



WATER AND HOLDING TANK CATALOG



L165ht 0401srf

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Raritan offers over 200 sizes and shapes of only the best quality, extra thick-walled, 3/8" (.9cm) minimum thickness, seamless polyethylene holding and water tanks.

Polyethylene is the only choice for sewage holding tanks because urine is highly corrosive. Polyethylene tanks won't corrode, leak, shrink, bulge or crack under the weight of sewage and also won't permeate with sewage odor.

Installation diagrams have not been included because "one size fits all" installations *don't* fit all boats. Raritan will help you select the best tank location for your boat, the right size tank, and the best way to install it. Then we will expedite your tank order. All fittings are installed at the factory when your tank is made, in the locations, number and sizes *you* need—eliminating the need for "fitting relocation kits".

Please consider using Raritan's holding tank additive - K.O. KILLS ODORS!

C.P. - Cleans Potties!

- Destroys odors on contact
- The only product that can safely be used with K.O.

B.C. - Bilge Cleaner!

- Non-polluting bilge and engine cleaner
- Emulsifies grease, oil and sludge

C.U. - Cleans Up!

- Heavy-duty, non-polluting general purpose cleaner
- Removes dirt, grime, mildew and exhaust stains



K.O. KILLS ODORS!

"If You Use a Holding Tank - You Need K.O."

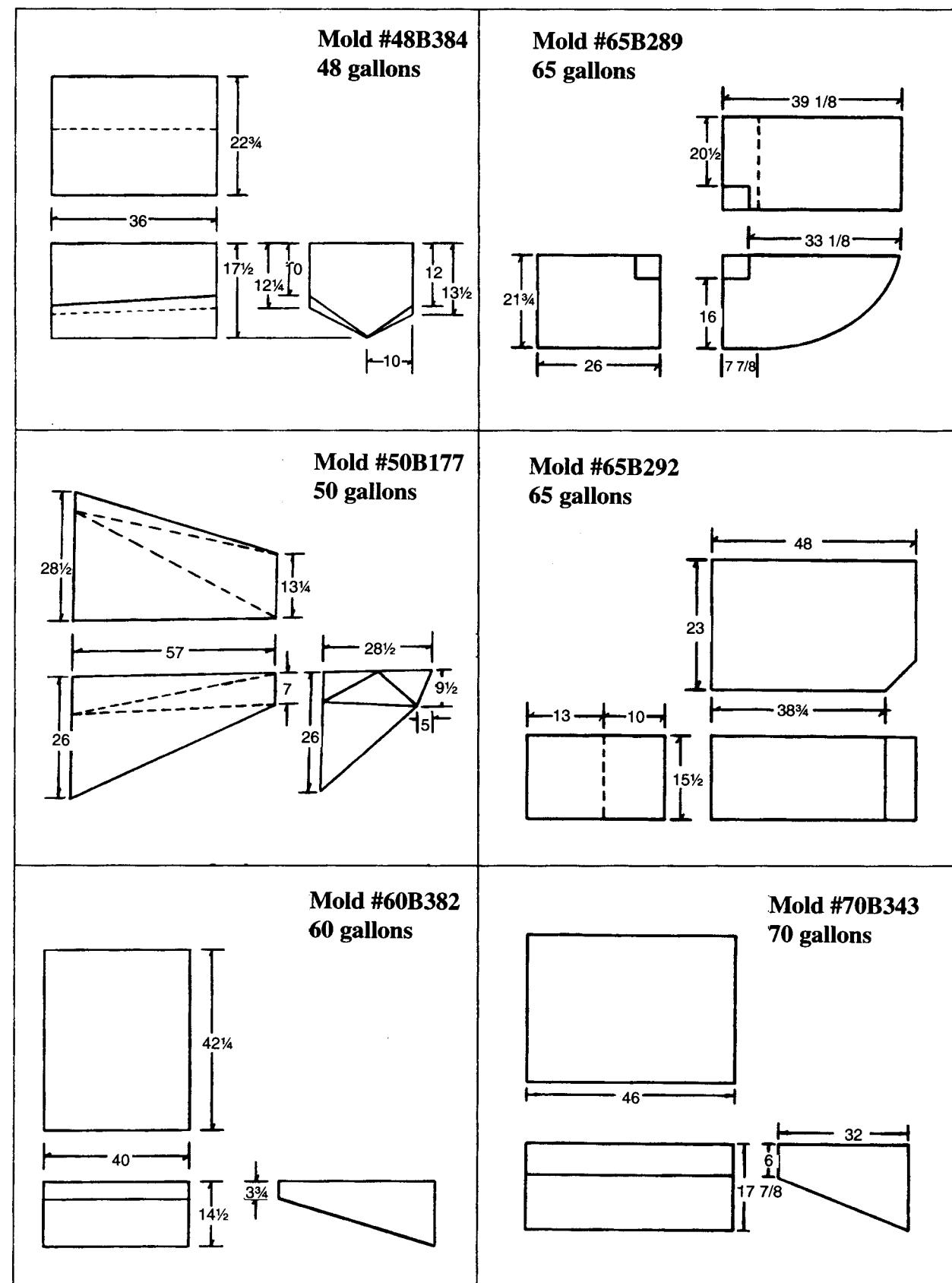
K.O. IS NOT A CHEMICAL PRODUCT. K.O. utilizes live odor-killing bacteria which digests liquids, solid waste and paper, totally emulsifying them so there's no need to add "tissue digesters" or other "boosters" to your system. The bacteria in K.O. neutralize the odor-causing elements in waste, effectively converting the contents of your holding tank to an odor-free product.

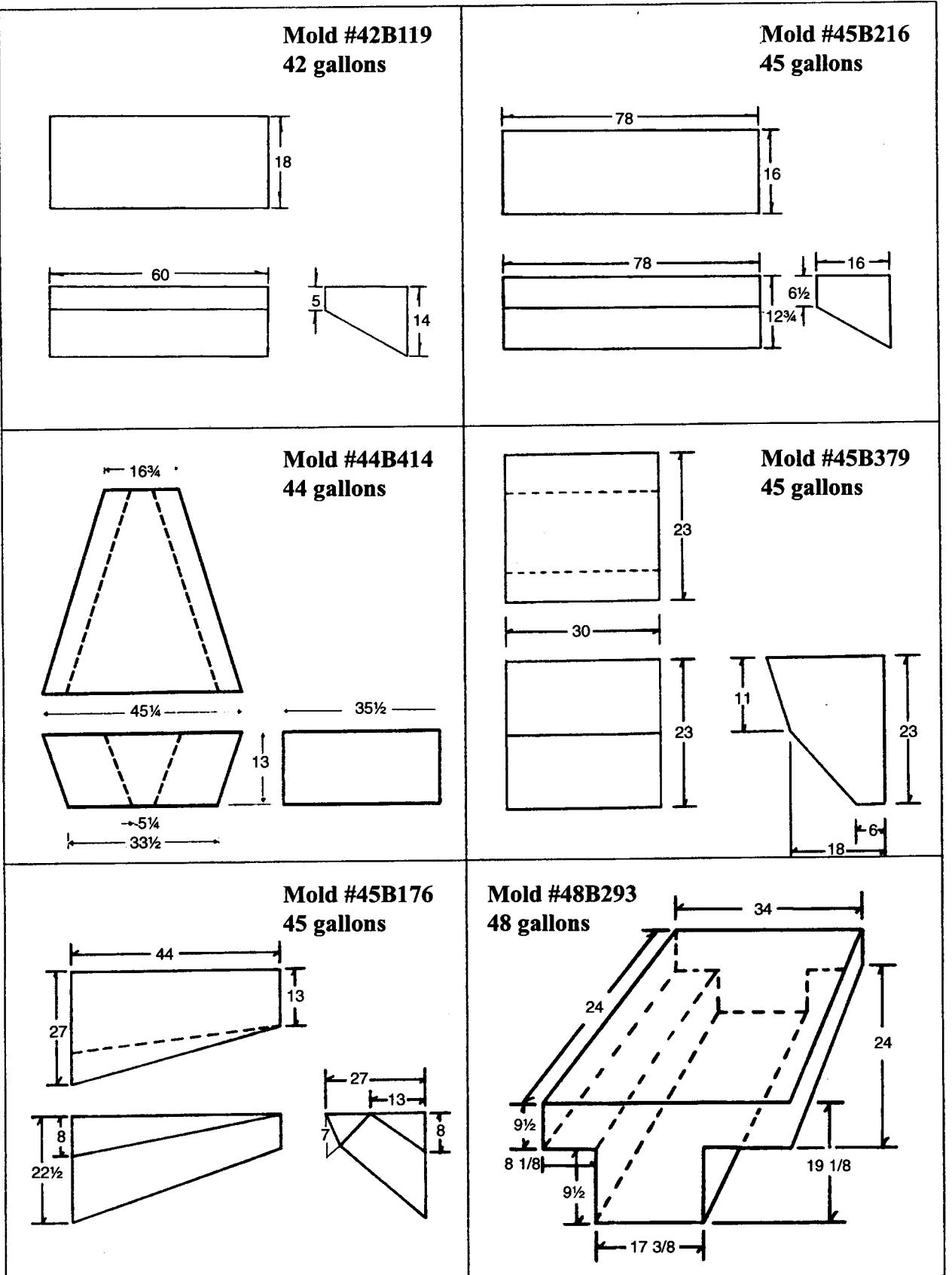
K.O. IS MORE EFFECTIVE THAN ANY CHEMICAL OR ENZYME PRODUCT. Chemicals only mask odor temporarily. Although they kill odor-causing bacteria, chemicals also kill other bacteria that suppress odor. *Chemicals can actually cause the odor problems you're trying to solve!* Enzymes stimulate the breakdown of waste already in the tank, but are not effective against odor, and are diluted by new waste as it is added. Four ounces per 25 gallons of capacity is all you need, and there's seldom any need to add K.O. between pump-outs; or need to pump out until the tank is full, making K.O. less expensive to use than lower-priced products. Unlike chemicals, the discharge from tanks treated with K.O. is welcome in on-shore sewer and septic tank systems.

Part #1PKO22 (22 oz.) \$11.20

Part #1PKOGAL (1 gallon) \$37.80

We look forward to serving your boating needs!





ODOR CONTROL IN HOLDING TANKS

It really *IS* possible to have a completely *odor-free* system!

You've probably read or heard, over and over again, that the key to odor control is the "right" hose, that the "wrong" hose permeates with sewage and causes the system to stink. That's folklore...a little truth coupled with a lot of misunderstanding. The real key to odor control is in knowing how to incorporate proven sewage management principles—the same ones used in composting and sewage treatment—into the installation of the entire system. What very few people in the marine industry have learned, and why there is so much folklore about odor, is the very nature of sewage itself and how it breaks down, what creates odor and what prevents odor from forming. Once we understood these principles and learned how to apply them to onboard systems, we were able to install systems that are completely odor-free and correct the ones that weren't. Once you understand it—and it's so *simple!*—you can do the same thing.

There are two ways to deal with holding tank odor: try to reduce it, mask it and contain it after it's formed, by using chemicals and filters—which has never proven very successful...or prevent odor from forming in the first place.

Sewage contains both *aerobic* (needs oxygen) and *anaerobic* bacteria (functions in an airless environment); neither can function in the other's environment. Why is that important? Because **only the anaerobic bacteria in sewage produce foul-smelling gasses!** Aerobic bacteria break sewage down, as does anaerobic bacteria—but aerobic bacteria do not generate odor. So as long as there is a sufficient supply of air to the tank and an aerobic bacteria treatment is added to aid that which naturally occurs in sewage, the aerobic bacteria thrive and overpower the anaerobic bacteria and the system remains odor free.

A bio-active (live aerobic bacteria) holding tank treatment, such as our own "K.O.", works with the aerobic bacteria in sewage, eliminating odor, completely emulsifying solids and paper and preventing sludge from forming. Enzymes do little if anything—a brief respite from odor immediately after adding them, then odor begins to build again. Chemical products mask odor with another odor and they kill not only odor-causing anaerobic bacteria, but beneficial aerobic bacteria as well—not good, because the aerobic bacteria are needed in the system to break down and emulsify solids and paper. Otherwise, they only break UP and dissolve them into little tiny particles that settle to the bottom of the tank, along with chemical residue, to become sludge that turns to concrete. Chemicals, unlike bio-active products, are also unwelcome in landside sewage treatment facilities and are especially unappreciated by those living and working near them!

The bacteria in sewage produce a variety of sulfur monoxides and dioxides (which are the malodorous gasses), methane—which has no odor but is flammable—and carbon dioxide, which also has no odor but creates the environment in which the aerobic bacteria cannot function but allows the aerobic bacteria to thrive. Carbon dioxide does not rise or fall, it is ambient—like the atmosphere, but heavier than air. Without a sufficient flow of fresh air through the tank to allow it to dissipate, it simply lies like a blanket on top of any pool of sewage (whether inside hose or a holding tank) and builds, suffocating the aerobic bacteria and creating the perfect environment for the anaerobic bacteria to take over. The system literally "turns septic" and the result: a stinking boat...or at least foul gasses out the vent line every time the head is flushed.

To prevent this, let's start with the head: the discharge hose, no matter whether it goes overboard, to a Type I or II MSD, or to a holding tank, should be installed, if at all possible, with no sags or low places where sewage can stand. When a marine head is not flushed sufficiently to clear the hose of sewage and rinse the hose behind the sewage, that sewage sits in low spots in the hose or bits of it cling to the walls of the hose—getting no air, allowing the anaerobic bacteria to thrive and produce their stinking gasses. If sewage stands in a low spot which gets no air in hose which is susceptible to a high rate of water absorption, it will permeate the hose. This is what has given rise to the myth that the "wrong" hose causes odor. Therefore, it's important to flush your head thoroughly enough to clear the entire hose of sewage and rinse behind it. And when you leave your boat to go home, flush the head thoroughly one last time, this time with fresh water. Until holding tanks came along, the hose was the *source* of most odor, but incomplete flushing was the real cause.

In the holding tank, the key to odor control is the vent line; *it must allow a free exchange of fresh air for the carbon dioxide generated by the sewage*. Therefore, those bladder tanks which have no vent are all but guaranteed to stink; there's no source of air into them at all. Boat builders, boat owners and boat yard personnel who install holding tanks have always viewed the vent line only as a source of enough air to allow the tank to be pumped out without collapsing and as an exhaust for methane. (Many even believe methane—which in fact is odorless—to be the source of odor.) Some take the attitude that tanks must inevitably stink, so the thing to do is run that vent line as far from people areas—cockpits, sun decks, etc.—as possible, or make the line as small as possible, or install a filter in it. All of the above actually create the very problem you want to solve.

Think of the holding tank as a stuffy room which needs to be aired. You know that even if there isn't a hint of a breeze outside, just opening a window will allow the fresh air outside to exchange with stuffy air in the room. Open another window for cross-ventilation and the air exchanges even faster. However, just opening a skylight accomplishes nothing unless there's also a mechanical means (an "attic fan") of pulling the air up and out—and that won't work unless another window is open to create airflow. But the only "window" into a holding tank is at the end of a "hallway"—the vent line. If that "hallway" is too narrow and goes around corners, takes a long and curved path, or rises more than 45 degrees above horizontal, no ambient air can find its way to the tank to dissipate and exchange itself with the gasses in it.

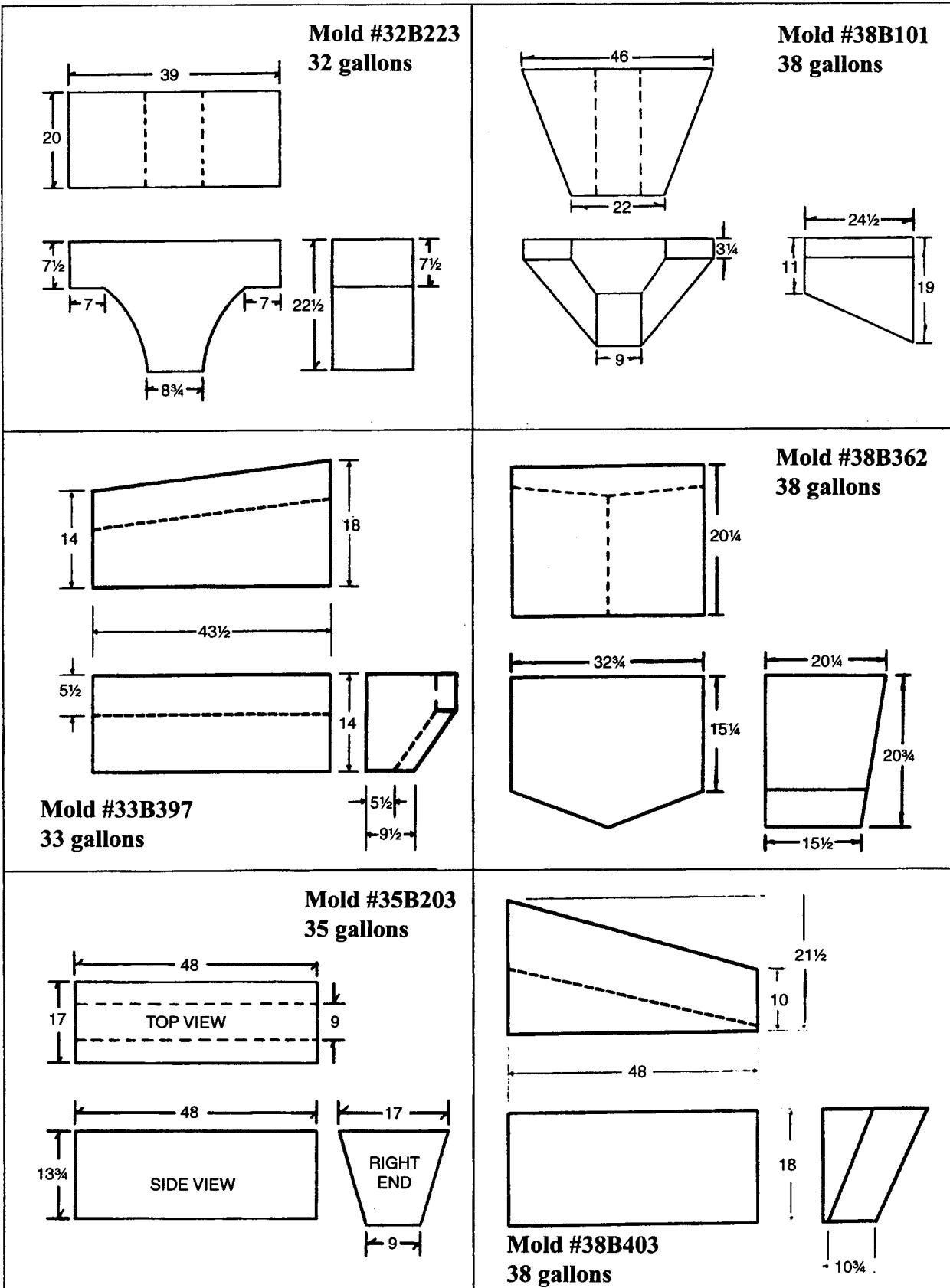
The tank vent line should be as short, as straight and as horizontal as possible, with no sags, no arches and no bends. The minimum I.D. of the hose (which is the "standard" size in use today, but for no reason other than being "standard" in fresh water and fuel tanks) is $5/8"$; we recommend that it be at least $3/4"$. Ideally, it should be no more than 3' long. If it has to be longer or if running the vent line uphill more than 45 degrees off horizontal can't be avoided or if it's impossible to run a vent line that does not go around a corner, increase the size of the vent line to 1" or even larger. If, for instance on a sailboat, the line must go up to the deck, install a second vent line in order to create cross ventilation or install some mechanical means of forcing air through the tank. We prefer to put holding tanks in the bow of sailboats—under the v-berth—because the hull just behind the point of the bow is the only place on the hull except the transom that will never be under water even when the boat is at maximum heel; it's the perfect place to install vent-line thru-hulls, because the thru-hull is always into the wind, forcing air into the vent line, when the boat is underway or on an anchor or mooring. The vent thru-hull should not be the same type as a fuel vent thru-hull (a cap with a slit in it), but should be a straight open bulkhead type thru-hull. On sailboats especially it's advisable to vent off the top of the tank and not the side, because heeling can cause the contents of a half-full or more tank to run into the vent line.

Because a filter blocks the flow of air into the tank, install a vent line filter only as a last resort; the filter does trap the gasses which try to escape through the vent line, but a filter will not stop gasses from forming, and therefore from going back up the inlet hose into the boat or up the outlet hose—and eventually permeating even the best hose.

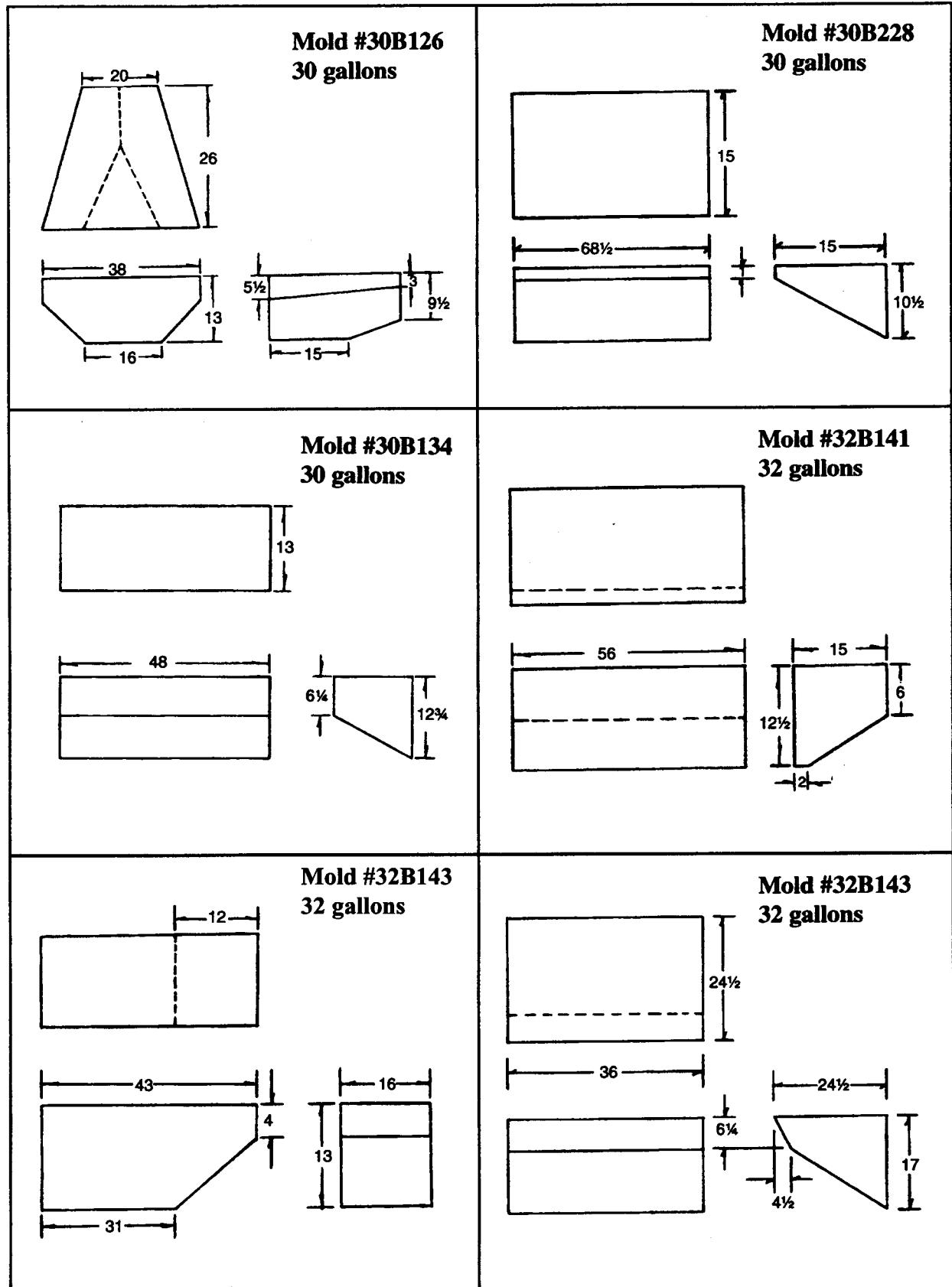
Check the vent line regularly for blockages; little insects love to build nests in them. And remember—the vent line is *not* an "overflow!" So try never to overfill the tank—and if you do, backflush the vent line thoroughly with water to remove any bits of sewage can clog it. It's possible for enough air to pass through it to allow the tank to be pumped and gasses to escape, but that doesn't mean the line is completely clear of any blockage.

Finally, the system, including the tank, should be at least nominally rinsed, through the head or back down the deck fill—with fresh or salt water—after each pump-out and occasionally with fresh water. (If your marina doesn't have a dock water hose for this purpose, please ask them to install one. It should be separate from the potable water hose and the two hoses should never be interchanged.)

(from "Marine Sanitation: Fact vs. Folklore" by Peggie Hall, copyright 1997, reprinted with permission)



RECTANGULAR TANKS



Pt #	Size (US Gals)	Dimensions (Inches)
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Tanks may be oriented any direction

TK410	5	7 x 13.5 x 18
TK377	5	6.75 x 9.5 x 18.5
TK300005	5	8 x 11 x 13.5
TK268	5	8.25 x 12.25 x 12.25
TK322	5	8 x 8.25 x 21
TK285	6	5.375 x 14.375 x 21.625
TK357	6	7 x 11.5 x 20
TK209006	6	7.5 x 11.25 x 18
TK277	6	8 x 12 x 16
TK404	6	10 x 13.75 x 13.75
TK326	7	12 x 12 x 12
TK272	7	5.75 x 12.5 x 24.25
TK287	7	6.5 x 10.25 x 27
TK271	7	7.125 x 13.125 x 19.25
TK275	7	7.75 x 15.125 x 15.625
TK186	8	10 x 11.5 x 18
TK41	8	10 x 12.75 x 17
TK270	8	6.875 x 12.25 x 24
TK120008	8	7 x 16 x 19
TK103008	8	8 x 13.75 x 17.25
TK21	8	8.25 x 15.75 x 17.75
TK360	8	8.5 x 10 x 23.5
TK130008	8	10 x 11.5 x 18
TK132	9	10 x 14 x 16
TK288	9	5 x 15 x 32
TK56	9	8 x 12.75 x 20.5
TK358	9	8 x 14 x 19.5
TK361	9	8.5 x 10.5 x 25.5
TK208010	10	10 x 14 x 17
TK209010	10	10 x 10 x 24
TK365	10	11 x 12.5 x 17.75
TK263	10	13.25 x 13.25 x 15.375
TK389	10	8 x 12.75 x 25.25
TK207010	10	12 x 12 x 16
TK319	11	4.75 x 19.5 x 35
TK208011	11	8 x 10 x 30
TK23	11	9 x 10 x 30
TK103011	11	9.5 x 15 x 18
TK375	12	11 x 16 x 17
TK255	12	11 x 17 x 17
TK279	12	11.5 x 11.5 x 23
TK124	12	12 x 12 x 20
TK105	12	12 x 14 x 17.5
TK16	12	13 x 13 x 18

Pt #	Size (US Gals)	Dimensions (Inches)
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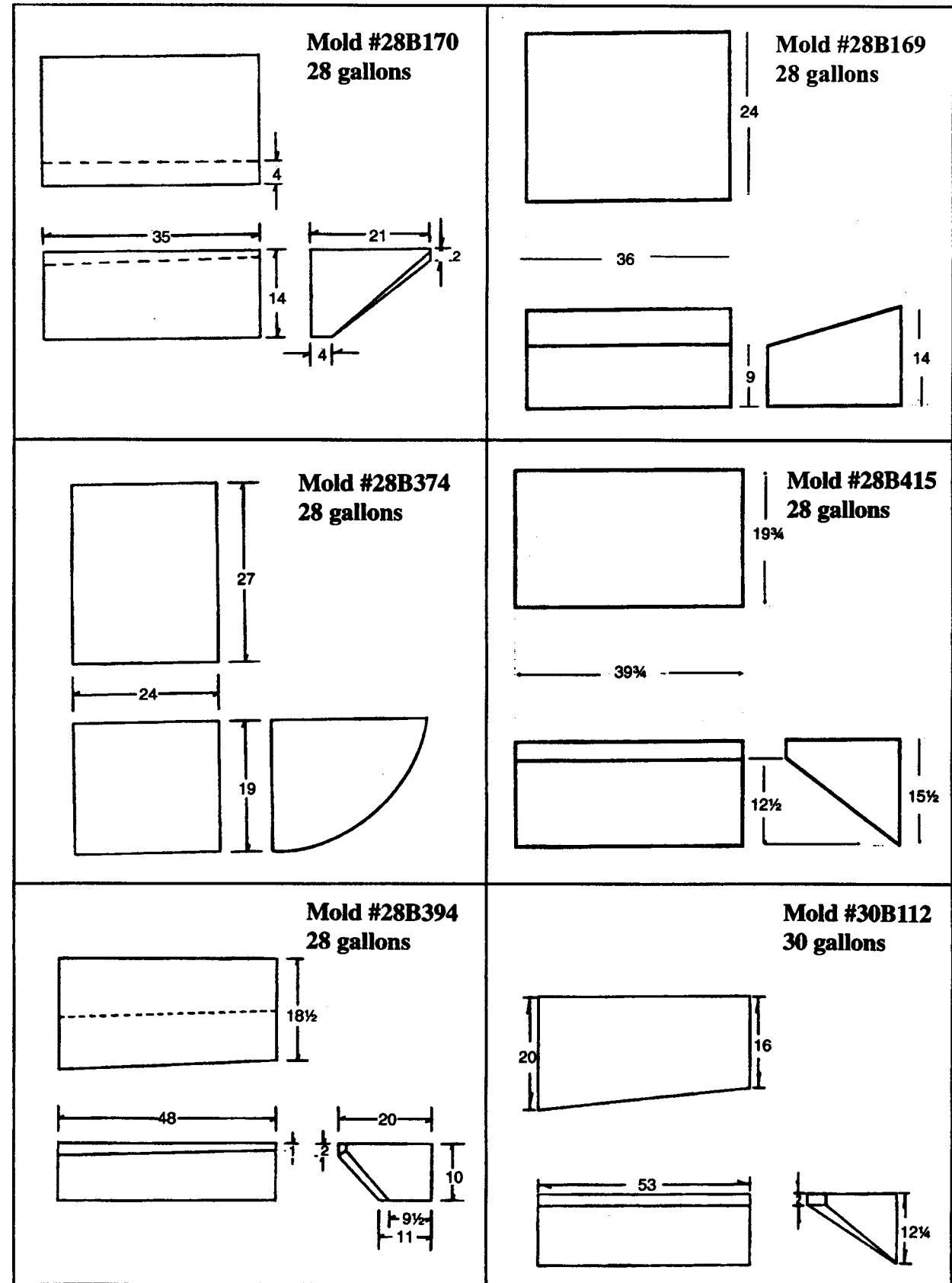
Tanks may be oriented any direction

TK14	12	8 x 15.5 x 24
TK103013	13	9 x 17 x 20
TK266	13	13.125 x 14.375 x 18.25
TK262	13	14.5 x 15.125 x 15.875
TK265	14	14.25 x 14.5 x 17.5
TK274	14	15.125 x 15.625 x 15.625
TK37	14	7.5 x 16 x 30
TK3	14	8 x 14 x 30
TK245	14	9.125 x 16.5 x 24.5
TK207014	14	10 x 11 x 30
TK2014-1T	14	11.75 x 14 x 20
TK202015	15	10 x 14 x 24
TK264	15	9.875 x 17 x 22
TK131	15	12 x 15 x 20
TK11	15	13 x 13 x 21
TK320	15	13.75 x 16.75 x 17.5
TK388	15	8.5 x 18.5 x 24
TK251	15	9.5 x 14.75 x 27.5
TK207016	16	10 x 14 x 27
TK106	16	16 x 16 x 16
TK325	17	12 x 18 x 19.5
TK359	17	14 x 15.75 x 19.75
TK36	17	9 x 21 x 23
TK366	18	12 x 17 x 22
TK159	18	13 x 17 x 20
TK211	18	7.75 x 25 x 25
TK232	18	8 x 10.75 x 48.5
TK369	18	8.5 x 11.375 x 47.5
TK27	19	12 x 12 x 32
TK39	20	11 x 13 x 35
TK57	20	10 x 16.5 x 32
TK72	20	7.75 x 19 x 35
TK181	20	10.5 x 18 x 30
TK213	20	12.25 x 16.125 x 28
TK227	20	13.75 x 17.75 x 20.75
TK233	20	11.25 x 21 x 21
TK231	20	11.5 x 14.5 x 28.25
TK234	20	8.75 x 17.125 x 33.25
TK2020T	20	12x16x24
TK2020-1T	20	14x17x21
TK2020-2T	20	11.5x14.25x28.25
TK102020	20	16 x 12 x 24
TK103020	20	11.5 x 14 x 28
TK120020	20	13 x 13 x 29

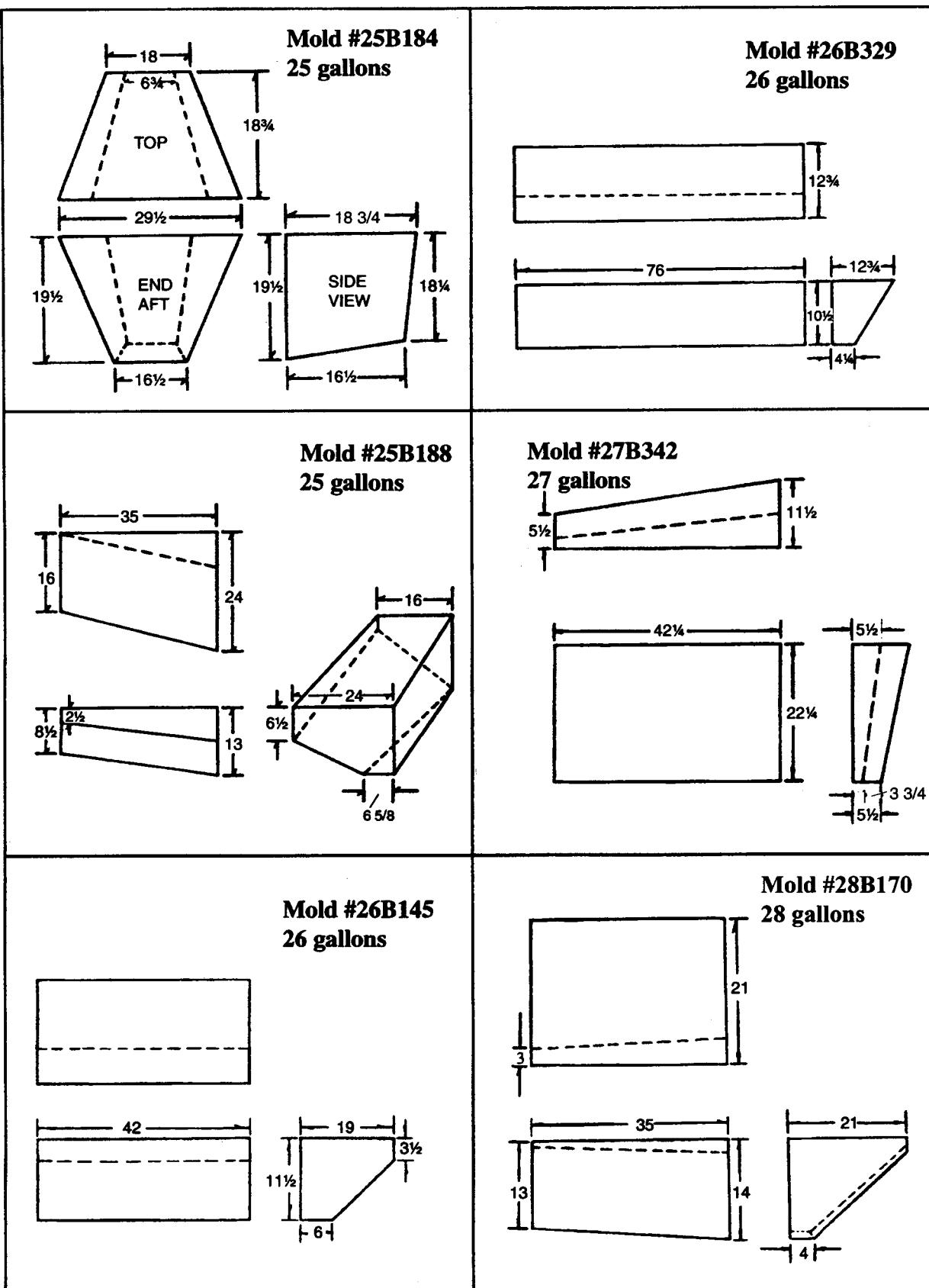
RECTANGULAR TANKS

Pt #	Size (US Gals)	Dimensions (Inches)
<i>Tanks may be oriented any direction</i>		
TK207020	20	18 x 16 x 16
TK281	21	16.375 x 16.875 x 19.875
TK355	21	6 x 16.75 x 53.5
TK430	22	11.5 x 11.5 x 45.5
TK276	22	14.75 x 16.875 x 23
TK128	22	12 x 12 x 34
TK378	23	8 x 18 x 40
TK103024	24	10.5 x 18 x 30
TK425	25	6 x 32 x 36
TK163	25	10 x 20 x 30
TK225	25	12 x 22.5 x 22.5
TK408	25	10 x 22 x 32
TK2025T	25	13 x 16 x 28.5
TK250	25	12 x 23 x 23.5
TK103026	26	13 x 22 x 23
TK406	26	6 x 21 x 60
TK50	26	8 x 16 x 50
TK71	26	9 x 20 x 38
TK239	28	10 x 14 x 48
TK273	28	17.625 x 19.25 x 20.75
TK335	28	10.75 x 11.75 x 52
TK103028	28	18 x 18 x 21
TK209028	28	12.75 x 18.75 x 27.75
TK103030	30	12 x 20 x 30
TK130030	30	11 x 21 x 32
TK207030	30	10.5 x 16 x 42.5
TK24	30	10.5 x 16 x 43
TK118	30	16 x 20 x 24
TK140	30	12.5 x 15 x 39
TK157	30	12 x 20 x 30
TK162	30	10 x 24 x 30
TK350	30	11 x 20.5 x 33
TK424	30	10 x 20 x 40
TK2031	30	12 x 20 x 30
TK26	32	11.5 x 23 x 31
TK52	32	8 x 16 x 60
TK69	32	8 x 20 x 48
TK127	32	16 x 16.5 x 30
TK316	32	11 x 11 x 69
TK409	33	7 x 22 x 60
TK381	34	9.5 x 26 x 34
TK1	35	15 x 19.5 x 32

Pt #	Size (US Gals)	Dimensions (Inches)
<i>Tanks may be oriented any direction</i>		
TK2	35	12 x 19 x 37.5
TK147	35	10 x 17 x 48
TK130035	35	13 x 22.5 x 29
TK6	36	13.25 x 14.5 x 48.5
TK7	36	14 x 22 x 30
TK38	36	11.25 x 18.5 x 45
TK254	36	17.75 x 17.875 x 28.375
TK383	36	9.25 x 32 x 32
TK428	36	6 x 36 x 46
TK207036	36	12 x 18 x 38
TK209037	37	13 x 16.88 x 42.75
TK2037T	37	12 x 19 x 38
TK53	38	8 x 16 x 70
TK346	38	9 x 28 x 37
TK2039T	39	13.75 x 21.75 x 30
TK17	40	10 x 24 x 40
TK270040	40	11.5 x 22 x 37
TK221	40	18 x 23 x 23.5
TK240	40	12 x 13.75 x 58
TK252	40	18 x 21.25 x 26.5
TK432	40	16 x 23 x 28
TK256	40	16.625 x 20.875 x 29.875
TK208040	40	17 x 20 x 27
TK2040T	40	12.75 x 19.75 x 40
TK305	40	9 x 20 x 54
TK309	40	14 x 18 x 39
TK120040	40	15.5 x 18 x 33.5
TK347	40	11 x 26 x 34.75
TK380	42	10 x 26.75 x 40
TK103042	42	16 x 18 x 34
TK182	42	13 x 18 x 46
TK222	42	9.5 x 26.75 x 42
TK237	42	12 x 25 x 36
TK220	43	18 x 20 x 30
TK207045	45	16 x 16 x 44
TK47	45	13 x 23 x 36
TK310	45	8.5 x 18 x 78
TK317	45	12.875 x 14 x 64.5
TK368	45	13 x 16 x 54
TK22	46	14 x 22 x 36
TK33	46	12 x 25 x 40.5
TK318	46	15.625 x 19 x 40



RECTANGULAR TANKS



Pt #	Size (US Gals)	Dimensions (Inches)	Pt #	Size (US Gals)	Dimensions (Inches)
<i>Tanks may be oriented any direction</i>					
TK386	46	10 x 33 x 36	TK434	69	26 x 26 x 26
TK207047	47	14 x 17.5 x 47	TK296	70	23 x 23 x 34
TK370	47	14.25 x 17.375 x 47.5	TK401	70	18 x 30 x 34
TK376	47	14 x 22 x 38	TK103072	72	12 x 18 x 77
TK416	47	16 x 16 x 50	TK61	75	16 x 22 x 54
TK9	48	12 x 20 x 48	TK363	80	16.75 x 31.5 x 39.5
TK306	48	11 x 24.25 x 45.5	TK230	85	11 x 27 x 68.5
TK207049	49	9.25 x 21 x 60	TK260	85	20.5 x 22 x 45.625
TK308	50	9.125 x 22 x 64	TK299	85	10 x 28 x 76
TK207051	51	10 x 21 x 56.5	TK327	85	18 x 24 x 48
TK8	52	11 x 20 x 60.5	TK300086	86	24 x 28.5 x 31
TK229	52	7 x 27 x 68.5	TK209090	90	24 x 20 x 46.5
TK208052	52	15 x 24 x 36	TK314	90	21 x 32 x 34
TK295	52	21 x 23 x 28	TK64	90	14.5 x 39.25 x 39.25
TK315	52	17.375 x 24.375 x 30.5	TK387	92	10 x 33 x 72
TK200055	55	11 x 28 x 46	TK354	95	16 x 33 x 47
TK48	55	14 x 24 x 40	TK207095	95	18 x 22 x 55
TK209055	55	15 x 20 x 42	TK204	96	11.5 x 27 x 76
TK59	55	15.5 x 25 x 40	TK259	100	13 x 26 x 71.5
TK156	55	16 x 20 x 40	TK103100	100	14.5 x 22 x 78
TK312	55	13 x 15 x 72	TK2100T	100	20 x 26 x 46
TK2055T	55	16 x 20 x 40	TK200100	100	28 x 20 x 46
TK207055	55	20 x 20 x 32	TK433	110	24 x 24.5 x 48
TK133	58	9.25 x 26.5 x 57	TK298	110	15.5 x 24 x 76
TK207059	59	13.5 x 17.5 x 58.5	TK103110	110	14 x 21 x 89
TK54	60	14.5 x 30 x 36	TK391	110	9 x 33 x 95
TK42	60	15.5 x 20.75 x 47	TK328	115	26 x 28 x 39.5
TK202060	60	14 x 28 x 36	TK130120	120	26.25 x 20 x 55
TK60	60	15.5 x 22 x 44	TK247	130	24 x 29.875 x 43.125
TK63	60	15.5 x 23 x 42	TK356	130	18 x 30 x 60
TK44	62	13 x 34 x 34	TK300	135	16 x 28 x 76
TK43	65	13 x 20 x 58	TK392	150	24 x 24 x 67
TK242	65	20.5 x 23.75 x 32	TK103150	150	29 x 20 x 65
TK248	65	17 x 20 x 48	TK246	165	30.125 x 31.625 x 43.625
TK283	65	13.5 x 30.875 x 39.125	TK302	200	24 x 36 x 60
TK297	65	24 x 25 x 28	TK103200	200	20 x 28.5 x 85
TK324	65	15 x 30 x 37	TK130202	200	26.5 x 29 x 73.5
TK103066	66	15 x 32 x 33	TK284	260	18 x 59 x 61.25
TK2068T	68	16 x 23 x 43			

