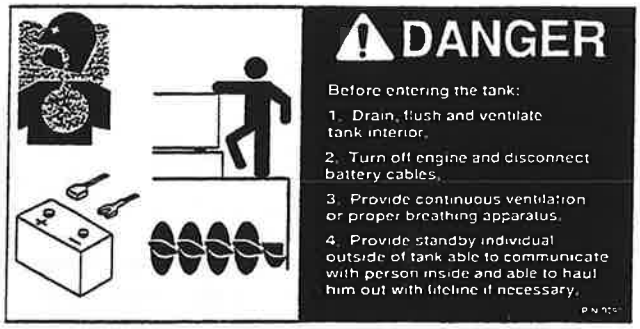
2. Do not operate the machine without all guards in place.

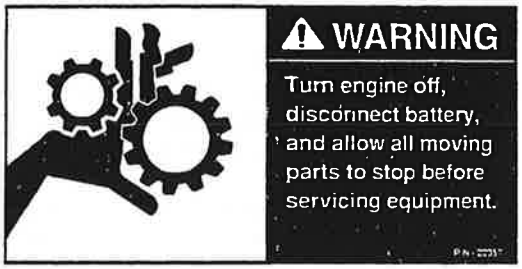


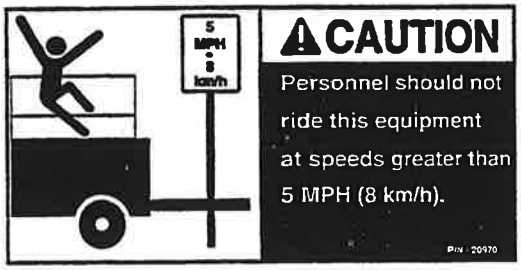
3. Do not load unit while in transit. Load only when parked and unit is as level as possible. Take care not to drop pens, lighters, etc. or pieces of paper or plastic bags into the tank, as these objects might plug the slurry system. Should any object be dropped into the tank, do NOT reach into the tank to retrieve the foreign object. See #3 under Maintenance before allowing any personnel to enter the tank.

4. Make sure area to be sprayed is clear of all persons, animals, etc.
5. The driver of the towing vehicle is responsible for the safety of the operator(s) of the machine. Make sure the driver is aware and avoids all possible hazards to the operator(s) of the machine, such as low tree limbs, low power lines, etc. Vehicles on

CURRENT SET OF SAFETY DECALS







OPERATION AND MAINTENANCE MANUAL FOR FINN T170, T280 & T330 HYDROSEEDERS®

This manual gives you step by step instructions for the operation and maintenance of the Finn HydroSeeder®. For best results and to insure longer life of the equipment, please follow the instructions carefully. For your safety read the entire manual before operation of this unit.

DEFINITION OF HYDROSEEDING:

Hydroseeding is the process whereby seed, fertilizer and/or lime and wood fiber mulch (using water as a carrying medium) are applied on the soil to establish vegetation.

THE FINN HYDROSEEDER® AND HOW IT WORKS:

The Finn HydroSeeder® will apply seed, fertilizer and/or lime, wood fiber mulch, or stabilizing materials in any prescribed or desired combination. The materials placed in the HydroSeeder® slurry-tank are mixed with water and kept in suspension by a dual agitation process, recirculation of slurry and mechanical agitation, thus forming a slurry that is pumped to the discharge assembly and directed onto the seed bed by the operator. This equipment is designed to accomplish hydroseeding in one easy operation with maximum efficiency.

MOUNTING THE HYDROSEEDER®

For speed and mobility of operation, the HydroSeeder® should be mounted on a truck or trailer, however, it is important to select a carrier with sufficient capacity to handle the added weight.

DIMENSIONS, CAPACITIES, AND TRUCK REQUIREMENTS:

*CF - Back of cab to end of frame
C - Distance from HydroSeeder® front to center of gravity
*CA - Back of cab to center of rear axle or trunnion
*FE - Front axle weight – Empty
FL - Front axle weight – Loaded
G - Distance from center of bogie to HydroSeeder® Center of gravity
HW - HydroSeeder® weight
*RE - Rear axle weight – Empty
*RL - Rear axle weight – Loaded
*WB - Truck wheel base

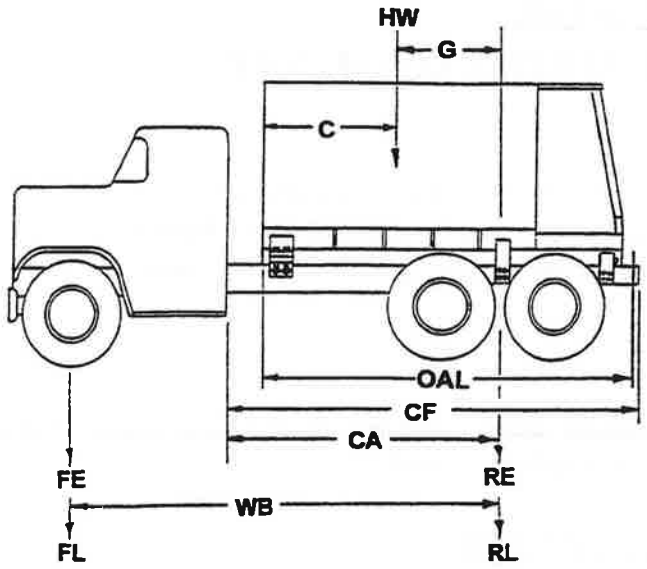
* These dimensions needed from the truck supplier as well as Front axle capacity and Rear axle capacity.

** Truck GVW depends on the truck weight. CA dimensions are approximate only, and depend on the front and rear axle capacities, as well as the front and rear empty axle weights.

*** Weight of HydroSeeder®, water, and full charge of granular solids only. No auxiliary equipment or loads included.

		T170	T280	T330
Truck GVW **	Pounds (kg)	33000 (14970)	48000 (21775)	56000 (25400)
CA **	inches (cm)	108+ (275+)	118+ (300+)	130+ (330+)
C	inches (cm)	71 (180)	82 (208)	95 (242)
OAL	inches (cm)	183 (465)	206 (524)	234 (595)
Water Only HW	Pounds (kg)	20700 (9390)	31000 (14060)	36200 (16420)
Full Load HW ***	Pounds (kg)	23600 (10705)	35640 (16165)	42000 (19050)

TRUCK MOUNTING CALCULATIONS:



$$\frac{(WB \times FL) - (WB \times FE)}{HW} = G$$

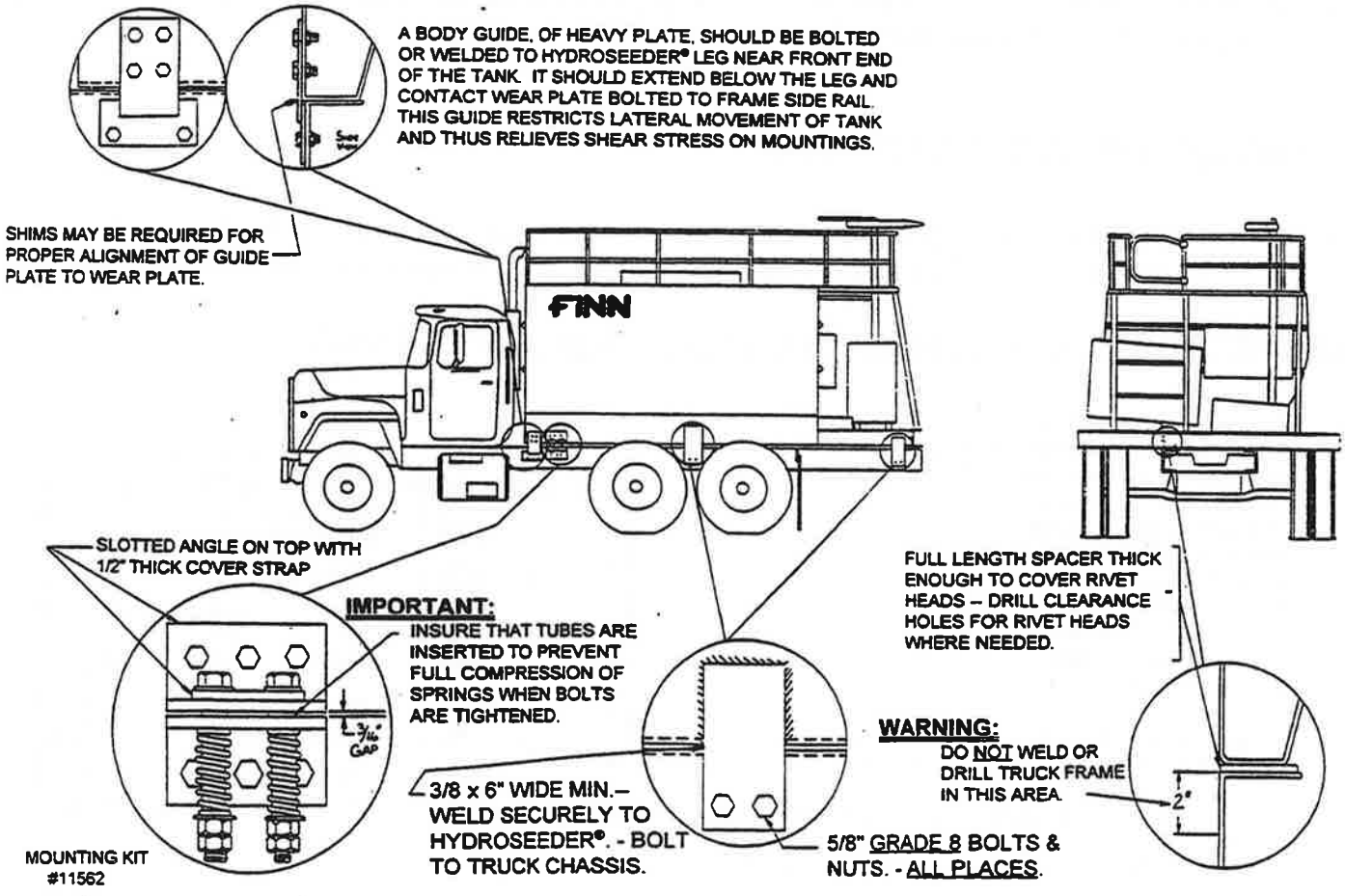
$$\frac{WB \times (RE + HW + RL)}{HW} = G$$

G + C must be equal to or less than CA

$$\frac{(WB \times FE) + (G \times HW)}{WB} = FL$$

$$\frac{(WB \times RE) + HW \times (WB - G)}{WB} = RL$$

GENERAL MOUNTING GUIDELINES:



Once the proper carrier has been selected, the HydroSeeder® must be securely mounted to it.

CAUTION: Your FINN HydroSeeder® should be mounted by a qualified truck body installer.

IMPORTANT: Mounting the HydroSeeder® to the truck must allow for tire clearance as well as frame twist. Place hard wood spacers along the length of truck rails or use Finn spring mounting kit (#011562) or equivalent.

ATTACHMENTS:

1. Extension hoses for reaching remote areas are available in 50 ft. (15m) lengths. All connections are camlock quick operating fittings. The hose is connected to the end of the discharge boom in place of a nozzle. The nozzle is connected to the end of the hose and controlled by the person on the ground. The flow is controlled by a second person on the HydroSeeder®. This allows for a full pressure and volume operation.

CAUTION: **Since the extension hose will be seeing the full output of the pump with the recirculation closed, the equipment operator and individual at the end of the hose should exercise extreme care when operating unit on high pressure. The high pressure on the hose can exert strong forces causing hose operator to lose control of hose or footing. The hose will require additional holders on slopes. Engage the clutch only after the hose operator is firmly positioned and has firm control of hose.**

2. For lower pressure applications, or for close up work, i.e. around buildings, the remote valve attachment can be used. The attachment includes semi-rigid hose with quick disconnect fittings along with a hand held valve which fits the end of the hose and accepts the standard nozzle assemblies. The hose is connected to the outlet on the discharge pipe above the pump. The machine is run at 1/2 to 3/4 throttle and material is applied where desired.

DANGER: **The recirculation valve must be open when using a remote valve. If valve is not open, extreme heat will occur resulting in damage and/or bodily injury.**

3. Hose Reel. The live hose reel will mount on the HydroSeeder® or on the truck frame. The 200 foot capacity electric rewind reel will wind up and store empty hose. It is electrically connected to the HydroSeeder® battery.

4. Hardened pump parts. Pump casing, impeller, and suction cover treated with special material designed to resist wear.

5. Rear spray bar. The spray bar option is not designed for slurry application but for the dispersion of liquids for dust control, watering, feeding and washing applications. Rear spray bar is arranged so that operation is remotely controlled from the truck cab.

PRE-START CHECK:

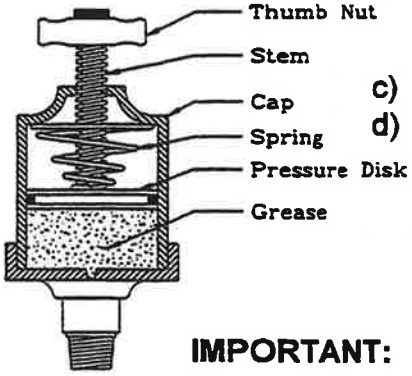
Safety check to insure operator safety:

1. Check condition of all mounting hardware securing HydroSeeder® to truck frame
2. Make sure bag cutter is in place and secure.
3. Inspect that all railings are in place and secure.
4. Insure that all guards are in place.
5. With the ignition switch on, see that the amber safety light under the operator's platform is flashing.

EQUIPMENT CHECK:

CAUTION: Equipment check is made with the engine off and all rotating parts stopped.

1. See that tool kit contains all the prescribed items (see tool kit list in parts book page 30).
2. Inspect the "slurry-tank" for foreign objects. See numbers 2 and 3 in Maintenance Section (IV) of the Safety Summary Section page 4.
3. Check fuel level.
4. Check the hydraulic oil level (see hydraulic system for oil specifications).
5. Check engine oil level...for oil type refer to the engine manual.
6. Check fluid level in radiator.
7. Inspect air cleaner for dust and dirt, clean if necessary.
8. Secure the drain plug on the outside-bottom of the slurry-tank.
9. Check to be certain pump drain plug is in place.
10. Lubricate equipment - See Lube Chart pages 30-31.
    - A. Each lubrication point is marked.
    - B. Check automatic pressure lubricator at pump. If the stem is fully extended with thumb nut all the way up then pressure lubricator contains lubricant - if not, lubricant must be replaced by the following procedure:



a) Turn thumb nut clockwise until stem rises to maximum height.
b) Remove cap and fill cap with sodium (water soluble) base grease. (FINN part number 000698). Do not use lithium base (chassis lube) grease.
c) Replace cap.
d) Turn thumb nut counter-clockwise until the thumb nut is at the top of the stem. The spring and pressure disc in the lubricator forces the grease, under pressure, to the pump seal.

IMPORTANT: When the thumb nut has moved down to within 1/2" (1.25 cm) of touching the cap reservice the automatic lubricator.

11. Engage and disengage clutch to determine if it "snaps" in and out.
12. Install discharge boom assembly (if stored in location other than standard operating position).

    A. Tighten the wing bolt at the opening around the top of the vertical pipe and insure that discharge boom is secure
    B. Check and clean nozzle of obstructions.

13. Check pump discharge and recirculation valve handles for free movement.

TWO VALVE OPERATION:

This HydroSeeder® is equipped with two independently operated plug valves to control slurry flow. One is located in the recirculation line below the platform, and the other is located in the discharge line above the platform. The valve handles should be positioned as shown in Figures 1-3 for the particular application required.

WARNING: Never engage the slurry pump clutch when both valve handles are positioned as shown Figure 1. Both valves are closed and will result in extreme heat generation that will cause damage or bodily injury if the slurry pump is running.

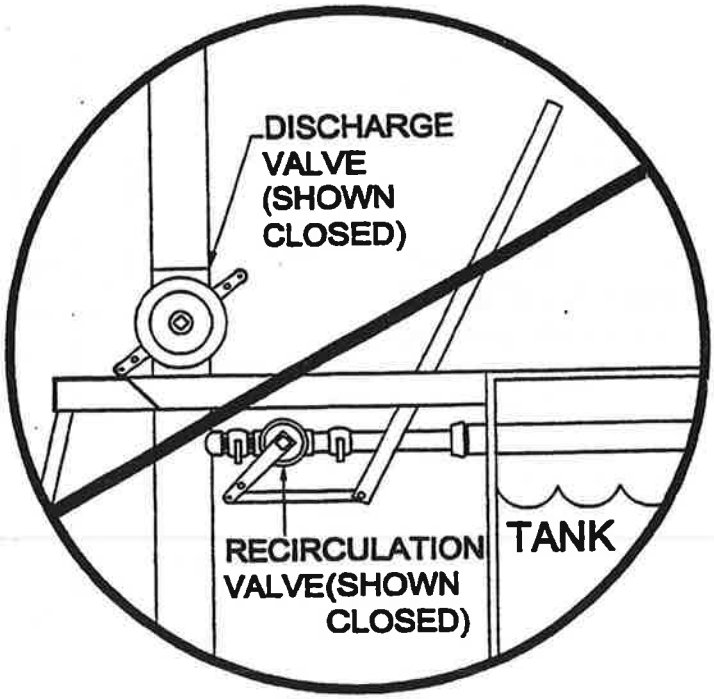


Figure 1

1. **Discharge Through Boom:**

Flow is through boom with no flow through closed recirculation valve (Figure 2). Flow through boom is controlled by engaging and disengaging slurry pump clutch. Do not use the discharge valve to control distance. Valve should be completely open. Control the spray volume and spray distance by adjusting the engine RPM.

2. **Extension Hose Through Boom:**

Flow is through boom with no flow through closed recirculation valve (Figure 2). Extension hose is connected to boom and flow is controlled by engaging and disengaging pump clutch, or controlling the speed of the engine.

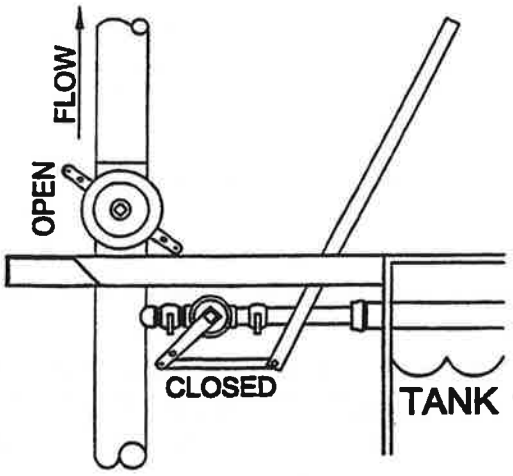


Figure 2

DANGER: **Do not use remote valve in this application.**

3. **Extension Hose or Hose Reel Through Remote Port:**

Flow is through recirculation with no flow through closed discharge valve (Figure 3). Flow through hose is controlled by engaging and disengaging slurry pump clutch, or by remote valve at end of hose. Open recirculation valve allows flow back into tank when the remote valve is closed.

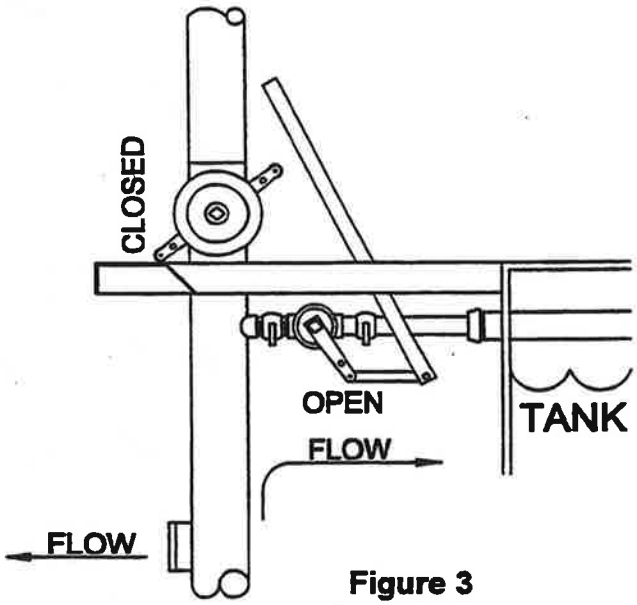


Figure 3

DANGER: **Recirculation valve must be open and material flowing back into tank when using a remote valve. A closed or plugged recirculation line will cause extreme heat resulting in damage and/or bodily injury.**

STARTING PROCEDURE:

CAUTION: **See safety section of the manual (pages 2-4) before operating the machine.**

Before starting, open the recirculation valve, close discharge valve, disengage clutch, and place the agitator control in the neutral position.

1. Set throttle about 1/4 open.
2. While holding in the safety switch button, turn the key clockwise until the starter engages, and the engine starts.
3. Continue to hold the safety switch in for approximately 10 seconds. Allow engine to warm up for 3 to 5 minutes.

NOTE: This engine has a safety system which will shut the engine off if the engine oil pressure drops below 7 psi. or if the water temperature reaches 230° Fahrenheit (110° Centigrade).

AREA COVERAGE - MATERIAL CAPACITY:

To determine the coverage per load for any HydroSeeder®, three questions must be answered prior to the application. First, is the job to be done "one step" (which is when the seed, fertilizer and mulch are applied proportionally per load) or "two step" (which is when the seed and fertilizer are applied alone and then covered by mulch as a second operation)? Second, at what rates (usually in pounds per 1000 square feet, or pounds per acre) are the seeding materials to be applied? Finally, what are the loading capacities of the HydroSeeder®?

Application rates vary for different geographic locations, but in general, seed is applied at 6-10 pounds per 1000 square feet; fertilizer is applied at a rate of approximately 400 pound per acre; and fiber mulch is applied at 1500 to 2000 pounds per acre. (Note: There are 43,560 square feet in an acre). Local agronomists, agricultural extension agents, or soil and water conservation officials should be contacted for more specific information on application rates for a given area.

The following tables show loading versus coverage rates for the Finn HydroSeeders®. Table A shows rates for "one step" applications. The coverage area is determined by the fiber mulch capacity of the HydroSeeder®, and the rate at which it is applied. Table B shows the area coverage when seeding only, where little or no mulch is applied. The coverage area is determined by the granular solids capacity of the HydroSeeder®, and the rate at which the solids are applied.

TABLE A

Using Seed, Fertilizer and Mulch

Unit	Amount of Material in Tank (pounds (kilograms)) Seed	Fertilizer	Mulch	Coverage Area (sq. ft.(sq. m.))
T170	172 (78)	200 (91)	750 (340)	21,780 (2023)
T280	287 (130)	333 (151)	1250 (567)	36,300 (3372)
T330	345 (156)	400 (181)	1500 (680)	43,560 (4046)

Above Table is based on 1500 pounds of mulch, 400 pounds of fertilizer and 345 pounds of seed (8 pounds/1000 square feet) per acre.

Table A Example: For T170

$$\frac{\text{750 pounds Mulch per Tank}}{\text{1500 Pounds Mulch per Acre}} = .5 \text{ Acre per Load}$$

400 Pounds Fertilizer per Acre x .5 Acre = 200 Pounds Fertilizer per Load
345 Pounds Seed per Acre x .5 Acre = 172 Pounds Fertilizer per Load

TABLE B

Seed and Fertilizer Only

Unit	Amount of Material in Tank (pounds (kilograms)) Seed	Fertilizer	Total	Coverage Area Sq. Ft. (Sq. m.)	Acreage (Hectare)
T170	1742 (790)	2000 (907)	3742 (1697)	217,800 (20,233)	5 (2.02)
T280	3136 (1422)	3600 (1633)	6736 (3055)	392,040 (36,420)	9 (3.64)
T330	3485 (1580)	4000 (1814)	7485 (3395)	435,600 (40,467)	10 (4.04)

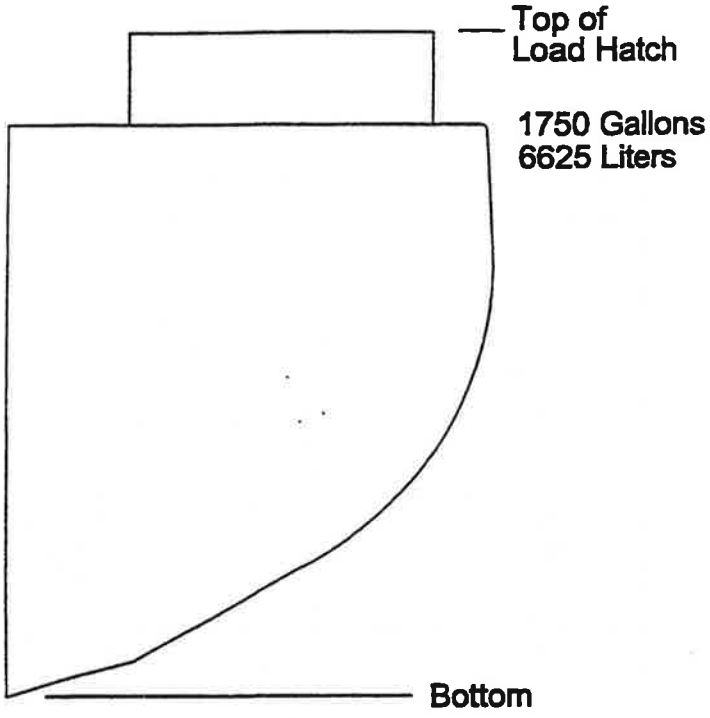
Above Table is based on rates of 8 pounds seed and 9.2 pounds fertilizer per 1000 square feet.

Table B Example: For T170

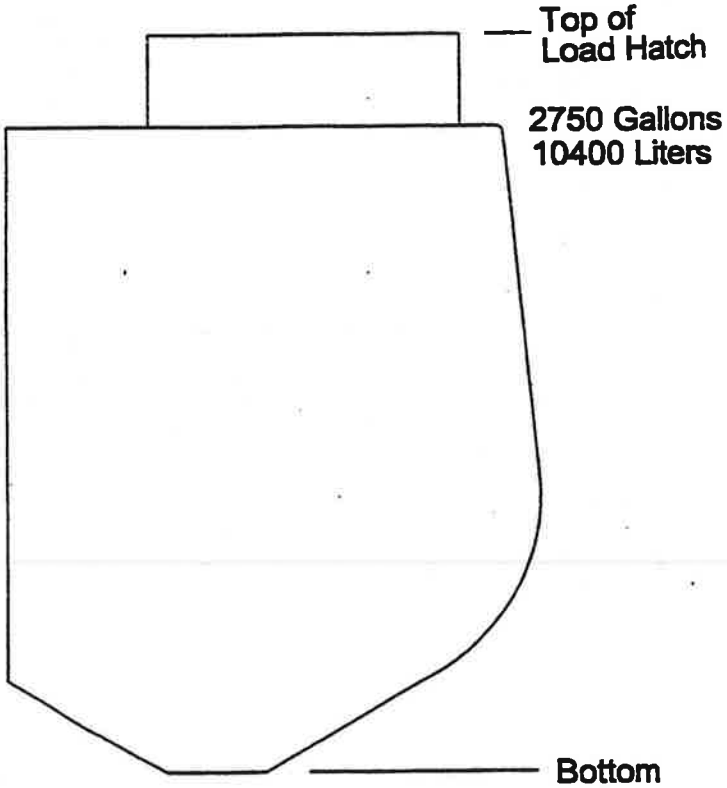
$$\frac{\text{3742 Pound Tank Capacity (Solids)}}{\text{8 Pounds (Seed) + 9.2 Pounds (Fertilizer) per 1000 Sq. Ft.}} = 217{,}800 \text{ Square Feet per Load}$$

$$\frac{\text{8 Pounds Seed}}{\text{1000 Sq. Ft.}} \times 217{,}800 \text{ Square Feet} = 1742 \text{ Pounds Seed per Tank}$$

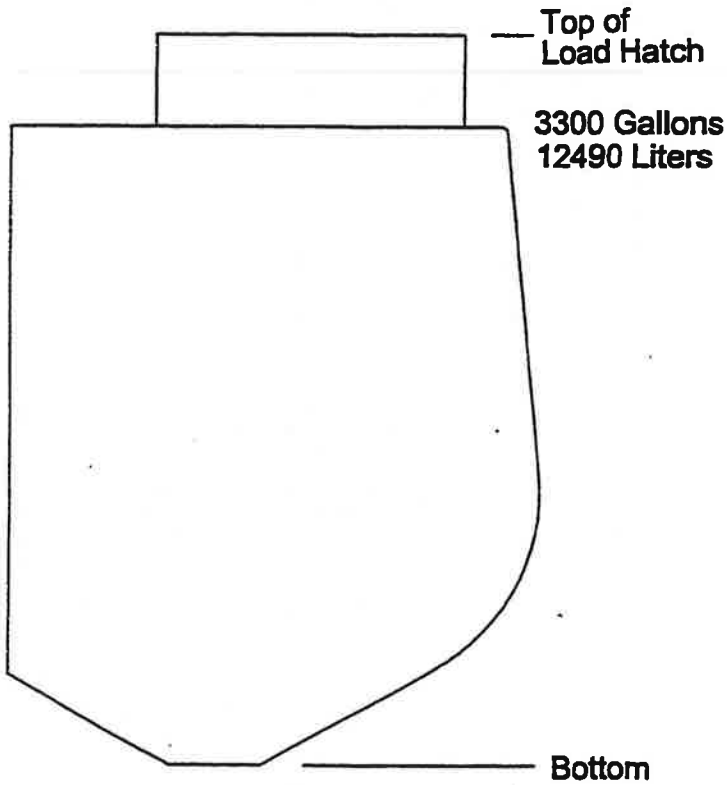
TANK CAPACITY CHARTS:



T170		
Gallons (Liters)	in. (cm) from top	in. (cm) from bottom
1700 (6435)	9.5 (24.1)	49.25 (125.1)
1600 (6055)	12 (30.5)	46.75 (118.7)
1500 (5675)	14.25 (36.2)	44.5 (113)
1400 (5300)	16.5 (42)	42.25 (107.3)
1300 (4925)	18.75 (47.6)	40 (101.6)
1200 (4545)	21.25 (54)	37.5 (95.25)
1100 (4165)	23.5 (59.7)	35.25 (89.5)
1000 (3785)	25.75 (65.4)	33 (83.8)
900 (3405)	28 (71.1)	30.75 (78.1)
800 (3025)	30 (76.2)	28.75 (73)
700 (2650)	32.5 (82.5)	26.25 (66.7)
600 (2270)	35.25 (89.5)	23.5 (59.7)
500 (1890)	37.75 (95.9)	21 (53.3)
400 (1515)	40.25 (102.2)	18.5 (47)
300 (1135)	43.25 (110)	15.5 (39.4)
200 (755)	46.75 (118.7)	12 (30.5)
100 (375)	50.25 (127.6)	8.5 (21.6)



T280		
Gallons (Liters)	in. (cm) from top	in. (cm) from bottom
2750 (10410)	8 (20.3)	58.5 (148.6)
2700 (10220)	11.75 (29.8)	54.75 (139.1)
2600 (9840)	13.75 (34.9)	52.75 (134)
2500 (9465)	15.5 (39.4)	51 (129.5)
2400 (9085)	17.75 (45.1)	48.75 (123.8)
2300 (8705)	19.5 (49.5)	47 (119.4)
2200 (8325)	21.25 (54)	45.25 (114.9)
2100 (7950)	23.25 (59)	43.25 (109.9)
2000 (7570)	25 (63.5)	41.5 (105.4)
1900 (7190)	26.75 (67.9)	39.75 (101)
1800 (6815)	28.75 (73)	37.75 (95.9)
1700 (6435)	30.75 (78.1)	35.75 (90.8)
1600 (6055)	32.5 (82.6)	34 (86.4)
1500 (5675)	34.25 (87)	32.25 (81.9)
1400 (5300)	36 (91.4)	30.5 (77.5)
1300 (4925)	38 (96.5)	28.5 (72.4)
1200 (4545)	39.75 (101)	26.75 (67.9)
1100 (4165)	41.75 (106)	24.75 (62.9)
1000 (3785)	43.25 (109.9)	23.25 (59.1)
900 (3405)	45 (114.3)	21.5 (54.6)
800 (3025)	47 (119.4)	19.5 (49.5)
700 (2650)	49 (124.5)	17.5 (44.4)
600 (2270)	50.75 (128.9)	15.75 (40)
500 (1890)	52.5 (133.4)	14 (35.6)
400 (1515)	54.5 (138.4)	12 (30.5)
300 (1135)	56.75 (144.1)	9.75 (24.8)
200 (755)	59 (149.9)	7.5 (19.1)
100 (375)	61.5 (156.2)	5 (12.7)



T330		
Gallons (Liters)	in. (cm) from top	in. (cm) from bottom
3300 (12490)	8 (20.3)	58.5 (148.6)
3200 (12115)	12.25 (31.1)	54.25 (137.8)
3100 (11735)	13.75 (34.9)	52.75 (134)
3000 (11360)	15.5 (39.4)	51 (129.5)
2900 (10975)	17 (43.2)	49.5 (125.7)
2800 (10600)	18.75 (47.6)	47.75 (121.3)
2700 (10220)	20.25 (51.4)	46.25 (117.5)
2600 (9840)	21.75 (55.2)	44.75 (113.7)
2500 (9465	23.5 (59.7)	43 (109.2)
2400 (9085)	25 (63.5)	41.5 (105.4)
2300 (8705)	26.5 (67.3)	40 (101.6)
2200 (8325)	28 (71.1)	38.5 (97.8)
2100 (7950)	29.75 (75.6)	36.75 (93.3)
2000 (7570)	31.25 (79.4)	35.25 (89.5)
1900 (7190)	32.75 (83.2)	33.75 (85.8)
1800 (6815)	34.25 (87)	32.25 (81.9)
1700 (6435)	35.75 (95.9)	30.75 (78.1)
1600 (6055)	37.25 (94.6)	29.25 (74.3)
1500 (5675)	38.75 (98.4)	27.75 (70.5)
1400 (5300)	40.25 (102.2)	26.25 (66.7)
1300 (4925)	41.75 (106)	24.75 (62.9)
1200 (4545)	43.25 (109.9)	23.25 (59.1)
1100 (4165)	44.75 (113.7)	21.75 (55.2)
1000 (3785)	46.75 (118.7)	19.75 (50.2)
900 (3405)	48 (121.9)	18.5 (47)
800 (3025)	49.25 (125.1)	17.25 (43.8)
700 (2650)	51 (129.5)	15.5 (39.4)
600 (2270)	52.5 (133.4)	14 (35.6)
500 (1890)	54.25 (137.8)	12.25 (31.1)
400 (1515)	56 (142.2)	10.5 (26.7)
300 (1135)	57.75 (146.7)	8.75 (22.2)
200 (755)	59.5 (151.1)	7 (17.8)
100 (375)	62 (157.5)	4.5 (11.4)

LOADING (For wood fiber mulch, if liming see page 20):

CAUTION: **Take care not to lose pens, lighters, etc. from shirt pockets or drop pieces of paper or plastic bags into the tank, as these might plug the slurry system.**

1. With clutch disengaged and agitator control in the neutral position, start engine and allow it to warm up (See starting procedure page 12).
2. Start filling the unit with water. When water reaches the top of the agitator shaft, move agitator control to full reverse position.
   Fill the tank with water from any stream or pond using a fill pump. When filling from a pond or stream be sure to use a suction strainer to filter out contaminants which could damage the pump and unit. Other sources of water:
   1. Any pressure source, e.g. fire hydrant. This unit is supplied with a 6" air gap fill port but it is necessary to consult with local authorities before using water main in order to abide to all local ordinances.
   2. Water tanker.
3. Piping System Cleanout Procedure (Purging Line):
   A. Remove discharge nozzle and gasket from discharge boom.
   B. Aim discharge boom assembly into an open area away from any persons, obstructions or high voltage power lines.
   C. Open discharge valve and close recirculation valve.
   D. Increase engine speed to approximately 1/2 to 3/4.
   E. Engage clutch with a firm snap. Do NOT slip clutch.
   F. When discharge stream is clear, open recirculation valve and close discharge valve. After recirculation stream is clear disengage clutch.
   G. Replace gasket in discharge boom.
4. Continue filling tank with water.
5. Increase engine speed to full RPM.
6. Start loading dry material, loading the lightest material first. Agitator control should be in full reverse for mixing.
   A. Seed - Cut the seed bag and dump contents into the slurry tank. (When using inoculant, add it in the tank along with the seed.) When using quick swelling seeds load them just prior to application.
   B. Wood Fiber Mulch - Empty the entire bag in or cut bag and drop in the sections of fiber. The amount of mulch to be used should be loaded by the time the water level is at 3/4 full. If agitator stalls or a high pitch squeal comes from the hydraulic system, reverse agitation to forward for a moment to clear the obstruction, then return agitation to reverse.

CAUTION: **Hydraulic system will overheat if agitator shaft is jammed for extended period. This will damage hydraulic oil and system components.**

C. Fertilizer - Stand over hatch opening and drop the bag onto the bag cutter. Grasp both ends of the bag and dump material.

D. All other additives - Consult with manufacturer for proper loading technique.

7. When all materials are loaded and in suspension, and the tank is full, move the agitator to neutral then full speed forward to insure all material is mixed. It may be necessary to change the agitator direction more than once to insure a thorough mixture.
8. After material is thoroughly mixed, slow agitator in forward direction to 1/2 to 3/4 speed or enough to create movement in all of the corners of the tank. Do not over agitate the slurry. Always discharge the material with the agitator control in forward position.
9. Close the hatch lid on the slurry tank.

NOTE: The slurry should not be recirculated for more than 15 minutes prior to discharge to reduce wear and keep seed from swelling.

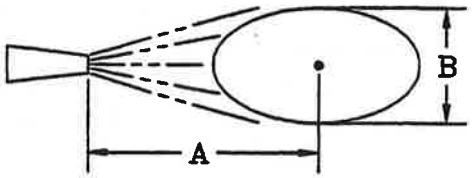
NOTE: If foaming occurs, reduce agitator speed.

PRIOR TO APPLICATION:

1. Operator should familiarize self with area to be seeded and develop a plan to insure uniform application.
2. Develop a plan for communication between operator and driver of the carrying or towing vehicle to signal for start, stop, turn, etc. through the use of the signal horn.
3. Operator takes up position on the platform. From this point application will be controlled by the use of the clutch, valve, discharge assembly and throttle.

DISCHARGE NOZZLE SELECTION:

Nozzles are stored in the toolbox. This HydroSeeder® is equipped with 6 nozzles - two long distance and four ribbon fan nozzles. The smaller long distance nozzle is generally better suited for seed, fertilizer and/or lime application while the large long distance nozzle is better for wood fiber mulch application. All of the ribbon fan nozzles are generally suited for both types of application.



Nozzle	Distance (A)	Width (B)	Discharge Time	
			T170	T330
Lg. Long Distance	Up to 230 ft (70m)	-	5.5 min.	7.5 min.
Sm. Long Distance	Up to 150 ft (46m)	-	19 min.	30 min.
Sm. Narrow Ribbon	Up to 75 ft (23m)	15 ft (4.6m)	19 min.	30 min.
Sm. Wide Ribbon	Up to 45 ft (14m)	25 ft (7.6m)	19 min.	30 min.
Lg. Narrow Ribbon	Up to 90 ft (28m)	23 ft (7m)	7.7 min.	10.6 min.
Lg. Wide Ribbon	Up to 84 ft (26m)	30 ft (9m)	7.7 min.	10.6 min.