

WESTSAIL 28

ENGINE & FUEL SYSTEM

For operating information concerning the engine, refer to the enclosed operator's manual.

FUEL SYSTEM

Fuel tank is located under quarter berth portside. Fuel tank shut-off valve is the most forward valve on top of tank under quarter berth.

WATER SEPARATOR

The water separator is located on the starboard side of the engine room. To drain the water, loosen the thumb screw on the bottom, and drain.

OPTIONAL PRIMARY FUEL FILTER

The optional primary fuel filter is located in the same unit as the water separator (see the enclosed data sheet for servicing.)

SHAFT LOG PACKING

The shaft packing gland should be left hand tight, at the time of launching. Let the water thoroughly soak the gland, then tighten only enough to eliminate excessive dripping, add one quarter turn with wrench. Check when launching boat and every time engine is run. There should be some moisture where the shaft enters the packing gland. The gland should be cool to the touch when running engine. If it becomes hot, the gland may seize on shaft, and this could cause a leak large enough to sink the boat. The packing consists of 3/16" square wax impregnated flax.

PROPELLER SHAFT SET SCREWS

The propeller shaft is retained in the engine coupling by a set screw in the engine coupling flange which sets in a small recess which has been drilled into the propeller shaft. It is advisable for owners to periodically check to make sure that the set screw is tight and that the safety wire is in place.

PROPELLER SHAFT ALIGNMENT

It is most important that shaft alignment be carefully checked at the time of launching. The shaft and engine were carefully aligned at the factory but loading, trucking, and off loading can spoil this work, as well as the different set the hull may take in the water. This misalignment may also occur later and the following method is used to check and realign an engine and its propeller shaft.

1. Remove bolts holding the shaft coupling flange to the engine transmission flange and any flexible couplings.
2. Press coupling flanges together and check all around with feeler guages for gaps between them. Zero to four thousandths (.004) of an inch is tolerable.
3. If a greater gap exists between the top or bottom of the couplings, adjustment can be made by raising or lowering the front or back end of the engine using the adjustable motor mounts.
4. If a greater gap exists between the sides of the couplings, adjustment must be made by slacking off the engine mount lag bolts and prying the engine to one side or the other to close the gap.
5. When tolerance is satisfactory, re-tighten anything that has been slacked off and recheck for excessive gap. If it is still satisfactory, replace bolts in shaft coupling and tighten.

PROPELLER SHAFT PACKING GLAND

The Propeller Shaft Packing Gland Nut has been left loose at the factory so that water could thoroughly soak the packing at the time of launching. The Packing Nut was tightened by your dealer during launching to eliminate any excessive dripping and the Lock Nut tightened. When the engine is running and in gear there should be some drops of water coming out of the gland or else the packing nut is too tight and will burn up.

PORT / ENGINE ASSEMBLY				SHAFT				PRC			REMA	
BOAT	ENGINE	DRIVE	ARTRD	ENGINE PART NUMBER	SHAFT DIA.	LOA	SHAFT NUMBER	BORE	DIA. X PITCH	BLADES ROTATION NUMBER		
W-28	VOLVO P106	VOLVO STRAIGHT	2:1	15435	1"	35-1/2	15425-01	1"	14x10	2-LH	15886	STANC
W-28	PERKINS P106	PERKINS STRAIGHT	2:1	15436	1"	32-1/2	15425-02	1"	14x10	2-RH	15897	NOTA
W-28	VOLVO P106	VOLVO STRAIGHT	2:1	15435	1"	35-1/2	15425-01	1"	13x9	3-LH	15885	OPT10
W-28	VOLVO P106	VOLVO STRAIGHT	1.9:1	15433	1"	30 1/2	15425-07	1"	16x10	3-LH	15890	OPT10
W-32	VOLVO P106	VOLVO STRAIGHT	1.9:1	15433	1"	30 1/2	15425-01	1"	16x12	2-LH	15888	OPT10
W-32	VOLVO P106	VOLVO STRAIGHT	1.9:1	15433	1"	33-1/2	15425-03	1"	16x10	2-LH	15879	STANC
W-32	VOLVO P106	VOLVO STRAIGHT	1.9:1	15433	1"	33-1/2	15425-03	1"	16x10	3-LH	15882	OPT10
W-32	VOLVO P106	VOLVO STRAIGHT	1.9:1	15433	1"	28-1/2	15425-04	1"	17x10	3-LH	15893	OPT10
W-32	VOLVO P106	VOLVO STRAIGHT	1.9:1	15433	1"	25-1/2	15425-05	1"	16x10	3-RH	15891	OPT10
W-32	VOLVO P106	VOLVO STRAIGHT	1.7:1	15431	1"	25-1/2	15425-05	1"	17x10	2-RH	15904	OPT10
W-42	PERKINS P106	PERKINS STRAIGHT	2.9:1	15431	1-1/4"	63	15425-06	1-1/4"	20x14	3-LH	15897	STANC
W-42	PERKINS P106	PERKINS STRAIGHT	1.9:1	15430	1-1/4"	63	15425-06	1-1/4"	20x14	3-RH	15898	OPT10
W-42	PERKINS P106	PERKINS STRAIGHT	1.9:1	15430	1-1/4"	63	15425-04	1-1/4"	20x17	2-RH	15902	OPT10
W-43	PERKINS P106	PERKINS STRAIGHT	3:1	15423	1-1/4"	63	15425-04	1-1/4"	20x12	3-RH	15900	OPT10
W-43	PERKINS P106	PERKINS STRAIGHT	3:1	15424	1-1/4"	63	15425-06	1-1/4"	22x16	3-RH	15901	OPT10
W-43	PERKINS P106	PERKINS STRAIGHT	3:1	15431	1-1/4"	63	15425-04	1-1/4"	20x14	3-RH	15898	OPT10
W-43	PERKINS P106	PERKINS STRAIGHT	3:1	15430	1-1/4"	63	15425-04	1-1/4"	22x16	3-LH	15899	OPT10
W-43	PERKINS P106	PERKINS STRAIGHT	3:1	15430	1-1/4"	63	15425-06	1-1/4"	20x24	3-RH	15896	OPT10
W-43	PERKINS P106	PERKINS STRAIGHT	3:1	15430	1-1/4"	63	15425-01	1-1/4"	20x26	2-RH	15903	OPT10
W-43	PERKINS P106	PERKINS STRAIGHT	3:1	15422	1-1/4"	63	15425-04	1-1/4"	20x12	3-LH	15895	STANC

WESTSAIL
 2500 W. 10th St. #100
 San Diego, CA 92104
 Tel: (619) 444-1111
 Fax: (619) 444-1112

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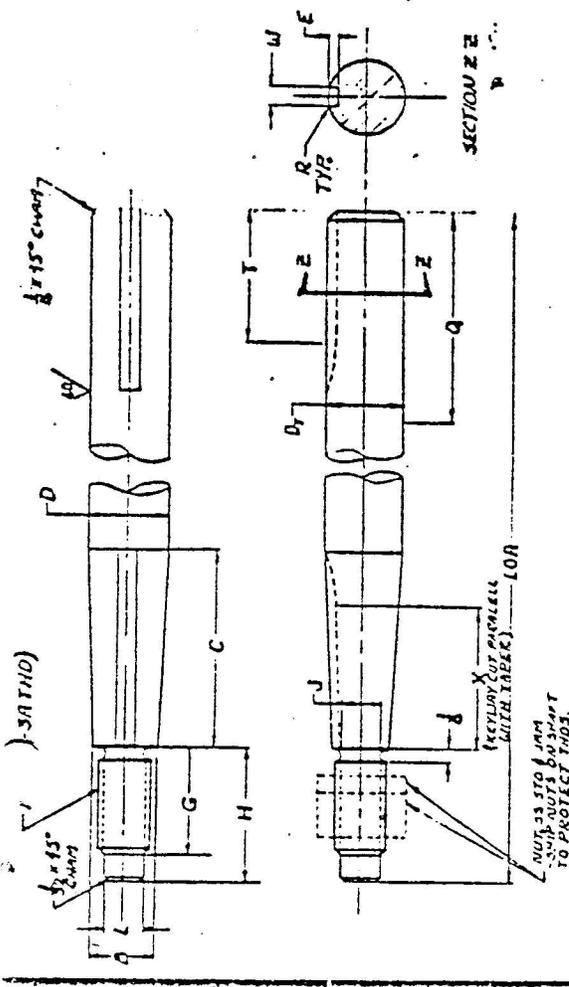
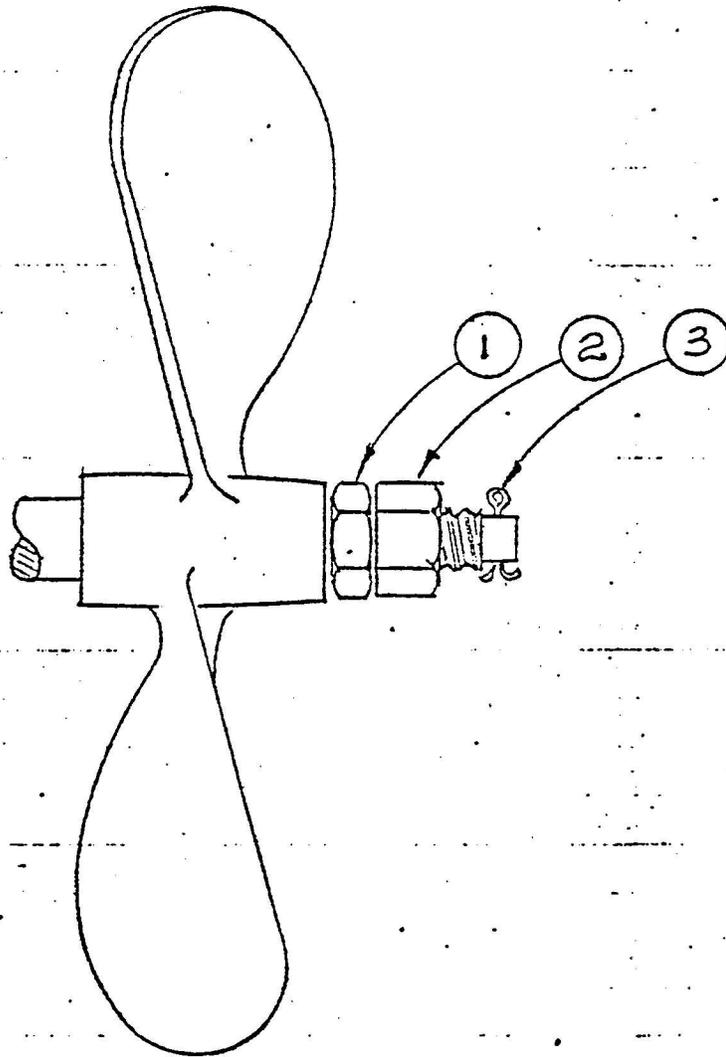


FIG. 1
 TAPER = .34" ON DIA PER FT. = 1/16" PER IN. = .33497"
 TOTAL INCLUDED ANGLE

NOM DIA	B		C REF	W		E			F		R	T		DIA THICKNESS
	MIN	MAX		MIN	MAX	MIN	NOM	MAX	DIA	THICKNESS		MIN	MAX	
3/4	.824	.826	2	.1875	.1875	.095	.097	3	1-1/16	1-5/16	1/32	1-1/16	1-5/16	
1	.827	.829	2-3/4	.250	.250	.125	.127	0	1-7/16	1-3/4	1/32	1-7/16	1-3/4	
1-1/4	1.030	1.032	3-1/2	.315	.315	.157	.160	9	1-5/8	2	1/16	1-5/8	2	
NOM DIA	J DIA	L		X MIN	MIN	MAX	Q				COTTER PIN SIZE			
3/4	25/64	3/8		1.500	.748	.750	3	1.750	1/8 x 3/4	2	5/16			
1	19/32	1/2		2.125	.997	1.000	3	2.00	1/8 x 1	3/4	7/16			
1-1/4	23/32	5/8		2.812	1.247	1.250	5	4.00	5/32 x 1-1/4	7/8	1/2			

- REMOVE ALL BURLS AND BREAK SHARP EDGES.
- MATERIAL FOR SHAFTS: TYPE 304N STAINLESS PRECISION BOAT SHAFING.
- DO NOT SCALE.
- ALL DIM'S ON SAME Q CONCENTRIC W/IN. 0.005 IN.
- DIMENSIONS ARE IN INCHES.
- NOTES: UNLESS OTHERWISE SPECIFIED.

A 19155 A



NOTE - INSTALL JAM NUT FIRST AND TORQUE AGAINST PROPELLOR - THEN TORQUE FULL NUT AGAINST JAM NUT - FINALLY INSTALL COTTER KEY.

1	3/4-10 JAM NUT	1	
2	3/4-10 FULL NUT	1	
3	1/8 COTTER KEY	1	

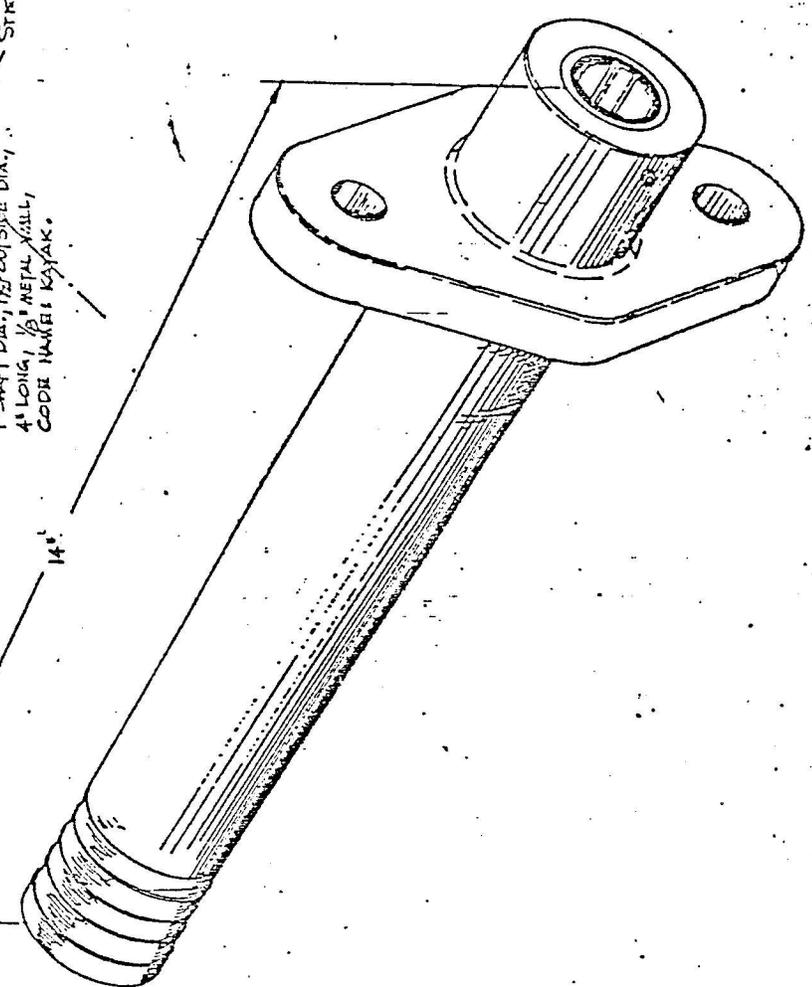
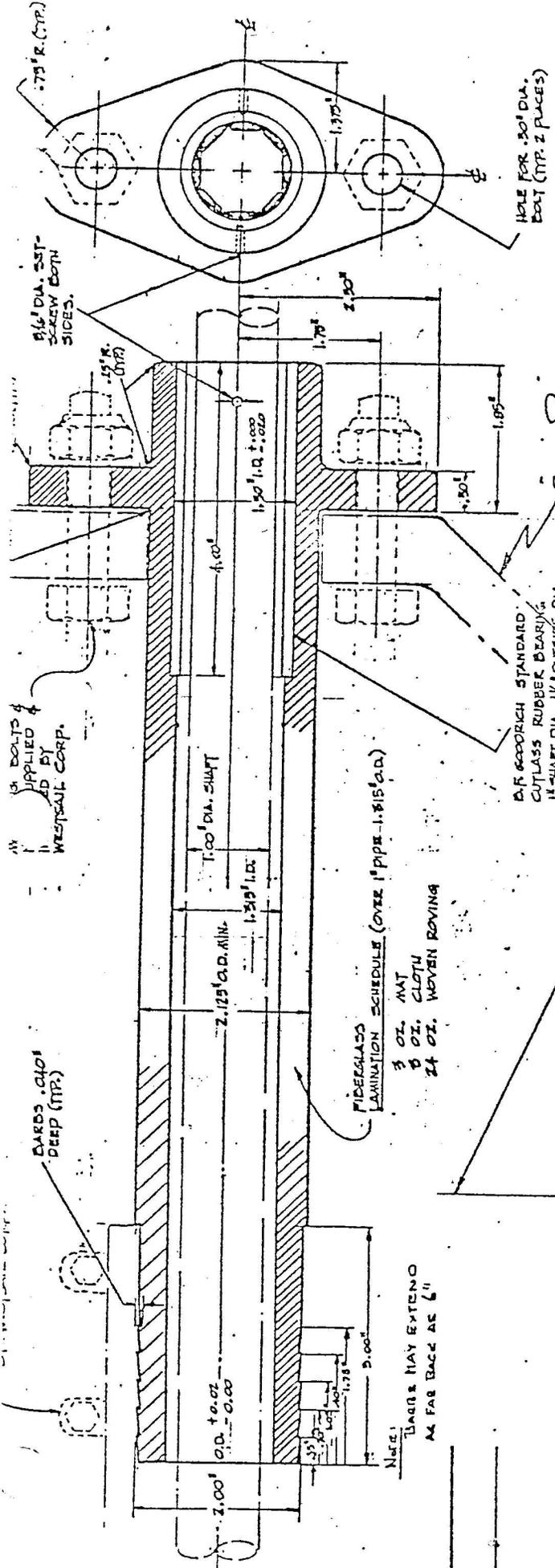
NO	DESCRIPTION	QTY	NO	DESCRIPTION	QTY
		SCALE	TITLE		
CORP., COSTA MESA, CA.		DRAWN LEM	PROPELLOR		A 19155 A
		DATE 6/21/73	INSTALLATION		REVISED

WESTSAIL STANDARD PRACTICE
PROPELLER INSTALLATION PROCEDURE

1. Slide propeller onto propeller shaft without key installed.
2. Make sure propeller is up tight on the taper of the shaft.
3. Mark the shaft with paint, grease pencil, etc.
4. Remove propeller and fit key to both propeller shaft and propeller
5. Key fit in shaft should be snug fit.
6. Key fit in propeller should be a clearance fit.
7. Install key in shaft and slide propeller back onto shaft making certain propeller lines up with dry fit mark or slightly past mark.
8. Install double stainless steel nuts and install cotter pin.
9. Clearance between Aft edge of rudder shaft bearing housing and Forward edge of propeller hub.

West sail:	28'	32'	42 & 43'
Minimum:	.75"	1"	2"
Maximum:	2.25"	3"	4"

QTY	PART NUMBER	DESCRIPTION	ITE						
PARTS OR MATERIAL LIST									
 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		WSP - PROPELLER INSTALLATION PROCEDURE							
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;">DRAWN</th> <th style="width: 30%;">DATE</th> <th style="width: 40%;">MANUAL PAGE NUMBER</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	DRAWN	DATE	MANUAL PAGE NUMBER				
DRAWN	DATE	MANUAL PAGE NUMBER							
APPLICATION		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 20%;">SIZE</th> <th style="width: 40%;">DWG. NO.</th> <th style="width: 40%;">REV.</th> </tr> <tr> <td align="center">A</td> <td align="center">24001</td> <td align="center">A</td> </tr> </table>	SIZE	DWG. NO.	REV.	A	24001	A	
SIZE	DWG. NO.	REV.							
A	24001	A							
LTR	ENG. CHANGE NO.	DATE	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 20%;">NEXT ASSY</th> <th style="width: 40%;">USED ON</th> <th style="width: 40%;">SCALE</th> </tr> <tr> <td> </td> <td>W28, 32, 42, 43</td> <td> </td> </tr> </table>	NEXT ASSY	USED ON	SCALE		W28, 32, 42, 43	
NEXT ASSY	USED ON	SCALE							
	W28, 32, 42, 43								
REVISIONS			SHEET / OF /						

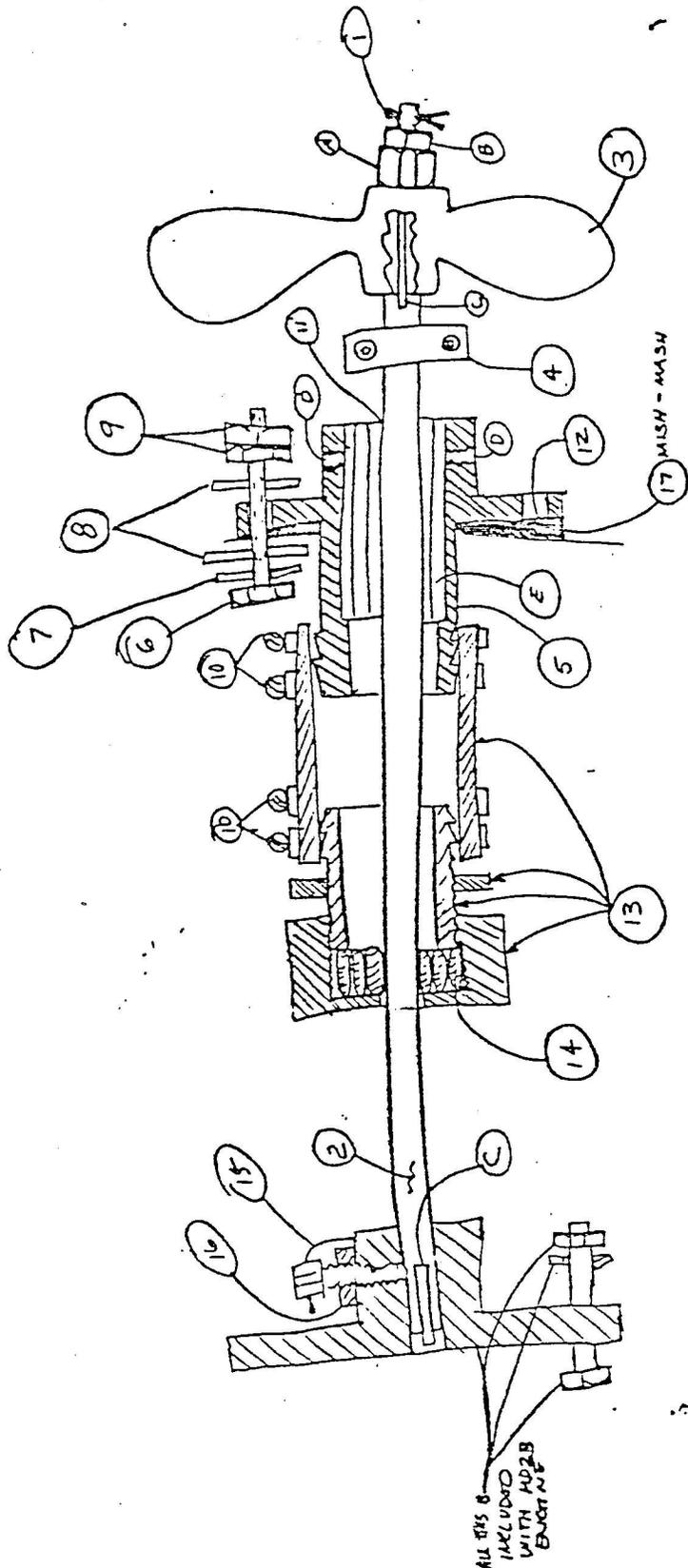


DIMENSIONS ARE IN INCHES
NOT TO SCALE THIS DRAWING
UNLESS OTHERWISE SPECIFIED

1. MAKE FROM FIBERGLASS OR BRONZE.
 2. TOLERANCES ± .010"
 3. ALL DIMENSIONS IN INCHES & DECIMALS
- NOTES - UNLESS OTHERWISE SPECIFIED

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL		SHAFT LOG W-28	
275 McCormick, P.O. Box 1828 Costa Mesa, California 92628 Telephone: (714) 542-9711		DATE 10-27-73	MANUAL PAGE NUMBER
APPLICATION W-28		REV. C	DATE 1973 3
REVISIONS		SCALE FULL	

7-A-3



RELATED DRAWINGS
 A 19156
 A 24001
 A 19155
 A 15437
 A 15825
 A 19154
 A 18128

ALL DIMS &
 INCLUDED
 WITH AD28
 ENGINES

ALL DIMENSIONS ARE IN INCHES
 DO NOT SCALE THIS DRAWING
 UNLESS OTHERWISE SPECIFIED

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL		ENGINE, STD.	
275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		PROP SHAFT ASS'Y	
DRWING	DATE	MANUAL PAGE NUMBER	REV.
	7/25/76		
LTR	ENG. CHANGE NO.	DATE	NEXT ABBY
A	2625	11-1-76	
F	584	9/21/76	
REVISIONS		USED ON	SCALE
		W32	NONE
		SCALE	SHEET 1 OF 3
			SHEETS 2 & 3 ARE 'A' SIZE

ITEM	DESCRIPTION	QTY	PART NUMBER
1	COTTER PIN 1/8 X 1 1/2 LG SS	1	10371
2	SHAFT, PROP. 1" DIA X 33 1/2" LG TYPE 304NL	1	15425-03
A	NUT, SS 3/4-10 X .620 WIDE (1) REQ'D	—	—
B	NUT, SS 3/4-10 X .415 WIDE (1) REQ'D	—	—
C	1/4 KEY X 1 1/16 LG SS (2) REQ'D	—	—
3	PROPELLER, BZ 1" BORE 16X10: 2-LH	1	15890
4	COLLAR, ZINC W/ FASTENERS	1	15855
5	LOG, SHAFT BZ	1	15429
D	SET SCRS (2) REQ'D	—	—
E	BEARING, CUTLASS 1 1/2" OD X 40 LG (1) REQ'D	—	—
6	3/8-16 X 2 1/2 LG H.H. BOLT BZ	2	10321
7	3/8" LOCK WASHER BZ	2	10418
8	3/8" FLAT WASHER BZ	4	10130
9	3/8-16 NUT BZ	4	10169
10	CLAMP, HOSE S.S #36	4	11155
11	WHITE GREASE, STAY LUBE WT.	1/4 ^{oz}	90031
12	POLY SULFIDE	1/2 TUBE	14409
13	STUFFING BOX WITH CAP & NUT & HOSE (6" OD X 3/8 WALL) X 4 1/4" LG	1	15438
14	PACKING, FLAX 8" LG 3/16	8"	15484

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL® 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		ENGINE, STD. PROP. SHAFT ASS'Y	
DRAWN		DATE	MANUAL PAGE NUMBER
		9.28.76	
APPLICATION		SIZE	DWG. NO.
		A	19255
LTP.	ENG. CHANGE NO.	DATE	REV.
			A
REVISIONS		W32	SCALE NONE.
			SHEET 2 OF 3

RECOMMENDED FUEL & LUBRICATING OIL

VOLVO MD6A

The owners manual calls for a DS Service rating according to the API-System. This should be available at nearly all marine or truck service stations under these trade names:

- Mobil Oil - "Delvac 1330"
- Shell Oil - "Rotela" 30
- Union Oil - "Guardol" series 3
- Standard Oil - RPM Delco Super 400
- Texaco Oil - "URSA LA 3"

We have found SAE 30 to be most satisfactory in the warm California climate. Ambient temperature does effect engine oil, therefore, other SAE ratings are used in less moderate climates.

The fuel requirements for the MD-2-B & MD-3-B and MD-6-A are number 2 (ASTM). The fuel companies should adjust for cold climates by using 15 to 20 percent number 1 mixed in with the number 2.

WESTSAIL 23 (continued)

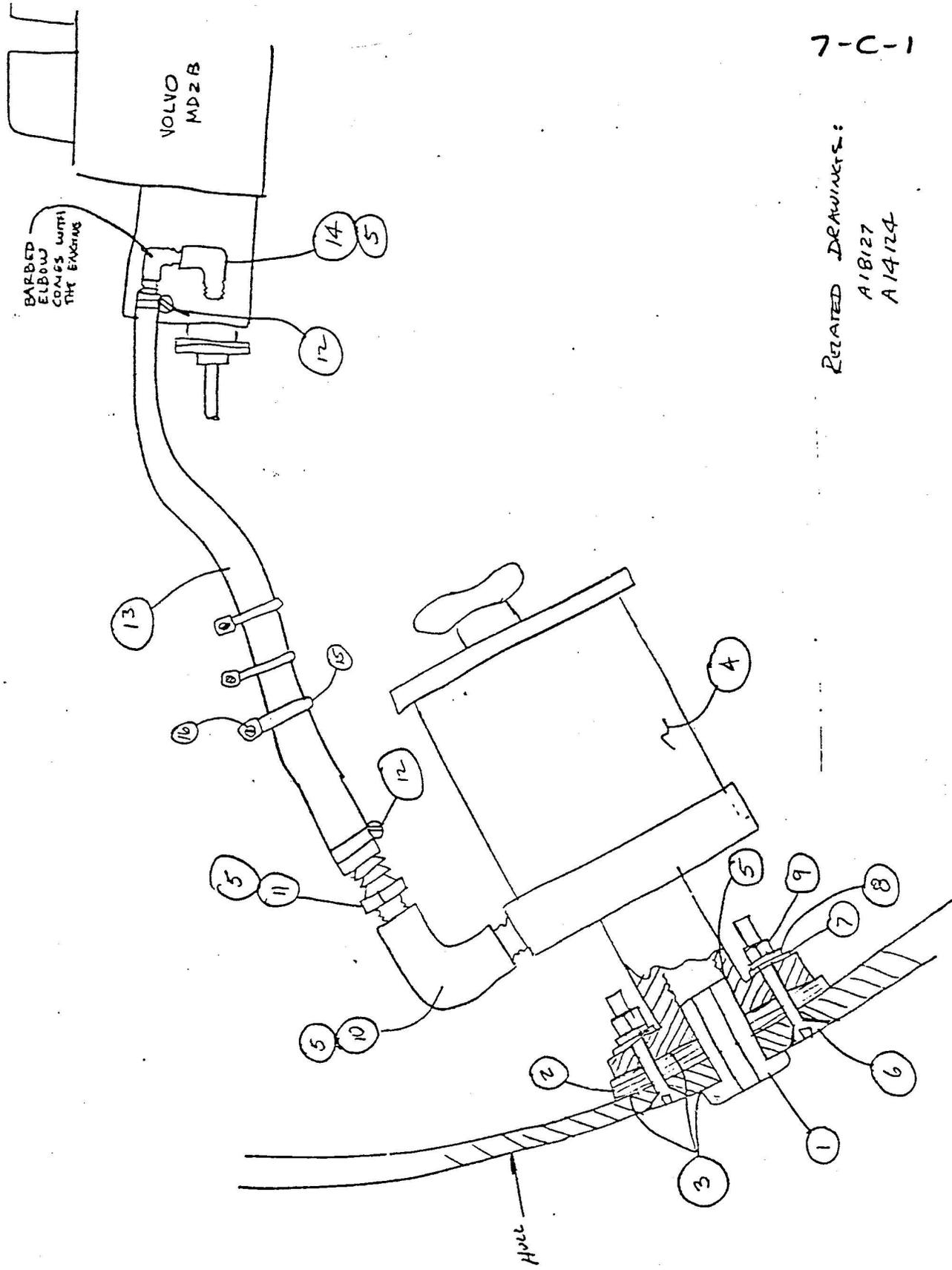
ENGINE KILL CONTROL

Engines equipped with single lever control have kill controls on the instrument panel (push button for Perkins, "T" handle for Volvo).

On engines equipped with dual lever controls, the engine is "killed" by moving throttle lever aft from idle position.

ENGINE ALIGNMENT

When the boat is first launched and periodically thereafter, the owner should check the alignment of the engine to the propeller shaft. This alignment can change as time passes by the settling of the rubber mounts on the engine. The alignment should be checked by loosening the two faces of the coupling without any flexible coupling installed and checking with a feeler gauge around the perimeter of the coupling flange. The difference in reading of the feeler gauge around the perimeter of the flange should be less than 0.004 inches.



RELATED DRAWINGS:
 A18127
 A14124

2. ALL DIMENSIONS ARE IN INCHES.
 1. DO NOT SCALE THIS DRAWING.
 NOTES: UNLESS OTHERWISE SPECIFIED

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL® 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		ENGINE, STD.	
		WATER INTAKE SYSTEM	
LTR A #625 F #584		DRAWN DATE 7/25/76	MANUAL PAGE NUMBER C 19253 REV A
REVISIONS		APPLICATION W3Z	SCALE NONE SHEET 1 OF 2

SHEET 2 IS AN 'A' SIZE

ITEM	DESCRIPTION	QTY	PART NUMBER
1	3/4" THRU-HULL BZ	1	11184
2	1/2" THK PLYWOOD SPACER	1	14124
3	POLY SULFIDE	5 ^{oz}	14409
4	GROCD SEACOCK / STRAINER (7/N-5750) BZ	1	11251
5	TEFLON TAPE	24"	14460
6	3/8-16 x 2 1/2 LG FHMB BZ	2	10063
7	3/8" FLAT WASHER BZ	2	10130
8	3/8" LOCK WASHER BZ	2	10418
9	3/8-16 NUT, HEX BZ	2	10169
10	3/4" ELBOW BZ	1	11077
11	3/4 MNPT X 5/8 HOSE BARE BZ	1	11082
12	CLAMP HOSE (#8)	2	11146
13	5/8 I.D. RED HOSE	3 ^{ft}	11479
14	1/2" STREET ELBOW BZ	1	11042
15	MEDIUM TIE WRAP .188 WIDE x 14" LG.	3	12146
16	# 10 x 3/4 LG PH SMS SS	3	10291

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
		ENGINE, STD.	
275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		WATER INTAKE SYSTEM	
DRAWN		DATE	MANUAL PAGE NUMBER
		9.29.76	
APPLICATION			
LTR	ENG. CHANGE NO.	DATE	REV.
			A
REVISIONS		W32	A
		SCALE NONE	SHEET 2 OF 2

INSTRUCTIONS FOR ENGINES WITH AQUALIFT EXHAUST

MUFFLER SYSTEMS

Most engines are supplied with an on-engine type muffler system. This muffler is basically an Aqualift type muffler wherein the muffler acts as a reservoir for the water which drains back through the hose. As an additional precaution, these mufflers are equipped with a drain valve, usually located on the muffler which allows any water collecting in the muffler to drain safely to the bilge instead of filling the engine. This drain valve should be left open when the engine is not running. In an emergency, if the engine were inadvertently started with the valve open, the only consequences would be dirty water going into the bilge. The off-engine muffler systems are equipped with anti-siphon valve in the cooling water line, to prevent water from bypassing the water pump when the engine is not running and entering the muffler system.

All owners should be aware of the operation of their exhaust system.

BEFORE STARTING ENGINE

1. Be sure that 1-1/2" valve on top of Aqualift is open.
2. Be sure that the drain valve is closed.

FOR EXTENSIVE SAILING CRUISES or FOLLOWING SEA CONDITIONS

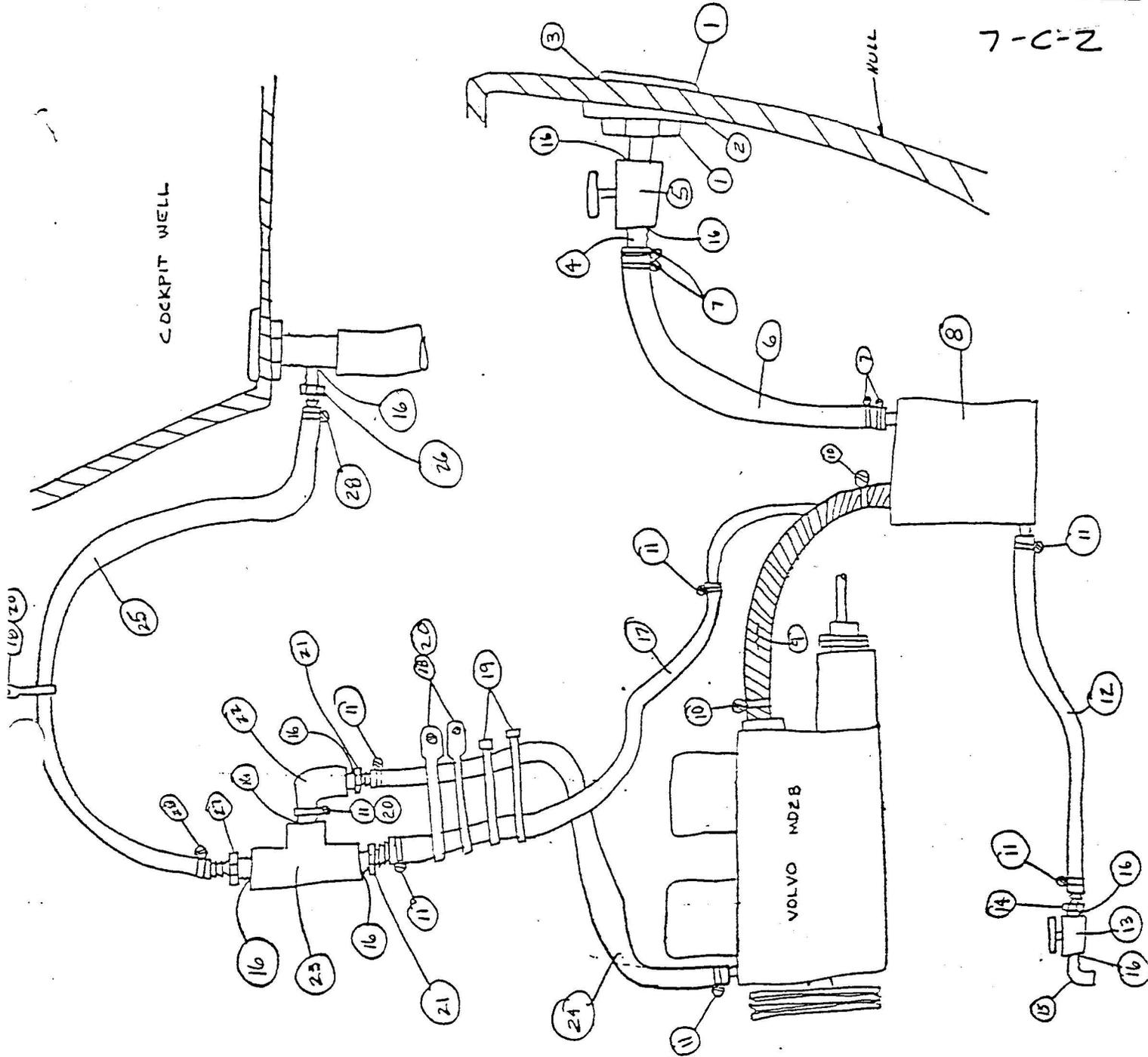
Close 1-1/2" valve on top of Aqualift, to insure that no water will enter engine and open drain valve to drain any water which might enter. Before starting engine, open first 1-1/2" valve on top of Aqualift to prevent excessive water from entering the bilge.

FOR WINTER LAY-UP

1. Disconnect hose for cooling water intake.
2. Put intake hose in can with 1/2 gallon of anti-freeze.
3. Run engine until all anti-freeze is taken up in engine and stop engine.
4. Open drain valve to drain all water out of Aqualift.

ANTI-SIPHON VALVE

Anti-Siphon valves are used in a number of places to prevent the possibility of water siphoning into the head or the engine muffler system. Basically, they consist of a check valve which allows air to go from the inside of the boat through the check valve into a hose run which is susceptible to siphoning water from the ocean into the boat. These valves must be located above water line and are usually located at the tip of a loop in the hose run. Owners should periodically check to make sure that valves are operating. This can be done by removing the valve and checking it for cleanliness and proper operation.



ADDITIONAL DRAWINGS:

- A 19165
- A15514

2. ALL DIMENSIONS ARE IN INCHES.
 1. DO NOT SCALE THIS DRAWING.
 NOTES UNLESS OTHERWISE SPECIFIED

QTY	PART NUMBER	DESCRIPTION	ITE
WESTSAIL 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-3711			
ENGINE, STD		EXHAUST SYSTEM	
A	4625	141-X	
P	5584	129-Z	
APPLICATION		DATE	MANUAL PAGE NUMBER
LTR		ENG. CHANGE NO.	DATE
REVISIONS		DATE	BY
		USED ON	SIZE
			DWG NO.
			NO.
			SCALE
			SHEET 1 OF 3

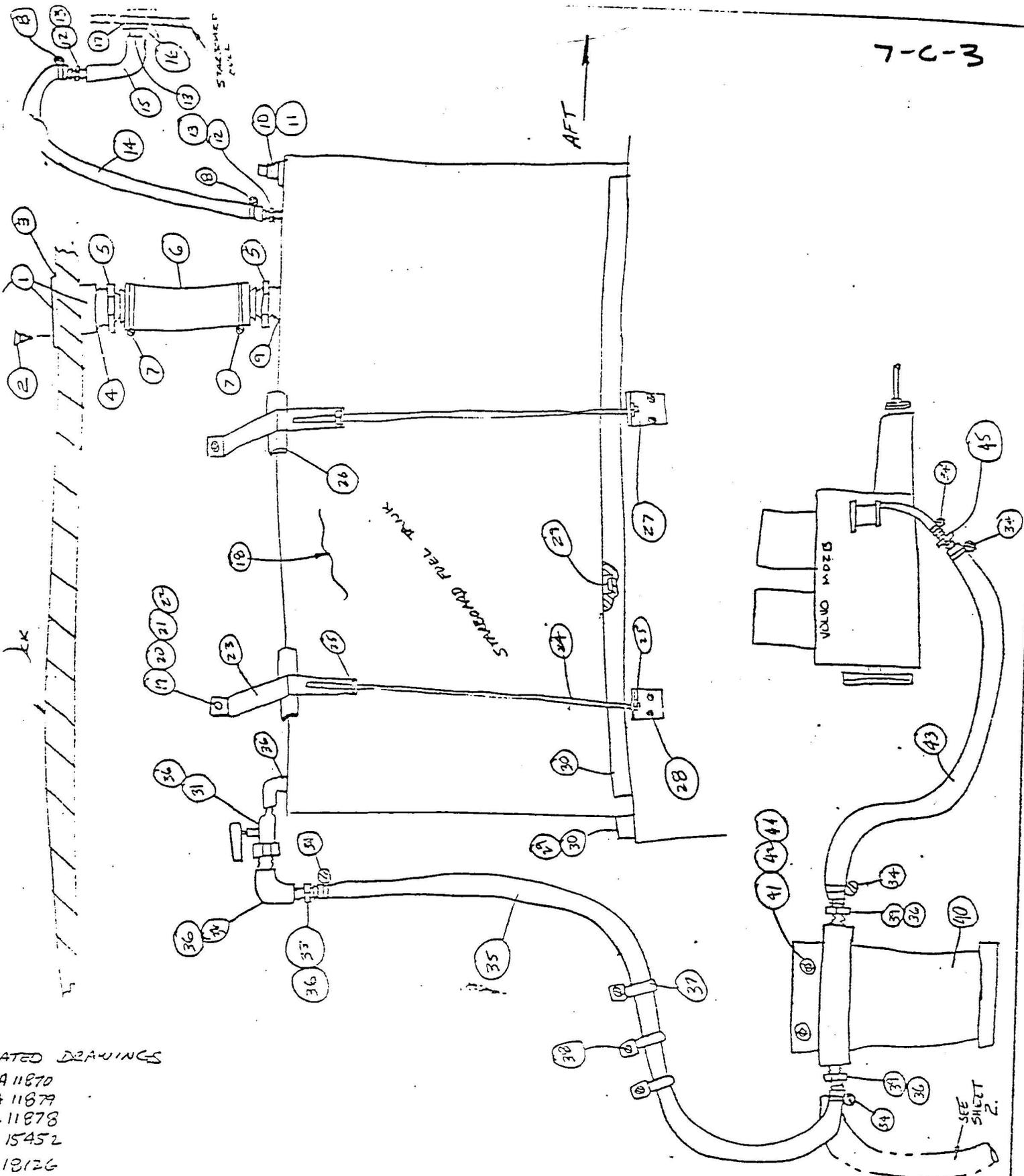
ITEM	DESCRIPTION	QTY	PART NUMBER
1	1 1/2" THRU HULL WITH NUT BZ	1	11179
2	1/2" PLYWOOD WASHER, FIR	1	14125
3	POLY-SULFIDE	3 oz.	14409
4	1 1/2" x 6" LG. NIPPLE BZ	1	11197
5	1 1/2" GATE VALVE BZ	1	11727
6	1 7/8 I.D. HOSE (CARLYLE)	8 FT	11610
7	CLAMP, HOSE (#32) S.S.	4	11152
8	MUFFLER, AQUA LIFT	1	15514
9	TAPE, ASBESTOS 2" WIDE	4 FT	15400
10	CLAMP, HOSE (#10) S.S.	2	11149
11	CLAMP, HOSE (#12) S.S.	7	11147
12	5/8 I.D. HOSE, RED	6 FT	11479
13	1/2" GATE VALVE, BZ	1	11049
14	1/2" MNPT x 5/8 BARB BZ	1	11055
15	1/2" STREET ELBOW, BZ	1	11042
16	TEFLON TAPE	6 FT	14460
17	5/8 I.D. HOSE, RED	6 FT	11479
18	MEDIUM TIE WRAP: .188 WIDE x 14" LG	5	12146
19	SMALL TIE WRAP: .125 WIDE x 5" LG	6	12150
20	#10 x 3/4" LG PH SMS S.S.	6	10291

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL® 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		ENGINE, STD.	
		EXHAUST SYSTEM	
DRAWN		DATE	MANUAL PAGE NUMBER
		9.28.76	
APPLICATION		SIZE	DWG. NO.
		A	19252
LTR	ENG. CHANGE NO.	DATE	NEXT ASSY
			USED ON
REVISIONS			SCALE
			NONE
			SHEET
			2 OF 3

7-C-2 A

ITEM	DESCRIPTION	QTY	PART NUMBER
21	3/8" MNPT X 5/8 BARB BZ	2	11034
22	3/8" STREET ELBOW BZ	1	11014
23	3/8" FEMALE TEE BZ	1	11027
24	5/8" I.D. HOSE (RED)	4'	11479
25	1/4 I.D. HOSE (RED)	6'	11456
26	1/4 MNPT X 1/4 BARB BZ	1	11010
27	3/8 MNPT X 1/4 BARB BZ	1	11015
28	CLAMP, HOSE S.S.	2	11145

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		ENGINE, STD. EXHAUST SYSTEM	
DRAWN		DATE	MANUAL PAGE NUMBER
		9-26-76	
APPLICATION		SIZE	DWG. NO. REV.
		A	19252 A
LTR	ENG. CHANGE NO.	DATE	NEXT ASSY USED ON
			W3Z
REVISIONS		SCALE	SHEET
		NONE	2 OF 2



LATEST DRAWINGS
 A 11870
 A 11879
 A 11878
 A 15452
 A 18126

ALL DIMENSIONS ARE IN INCHES.
 DO NOT SCALE THIS DRAWING.
 TOLERANCES UNLESS OTHERWISE SPECIFIED

QTY	PART NUMBER	DESCRIPTION	ITEM
WESTSAIL®			
275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 548-9711			
ENGINE, STD.			
FUEL SYSTEM			
DRAWN		DATE	MANUAL PAGE NUMBER
A		7-2-72	
LTR		ENG. CHANGE NO.	SIZE DWG. NO.
A			C 19250
DATE		REVISED	PER
7-2-72			
APPLICATION			
W32			
SCALE NONE			
SHEET 1 OF 8			

ITEM	DESCRIPTION	QTY	PART NUMBER
1	DECK FILL (DIESEL) WITH LID BZ	1	11402
2	#10 ¹⁰ / #12 FHWS BZ	3	10219 10234
3	POLY SULFIDE	3oz	14409
4	TEFLON TAPE	12"	14460
5	1/4 MNPT X 1/2 HOSE BARB PVC	2	11139
6	1/2" I.D. HOSE, RED X 7' LG	7"	11599
7	CLAMP, HOSE (#28) S.S.	2	11150
8	CLAMP, HOSE (#8) S.S.	2	11146
9	TEFLON TAPE	12"	14460
10	3/8" MNPT PIPE PLUG BZ	1	11063
11	TEFLON TAPE	4"	14460
12	3/8" MNPT X 1/2 HOSE BARB BZ	2	11023
13	TEFLON TAPE	12"	14460
14	1/2 I.D. RED HOSE	3FT	11466
15	3/8 ELBOW BZ	1	11026
16	FUEL VENT - 3/8" MNPT WITH NUT BZ	1	11188
17	POLY SULFIDE	3oz	14409
18	FUEL TANK, STEEL 38 U.S. GALS	1	11870-01

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL® 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		ENGINE, STD.	
		FUEL SYSTEM	
DRAWN		DATE	MANUAL PAGE NUMBER
		9.25.76	
APPLICATION		SIZE	DWG. NO.
		A	19250
LTR	ENG. CHANGE NO.	DATE	REV.
			A
REVISIONS		SCALE	SHEET
		W32	3 OF 8

ITEM	DESCRIPTION	QTY	PART NUMBER
19	3/8-16 X 1/2 LG Cree. Bolt S.S.	2	10058
20	3/8-16 LOCK NUT	2	10172
21	3/8" FLAT WASHER	2	10131
22	POLY SULFIDE	6oz	14409
23	STRAP, FUEL TANK S.S.	2	11879-01
24	1/4-20 X 18" THD'D SHAFT S.S.	2	10048
25	1/4-20 LOCK NUT S.S.	4	10163
26	1" RED HOSE, SUIT TO LAY FLAT	8	11535
27	BRACKET, TANK, FUEL, LOWER SS	2	11878
28	#10 X 3/4" LG PH SMS SS	4	10291
29	#10 X 1/4" LG PH SMS SS	8	10296
30	1 3/16 SQ CLEAT STOCK (1/4 HARDENED RWL)	6 FT	14172
31	3/8 FNPT X 3/8 MNPT VALVE, FUEL SHUT OFF BZ	1	11019
32	3/8 STREET ELBOW BZ	1	11014
33	3/8 MNPT X 1/4 HOSE BARB BZ	1	11015
34	CLAMP HOSE S.S.	5	11145
35	1/4 I.D. RED HOSE	6 FT	11456
36	TEFLON TAPE	24"	14460

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
		ENGINE, STD.	
275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		FUEL SYSTEM	
DRAWN	DATE	MANUAL PAGE NUMBER	
	9.28.76		
APPLICATION		SIZE	DWG. NO.
REVISIONS		A	19250
LTR	ENG. CHANGE NO.	DATE	REV.
			A
		SCALE	SHEET 4 OF 8
		NONE	

ITEM	DESCRIPTION	QTY	PART NUMBER
37	MEDIUM TIE WRAP: .188 WIDE X 14" LG	3	12146
38	#10 X 3/4" LG PH SMS SS	3	10291
39	5/16 SAE FLARE X 1/4 HOSE BARB BZ	2	11005
40	CAN. FUEL FILTER & WATER SEPARATOR	1	15441
41	1/4-20 X 1 3/4 H.H. BOLT SS	2	10032
42	1/4-20 LOCK NUT SS	2	10163
43	1/4 I.D. RED HOSE	6 FT	11456
44	1/4" FLAT WASHER	2	10125
45	1/4" HOSE BARB X 1/4" HOSE BARB	1	11011

QTY		PART NUMBER		DESCRIPTION		ITEM
PARTS OR MATERIAL LIST						
WESTSAIL® 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711				ENGINE, STD.		
				FUEL SYSTEM		
DRAWN		DATE		MANUAL PAGE NUMBER		
		9-23-76				
APPLICATION				SIZE	DWG. NO.	REV.
				A	19250	A
LTR	ENG. CHANGE NO.	DATE	NEXT ASSY	USED ON		SCALE
				W32		NONE.
REVISIONS					SHEET 5 OF 8	

ITEM	DESCRIPTION STD.	QTY	PART NUMBER
46	DECK FILL (DIESEL) WITH LID ... BZ	1	11402
47	#8 x 1/2 FHWS BZ	3	10219
48	POLY SULFIDE	3oz	14409
49	TEFLON TAPE	12"	14460
50	1/4 MNPT X 1/2 HOSE BARB P.V.C.	2	11139
51	1 1/2" I.D. HOSE, RED X 7' LG	7"	11599
52	CLAMP, HOSE (#28) S.S.	2	11150
53	CLAMP, HOSE (#8) S.S.	2	11146
54	TEFLON TAPE	12"	14460
55	3/8" MNPT PIPE PLUG BZ	1	11063
56	TEFLON TAPE	4"	14460
57	3/8" MNPT X 1/2 HOSE BARB BZ	2	11023
58	TEFLON TAPE	12"	14460
59	1/2" I.D. RED HOSE 3' BAND	3'	11466
60	3/8" ELBOW BZ	1	11026
61	FUEL VENT - 3/8" MNPT WITH NUT BZ	1	11188
62	POLY SULFIDE	3oz	14409
63	FUEL TANK, STEEL 38 U.S. GALS.	1	11870-02

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL® 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		ENGINE, STD.	
		FUEL SYSTEM	
DRAWN		DATE	MANUAL PAGE NUMBER
APPLICATION		SIZE	DWG. NO.
LTR	ENG. CHANGE NO.	DATE	NEXT ASSY
REVISIONS		USED ON	REV.
		SCALE NONE	SHEET 6 OF 8

ITEM	DESCRIPTION	QTY	PART NUMBER
64	3/8-16 X 1/2 LG CARB. BOLT S.S.	2	10058
65	3/8-16 LOCK NUT	2	10172
66	3/8" FLAT WASHER	2	10131
67	POLY SULFIDE	6oz	14409
68	STRAP FUEL TANK S.S.	2	11879-01
69	1/4-20 X 18" THD'D SHAFT S.S.	2	10048
70	1/4-20 LOCK NUT S.S.	4	10163
71	1" RED HOSE, SUIT TO LAY FLAT	8	11535
72	BRACKET, TANK, FUEL, LOWER SS	2	11878
73	#10 X 3/4" LG PH SMS SS	4	10291
74	#10 X 1/4" LG PH SMS SS	8	10296
75	13/16 SQ CLEAT STOCK (1/4 INCH 'RWL)	6"	14172
76	3/8 FNPT X 3/8 MNPT VALVE, FUEL SHUT OFF BZ	1	11019
77	3/8 STREET ELBOW BZ	1	11014
78	3/8 MNPT X 1/4 HOSE BARB BZ	1	11015
79	CLAMP HOSE (1/2") S.S.	5	11145
80	1/4 I.D. RED HOSE	4"	11456
81	TEFLON TAPE	24"	14460

QTY	PART NUMBER	DESCRIPTION	ITE
PARTS OR MATERIAL LIST			
 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549 9711		ENGINE, STD. FUEL SYSTEM.	
DRAWN		DATE	MANUAL PAGE NUMBER
		7-26-76	
APPLICATION		SIZE	DWG. NO.
		A	19250
LTR	ENG CHANGE I.D.	DATE	NEXT ASSY
REVISIONS		USED ON	SCALE
		W32	NONE
		SHEET	7 OF 8

2-C-3
 11
 24012
 14

WSP - FUEL SHUT-OFF VALVE

THE SHUT-OFF VALVE ON THE FUEL TANK MUST BE ABLE TO BE FULLY CLOSED WHEN THE DROP ABOVE IT IS IN PLACE.

TO DO THIS:

- 1) Turn the valve so the handle is coming out the bottom of the valve.

"OR"

- 2) Shorten the handle so it does not hit the drop above it.

QTY	PART NUMBER	DESCRIPTION	ITE				
PARTS OR MATERIAL LIST							
WESTSAIL® 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		WSP - Fuel Shut-Off Valve W-28					
		DRAWN <i>ML</i>	DATE <i>7-8-68</i>	MANUAL PAGE NUMBER			
<i>J</i> <i>ECO # 537</i> <i>ML</i> <i>dict</i>		APPLICATION	SIZE A	DWG. NO. 24012	RE A		
LTR	ENG. CHANGE NO.	DATE	NEXT ASSY	USED ON			
REVISIONS			<i>W-28</i>	SCALE <i>NONE</i>	SHEET <i>1</i> OF <i>1</i>		

CAV

FILTRAP SYSTEM

The Filtrap System comprises the following equipment:—

- 'Filtrap 120' Preliminary Sedimenter Unit
- 'Filtrap 100' Filter—Agglomerator Unit

These units are designed to operate either, individually or together as a complete system. It should be noted that the Sedimenter must only be fitted as an additional unit in any system. Unlike the Agglomerator, it cannot replace the existing filter.

The CAV Filtrap System has been introduced to provide operators with the greatest possible protection against the impurities and water droplets present in normal fuel systems. It is designed for general applications on engines up to 12 litres capacity and is suitable for both distributor and inline fuel pumps.

Instructions for fitting the ' Filtrap 120 ' Sedimenter

(When supplied without a 'Filtrap 100')

MOUNTINGS

The unit is mounted by a vertical flange on the head casting which has two elongated bolt holes at 51.8 mm centres, see Fig. 1.

INSTALLATION

- 1 The Sedimenter must be used as the first stage of filtering and must be followed by a filter.
- 2 The Sedimenter must be placed on the suction side of the feed pump.
- 3 Ensure that the pipe between the fuel tank and the feed pump is unobstructed. Gauze, paper or felt filters should be removed from this section of pipe as these will tend to choke in use.
- 4 The Sedimenter should be vertically mounted as close to the fuel tanks as possible. $\frac{3}{4}$ in dia bolts can be used to fasten the unit through the two elongated holes in the head flange.

Suitable mounting holes already exist on many vehicles, but if not available, they may readily be drilled, or mounting brackets made from such material as angle iron. The Sedimenter should be mounted on a robust part of the vehicle's structure such as one of the chassis members. Sedimenters having a glass bowl should not be mounted in a position where stones etc. thrown up from the road could cause damage. If the only convenient mounting place is near the ground a Sedimenter having an aluminium bowl should be fitted. Sufficient clearance must be given beneath the Sedimenter to allow for dismantling, see Fig. 1.

- 5 The existing fuel line from the fuel tank must be cut and connected to the Sedimenter at entry and exit using connecting studs and olives which are available for $\frac{1}{2}$ in and $\frac{3}{4}$ in dia pipes. The connecting studs are screwed into the $\frac{1}{2}$ in x 20 UNF bosses which are part of the Sedimenter head.

If preferred, the pipe connections can be made through banjo fittings which are available for $\frac{1}{2}$ in and $\frac{3}{4}$ in pipes. Where $\frac{3}{4}$ in pipes are used on some of the heavier vehicles, a special conversion piece is supplied.

Note: Copper washers should be used, in place of aluminium, on units mounted underneath the vehicle where they will be subjected to water thrown up from the road.

- 6 Pipe runs from the fuel tank to the Sedimenter should be as short as possible, and free from sharp

bends or 'U' bends to avoid forming potential water and wax traps. It may be convenient to use flexible nylon pipes with standard nuts, olives and connectors in installations where the pipe from the fuel tank requires to be lengthened to reach the Sedimenter. These parts are readily obtainable from general engineering suppliers.

- 7 The unit is designed to operate with a fuel flow up to 10 gal/h. This flow will not be exceeded on the pressure side on engines up to 12 litres capacity, but in systems where a pressure relief valve returns fuel from the pressure side to a fuel storage tank, a flow of 10 gal/h may be exceeded. Large fuel flows may be catered for by connecting two or more Sedimenters in parallel.

OPERATION

The Sedimenter is designed to trap the larger solid particles and water droplets. The accumulated water and sediment can be seen through the transparent bowl and may be drained off periodically through the drain plug in the base. It offers negligible resistance to flow and is not subject to choking.

A bypass air bleed is drilled into the outlet connection at the top of the Sedimenter to release air which may have been carried into the Sedimenter with the fuel. Any very small air bubbles which are carried round with the fuel into the lower chamber will rise to the under surface of the cone and pass out with the fuel. Thus by means of a bypass air bleed and a conical element with a central outlet, air or vapour accumulations are prevented. This ensures that the unit is completely filled with fuel and prevents the mixing of the separated water and sedimented deposit as a result of plant vibration or vehicle movement.

Sedimenters having an aluminium bowl are impossible to check visually for water and sediment content. Drainage of the unit must therefore be carried out at regular intervals to avoid excessive build-up. It is suggested that intervals of a month be taken until experience of sediment accumulation has been gained, when the periods can be varied to suit.

Instructions for fitting the ' Filtrap 100 ' Filter-Agglomerator

(When supplied without a 'Filtrap 120')

MOUNTINGS

The unit is mounted by a vertical flange on the head casting which has two elongated bolt holes at 51.8 mm centres, see Fig. 2.

INSTALLATION

- 1 Where possible the Filter-Agglomerator must be fitted on the pressure side of the feed pump. $\frac{3}{4}$ in dia bolts can be used through the two elongated holes in the head flange, to fasten the unit. Suitable mounting holes already exist on many vehicles, but if not available, they may readily be drilled, or mounting brackets made from such material as angle iron. The unit should be mounted on a robust part of the vehicle's structure such as one of the chassis members.
- 2 In systems incorporating two filters in series on the pressure side of the feed pump, the Filter-Agglomerator may replace either filter.
- 2 Where the output of the feed pump is supplied to the fuel pump gallery by an internal channel (such

as on some 'N' type pumps) and there is therefore no external piping on the pressure side of the feed pump, the Filter-Agglomerator must be placed before the feed pump.

4 When fitted to existing installations the Filter-Agglomerator replaces the final filter. If this is an FS (bowl-less) type the original pipes will fit the Filter-Agglomerator.

5 To replace an 'F2' type filter with a Filter-Agglomerator a change must be made from horizontal to vertical flange mounting. Pipe connections and possibly fuel pipes will require changing to unified standards on both 'F2' and 'F4' filters.

Note: Copper washers should be used, in place of aluminium, on units mounted underneath the vehicle where they will be subjected to water thrown up from the road.

6 It may be convenient to use flexible nylon pipes with standard nuts, olives and connectors in installations where the pipe from the fuel tank requires to be lengthened to reach the Sedimentor. These parts are already obtainable from general engineering suppliers.

PRIMING AND VENTING THE SYSTEM

As with the 'FS' type filter the Filter-Agglomerator can be fitted with a ball valve, pressure relief valve or permanent bleed.

When venting, air must be bled from the top vent and from connection 2 or 3.

OPERATION

In the Filter-Agglomerator the fuel flows downwards through the filter element. At this stage the paper filter element removes the fine solids and abrasive particles.

The agglomeration of water comprises the second stage, suspended droplets of water, on being forced through the pores of the filter medium, agglomerate or form into large drops which can then separate by sedimentation. The accumulation of water can be seen in the transparent collection chamber and is drained off by means of the drain plug in the base.

Units having an aluminium bowl cannot visually be checked for water content. Drainage must therefore be carried out at frequent intervals until experience of accumulation rate has been gained, when the periods can be varied to suit.

Instructions for fitting the Filtrap System

MOUNTINGS

Each unit is mounted by a vertical flange on the head casting which has two elongated bolt holes at 51.8 mm centres, see Figs. 1 and 2.

INSTALLATION

1 In every case the fuel must pass first through the Sedimentor, if fitted, and then through the Filter-Agglomerator.

2 Where possible the Sedimentor should be fitted according to the procedure on page 4. The Filter-Agglomerator should be fitted on the pressure side of the feed pump. 2 in dia bolts can be used to secure the units through the elongated holes in the head flanges. Suitable mounting holes already exist on many vehicles, but if not available, they may readily be drilled, or mounting brackets made from such material as angle iron. The unit should be mounted on a robust part of the vehicle's structure such as one of the chassis members.

3 In systems incorporating two filters in series on the pressure side of the feed pump, the Filter-Agglomerator may replace either filter.

4 In gravity feed systems the Filter-Agglomerator must be placed between the Sedimentor and the injection pump.

5 Where the output of the feed pump is supplied to the fuel pump gallery by an internal channel (such as on some 'N' type pumps) and there is therefore no external piping on the pressure side of the feed pump, the Filter-Agglomerator must be placed between the Sedimentor and the feed pump.

6 Both units are designed to operate with a fuel flow up to 10 gal/h. This flow will not be exceeded on the pressure side on engines up to 12 litres capacity, but in systems where a pressure relief valve returns fuel from the pressure side to a fuel storage tank, a flow of 10 gal/h may be exceeded. In such cases, two Sedimentors should be fitted in parallel, or overflow fuel from the relief valve returned to the inlet side of the feed pump or clean side of the Sedimentor. A relief valve can be connected to the alternative inlet connection in the top of the Sedimentor head casting.

7 To replace 'F2' type filters with the Filtrap system a change must be made from horizontal to vertical flange mounting. Pipe connections and possibly fuel pipes will require changing to unified standards on both 'F2' and 'F4' filters.

Note: Copper washers should be used, in place of aluminium, on units mounted underneath the vehicle where they will be subjected to water thrown up from the road.

8 It may be convenient to use flexible nylon pipes with standard nuts, olives and connectors in in-

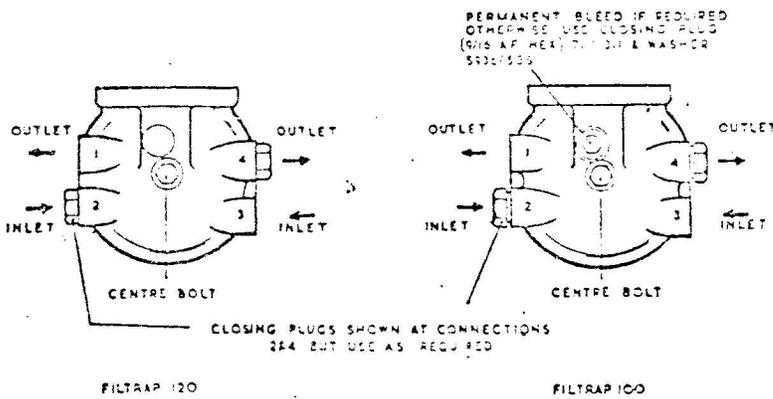
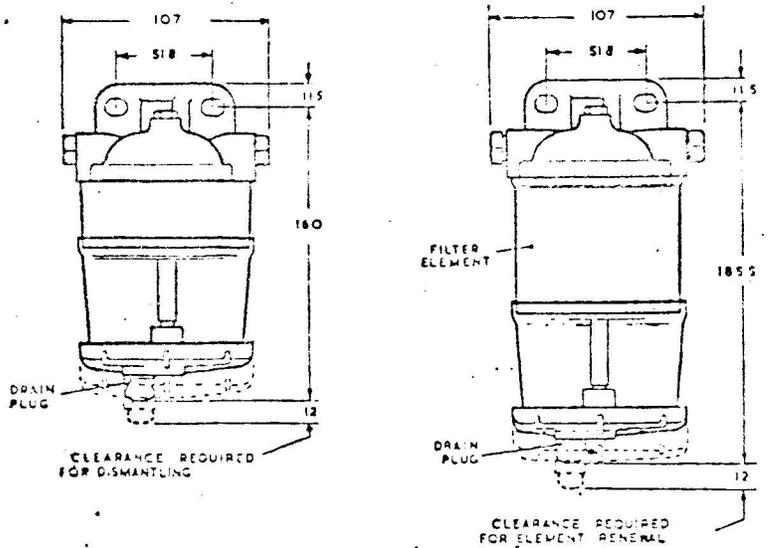


FIG. 1

FIG. 2

• ALL DIMENSIONS IN MM -

scallations where the pipe from the fuel tank requires to be lengthened to reach the Sedimenter. These parts are readily obtainable from general engineering suppliers.

PRIMING AND VENTING THE SYSTEM

As with the 'FS' type filter the Sedimenter and Filter-Agglomerator can be fitted with a ball valve, pressure relief valve or permanent bleed.

When venting, air must be bled from the top vent and from connection 2 or 3, see illustration.

OPERATION

The Sedimenter is designed to trap the larger solid particles and water droplets, performing the first step in a 3-stage filter process, and at the same time greatly increasing the life of the secondary filter element. The accumulated water and sediment can be seen through the transparent bowl and may be drained off periodically through the drain plug in the base. The Sedimenter offers negligible resistance to flow and is not subject to choking.

In the Filter-Agglomerator the fuel flows downwards through the filter element. At this second stage the paper filter element removes the fine solids and abrasive particles.

The agglomeration of the remaining water comprises the third stage, suspended droplets of water, on being forced through the pores of the filter medium, agglomerate and form into large drops which can then separate by sedimentation. The accumulation of water can be seen in the transparent collection chamber and is drained off by means of the drain plug in the base.

Units having aluminium bowls cannot visually be checked for water or sediment content. Drainage must therefore be carried out at frequent intervals until experience of accumulation rate has been gained, when the periods can be varied to suit.

CONNECTIONS

As with the 'FS' bowl-less type filter, connections have been standardised on the unified thread system and are designed for $\frac{1}{2}$ in. x 20 UNF olive or banjo unions. An M 10 x 1.5 connection is provided in the top of the casting for air venting devices.

The head casting has an inlet and an outlet connection on each side and may be fitted in either left or right hand piping systems with equal facility.

The connections are numbered as shown in the illustration. Closing plugs are provided with each unit for the unused connections. These plugs may be replaced by return fuel pipes to the clean or dirty side as required.

SERVICING

The minimum space required for removing the filter element and bowl from both units is shown in Figs. 1 and 2. If the space available is restricted to the minimum, it is only necessary to lower the removable parts to clear the 'O' ring in the head by the amount shown, and the bowl assembly can then be removed horizontally from under the head casting.

The level of water in the Sedimenter and Filter-Agglomerator should not be allowed to rise higher than $\frac{1}{2}$ in. from the top of the transparent collection chamber.

Do not overtighten the centre bolt or pipe unions in an attempt to cure external leaks. The correct course is to examine the joint material and renew it if necessary.

The Sedimenter should be dismantled occasionally and the element and bowl rinsed in clean fuel or test oil. Servicing of the Filter-Agglomerator is otherwise as for the 'FS' Filter which is covered in detail in a CAV Booklet (publication 2052) on the 'F' and 'FS' type filter.

CAV LTD. LONDON W3

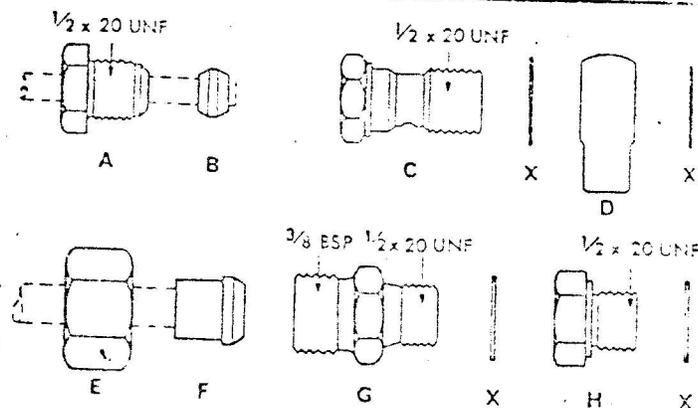
Telephone: 01-743-3111

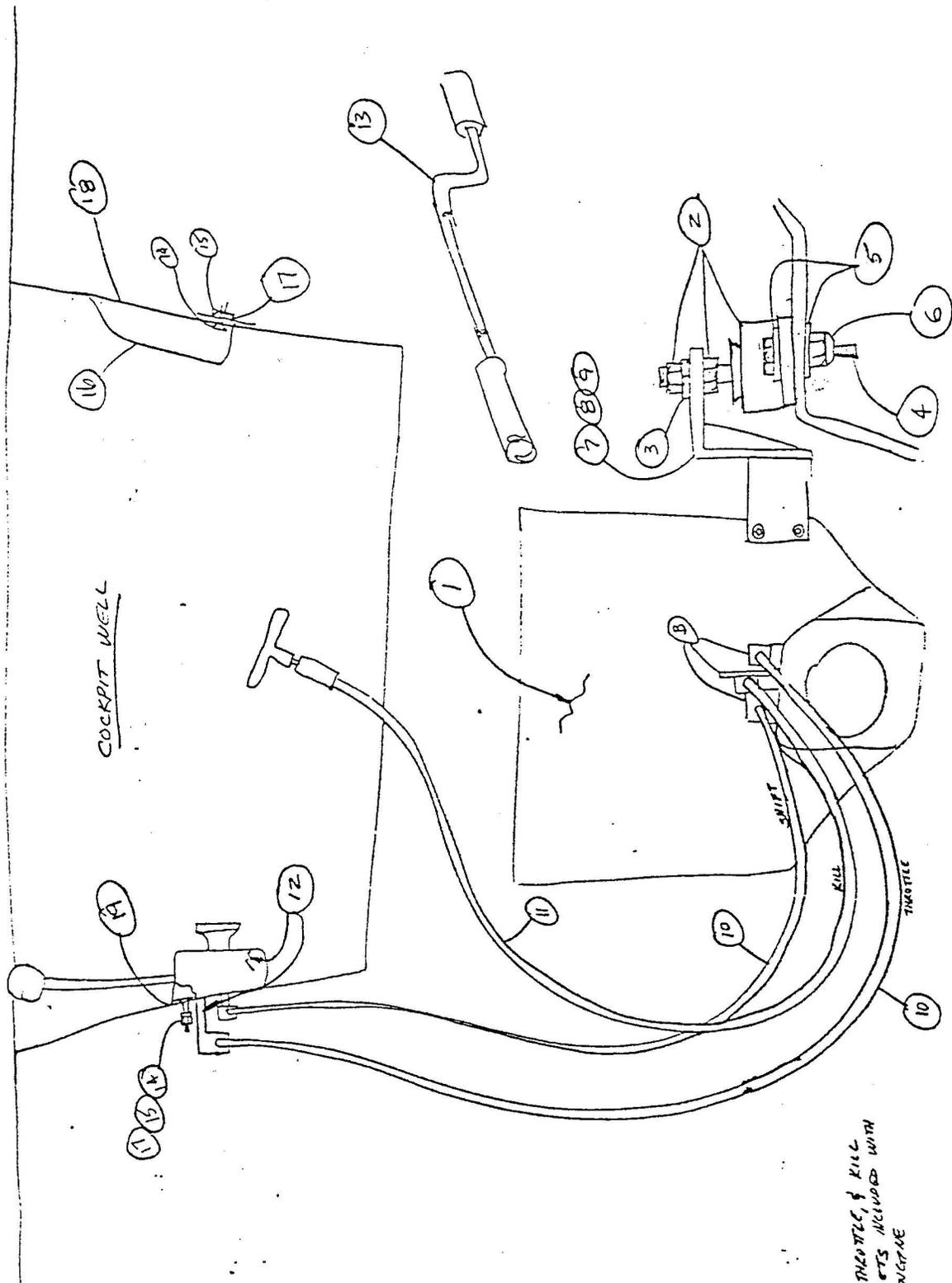
Telegrams: Vanteria, Telex
London

CONVERSION FITTINGS

The following parts are supplied separately and must be ordered as required —

Illustration	Item	Part No.	Description	Location
A	1	7133/33	Pipe Connection Stud ($\frac{1}{2}$ in Pipe)	Inlet & Delivery Bosses
B	2	7133/30	Olive ($\frac{1}{2}$ in Pipe)	Inlet & Delivery Bosses
A	3	7133/34	Pipe Connection Stud ($\frac{1}{4}$ in Pipe)	Inlet & Delivery Bosses
B	4	7133/30A	Olive ($\frac{1}{4}$ in Pipe)	Inlet & Delivery Bosses
D	5	7111/307	Banjo ($\frac{1}{2}$ in Pipe)	Inlet & Delivery Bosses
D	6	7111/307A	Banjo ($\frac{1}{4}$ in Pipe)	Inlet & Delivery Bosses
C	7	7111/308	Banjo Bolt	Inlet & Delivery Bosses
X	8	NW5/34	Washer (for item 7)	Inlet & Delivery Bosses
	9	7111/331	Pressure Relief Valve (8 1/2 lb./in ²)	Inlet & Delivery Bosses
	10	7111/333	Non-Return Valve	Inlet & Delivery Bosses
H	11	7111/312	Closing Plug	Inlet & Delivery Bosses
X	12	5936/58T	Washer (for items 9, 10 & 11)	Inlet & Delivery Bosses
	13	NA1/3	Banjo ($\frac{1}{8}$ in Pipe)	Vent Boss
	14	7111/135	Banjo Bolt	Vent Boss
	15	NW5/21	Washer (for item 14)	Vent Boss
	16	7111/177	Ball Check Valve	Vent Boss
	17	5936/58S	Washer (for items 16 & 18)	Vent Boss
	18	7111/311	Closing Plug	Vent Boss
G	19	7111/426	Conversion Connector $\frac{1}{2}$ in x 20 UNF to BSP	Inlet & Delivery Bosses
F	20	7097/70	Nipple	Inlet & Delivery Bosses
E	21	7097/71	Nut	Inlet & Delivery Bosses





RELATED DRAWINGS
 A 18173 KIT
 A 19195
 A 18123 KIT
 5445
 15494
 A 15490

2. ALL DIMENSIONS ARE IN INCHES.
 1. DO NOT SCALE THIS DRAWING.
 NOTES: UNLESS OTHERWISE SPECIFIED

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL®		ENGINE, STD	
275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		MECHANICAL ASS'Y	
DRAWN	DATE	MANUAL PAGE NUMBER	
A	11-14-71	928-2	
LTR	ENGL. CHANGE NO.	DATE	REV.
	D	7.7.72	A
APPLICATION		SIZE	DWG. NO.
		C	19254
REVISIONS		SCALE	SHEET 1 OF 2
		1:32	NONE

7-0-2 A

ITEM	DESCRIPTION	QTY	PART NUMBER
1	VOLVO - MD2B ENGINE	1	15433
2	SHOCK MOUNTS WITH (2 NUTS)	4	15462
3	5/8" LOCK WASHER S.S.	4	10138
4	3/8-16 X 3" LG HH BOLT S.S.	8	10320
5	3/8" FLAT WASHER S.S.	16	10131
6	3/8" LOCK NUT HEX S.S.	8	10172
7	FWD ENGINE MNT	2	15490-01
8	AFT-PORT " "	1	15490-02
9	AFT-STARBOARD " "	1	15490-03
10	MARMAC CONTROL CABLE #3300 X 7' LG PK	2	15450
11	KILL CONTROL CABLE w/HANDLE	1	15485
12	TELEFLEX SHIPT CONTROL TM-10A1	1	15451
13	CRANK, EXTENDED FOR MD2B	1	15474
14	#10-32 X 1" LG FHMS S.S.	6	10012
15	#10-32 LOCK NUT S.S.	6	10155
16	VENT SHELL (ATTWOOD #1364)	1	13765
17	#10 PLAIN WASHER S.S.	6	10122
18	POLYSULFIDE	2 TUBE	14409
19	POLYSULFIDE	2 TUBE	14409

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL® 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		ENGINE, STD.	
		MECHANICAL ASS'Y	
DRAWN		DATE	MANUAL PAGE NUMBER
		9.22.76	
APPLICATION		SIZE	DWG. NO.
		A	19254
LTR	ENG. CHANGE NO.	DATE	REV.
			A
REVISIONS		SCALE	SHEET
		NONE	2 OF 2

BATTERY & ALTERNATOR FUSE & DIODE PROTECTION

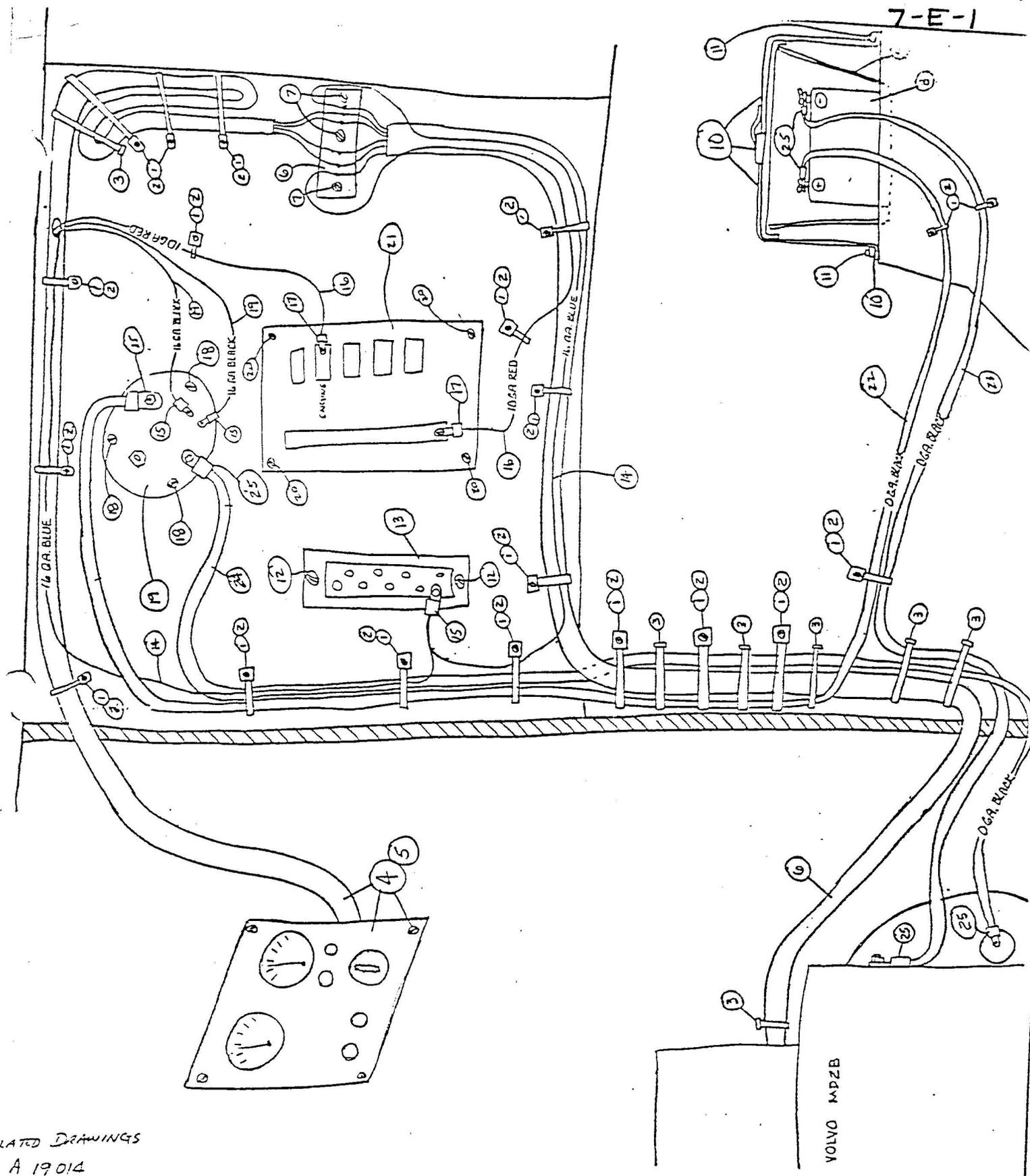
This is to clarify the function of the diode and fuse which are installed between the common and #1 pole of the master battery switch.

The fuse protects the wiring against the accidental shorting out of the B+ terminal on the alternator by tools or loose gear.

The diode protects the alternator from an accidental open circuit caused by switching the battery selector switch to off. This protection is accomplished by providing a charging path through the diode to battery #1. To provide this protection, battery #1 must be connected and in normal functioning condition either charged or discharged.

If battery #1 is not connected, or not functioning, do not switch battery switch while engine is running.

We recommend you use #1 battery for starting and accessories and #2 battery is held as a backup. If either battery fails to hold a charge or has a weak cell, that battery should be disconnected. If the voltage is low in battery #1 and the switch is in the #2 position it is possible for #2 battery to discharge into #1 battery.



LATED DRAWINGS

- A 19014
- A 19168
- A 19013
- 3152

L DIMENSIONS ARE IN INCHES.
 1/32" SCALE THIS DRAWING.
 IS UNLESS OTHERWISE SPECIFIED

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL			
275 McCormick, P.O. Box 1823 Costa Mesa, California 92626 Telephone: (714) 549 3711			
DRAWN		DATE	MANUAL PAGE NUMBER
P		7-27-72	
APPLICATION			
ENGINE, STD.			
WIRING ASS'Y			
LTR	ENGL. CHANGE NO.	DATE	REV
	625	7-27-72	A
REVISIONS			
SCALE		SHEET	
1/32		1 OF 3	

ITEM	DESCRIPTION	QTY	PART NUMBER
1	MEDIUM TIE WRAP 3/8" WIDE X 14" LG	20	12146
2	#10 X 3/4 LG PHSMS S.S.	20	10291
3	TIE WRAP WITHOUT SCREW HOLE	7	12150
4	INSTRUMENT PANEL WITH SCREWS & HARNESS	1	INCLUDED WITH COMPLETE ENGINE
5	POLY SULFIDE	2 oz.	14409
6	WIRE HARNESS AND TERMINAL BLOCK	1	INCLUDED WITH COMPLETE ENGINE
7	#8 X 3/4 LG PHSMS S.S.	3	10285
8	12 VOLT BATTERY WITH (2) WING NUTS	1	12224
9	BATTERY BOX WITH LID	1	12228
10	BATTERY STRAP WITH BUCKLE & PADS	1	12221
11	#10 X 3/4 LG OHSMS	4	10291
12	#10 X 3/4 LG OHSMS S.S.	2	10291
13	BUSS BAR BZ	1	12022
14	BLUE (16 GA) WIRE FROM HARNESS	1	INCLUDED WITH COMPLETE ENGINE
15	WIRE LUG (.215 ID) FOR 16 GA	3	12024
16	RED (10 GA) WIRE FROM HARNESS	1	INCLUDED WITH COMPLETE ENGINE
17	WIRE LUG (10 GA) .215 ID	2	12066
18	#10 X 1/2 OHSMS S.S.	3	10289
19	GUEST MASTER POWER SWITCH	1	12204

QTY	PART NUMBER	DESCRIPTION	ITEM
PARTS OR MATERIAL LIST			
WESTSAIL® 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		ENGINE, STD.	
		WIRING ASSY	
DRAWN		DATE	MANUAL PAGE NUMBER
APPLICATION		SIZE	DWG. NO.
LTR	ENG. CHANGE NO.	DATE	REV.
REVISIONS		NEXT ASSY	USED ON
		W32	
SCALE		NONE	SHEET 2 OF 3

SOUND ALERT PLUMBING AND OIL PRESSURE
SENDER INSTALLATION PROCEDURE

WHEN INSTALLING OIL PRESSURE SENDER AND SOUND ALERT
PLUMBING INTO THE ENGINE BLOCK USE STEEL PIPE AND
FITTINGS ONLY-NOT BRONZE.

QTY	PART NUMBER	DESCRIPTION	ITE
PARTS OR MATERIAL LIST			
WESTSAIL 275 McCormick, P.O. Box 1828 Costa Mesa, California 92626 Telephone: (714) 549-9711		WSP-SOUND ALERT PLUMBING AND OIL PRESSURE SENDER INSTALLATION PROCEDURE	
		DRAWN <i>Body</i>	DATE 7-7-78
A	ECO#531 RD	8-9-76	APPLICATION
LTR	ENG. CHANGE NO.	DATE	NEXT ASSY
			USED ON
			11128 32 42 43
			DATE
			SIZE
			24009
			RE
			A