ENGINE - DIESEL

After 20 hours service I had a mechanic torque the head and adjust the valves. The reason was to keep the engine under warranty. The boat is a 1976 with a 6-B diesel. The Volvo manual provides that every diesel engine should have the head torqued after 20 hours. - Sam Amoss

I spoke with the Volvo representative at the New York Boat Show last year (1977). His advice was: Keep the oil changed and change the filter at regular intervals. Put in a new fuel filter as needed. Never clean it; always replace it. Keep the fuel tank reasonably full to decrease condensation. But don't fool with it. Don't keep taking out the injectors.
- Phil Rogers

I operate on the assumption that if it ain't broke, don't fix it! I religiously change the oil and oil filter each year, but otherwise I have not done any routine maintenance on the engine since I got the boat in 1972. - Art Levin

Had to replace the electric fuel pump (fall 1978). A replacement pump was secured from Cos Cob at a cost of $125. Subsequent pumps will cost $175. An American pump can be obtained for less, but the present pipe fittings are metric. In an emergency, the electric fuel pump can be by-passed and the engine fuel pump will do the job. - John Romary

There was general agreement that black smoke and soot is a common occurence; that it is most likely to occur with the engine at full throttle.

If you have to hand crank the engine, get a little oil or grease on your fingers. If you have to use any force to get the handle in, don't use it, because it has to come off easily. - Sam Amoss

The engine acted like it was trying to run away with itself so bad that I had to shut it down and take a tow into Cat Cay. I found a bad connection on the electric fuel pump and also had to re-adjust the entire shifting positioning. Apparently the wild engine gyrations had moved the sleeve somehow so that I had no pitch in max throttle position. I was able to get about 3/4 power by changing the position of the throttle cam and the control lever.

Without going into great detail the problem was bad injectors leaking fuel, a fuel injection pump leaking fuel, a bad electric fuel pump, and also a burned out generating side

of the dynastart. The two internal fuel leaks were pumping diesel into the lube oil which in turn caused the engine to get more fuel to burn than normal. I have heard of big diesels running on the lube oil when they became super hot, but never heard of anything like my problem. The only way I know of catching it is to keep a sharp eye on the oil level and if it starts to increase you have problems. The leak in the fuel injection pump was due to the seal between the engine casing and the pump going out. The shaft bearings had worn producing shaft wobble which in turn started the seal turning in place.

A new pump was mucho bucks ($1000) and you had to have at least a new casing since the bearings are an intergal part of the casing. That would have come to about $350. The final solution for $60 was to epoxy the new seal in place. The outfit that did this is one of the best in the country and although they would prefer at least a new casing, they said that their luck had been good with the epoxy. I've eliminated the electric fuel pump and the lift pump seems to do the job just fine. In the process of working out all the problems I found out that if the electric fuel pump is in line before the lift pump and if the lift pump mechanism goes out you can pump diesel into the engine oil and have the same probelm I did.

- Nat Natto

I had an oil leak of considerable proportions to the extent that if not cleaned very frequently the engine drip pan would run over when heeling and did ruin the rug twice. Several mechanics looked at it and decided several things, all wrong. The most time was spent trying to prove it was coming from a loose bolt under the engine. The problem finally turned out to be a defective oil sensor unit and when replaced, no more leak. The replacement was obtained from VOLVO near here (their factory) for about $14.00 and put on for $5.00 labor. Previous costs were $125.00 for trying to find the trouble!! - Herb Edwards

Parts for the Volvo Penta MD6A and MD6B marine diesel engines, and engine workshop manuals, may be obtained from the Washington Marina, 1300 Maine Avenue S.W., Washington D.C. 20024, (202) 554-0222. The manuals are $8.05 each. THE ORDERING PART NUMBER FOR THE MD6B MANUAL IS 773-02-30-5.

Thermostat (MD6A) - The pointer on the temperature gauge rose slowly to normal (for my engine) operating temp of between 65 and 70 degrees C (depending on Bay water temp and boat speed), where it stayed for awhile, then suddenly jumped up to 80-85, backed down to normal again for awhile, jumped up to 80-85 again, and continued fluctuating for the remainder of the engine operation. A check of the water pump impeller showed it to be okay. However, the thermostat was all cruded up with scale and I replaced it (part from Washington D.C. Marina Co., $14.93). I could have wire-brushed clean the old (8 years) thermostat and reused it, but instead I am keeping it for an emergency spare.

Replacing the thermostat is a breeze. It is located in the manifold water jacket on the top, front, starboard side of the engine, with the cover held in place by two front bolts. Two small hoses are connected top and bottom to the cover, so their clamps have to be loosened to remove the cover. The old thermostat has a rubber "O" ring around its circumference that has to be carefully removed and put around the new thermostat, which can fit into place only one way. No sealing compound is necessary when reassembling, but don't forget to tighten the two hose clamps.

Overheating of the engine may be due to the thermostat being stuck in the closed position or malfunctioning, but more usually extreme engine temperature problems are caused by a malfunctioning water pump.

- Art Levin

The large freeze plug (2-1/4" diameter circular depressed area in the front center of the MD6A engine block) finally rusted through after 8 years. For about the last 2 years I had been controlling pinhole leaks with epoxy putty, but this time a dime-sized spot broke through. Getting the old plug out is a chore. I finally accomplished it by placing the blade of a heavy screwdriver just under the top rim of the plug and really pounding with a hammer. This drove the top into the block, and the bottom out, unseating and loosening it. Since the plug is circular, it had to be deformed by screwdriver leverage against the block before it could be removed. Getting the new plug in is even more of a chore. I used gasket sealer, the non-hardening kind (Perma-Tex is good too) as a lubricant around the rim hole. The new plug (Washington Marina, $5.70 plus tax) has to be seated just right by hand, even all around. Place a heavy wood block, larger then the plug circumference, against the plug and pound with a hammer. If the plug is not properly seated to start with, or the wood block is hit off-center, the plug will pop out and has to be reseated again. I got it in at about the 100th try. The secret to both removing and installing the freeze plug is not to be afraid to really pound it. Don't hit the plug itself when installing, either on the rim or the center,

lest it become deformed and not seal properly.

What appears to be a water pump leak may be due to dripping from the water cooling jacket around the exhaust pipe. The rubber hose around the exhaust pipe through which the cooling water flows is sealed by a hose clamp just above the water pump location. If this clamp is not tight, water drips onto the water pump and then down, simulating a water pump leak. The fix is to tighten the hose clamp (as all clamps should be tightened annually).

- Art levin

Hal and Connie Holzer replaced their original engine with a Westerbeke W-13 diesel. They chose this engine for several reasons. not the least of which was price. "Although the frustrations of expediting our dealer and solving the daily problems will not soon be forgotten, the end result has been sheer pleasure." Contact the Holzers for details of installation if contemplating a replacement engine of this type.

Fram fuel filter #P3522 (used on the Volkswagen Diesel Rabbit authomobile) will fit the fuel filter used with the Volvo MD6A engine and is a lot less expensive.

- Sam Amoss

If you've never started your MD6A engine by hand, you ought to try it. You will be surprised at how easy it is to start. It is even easier if you have a second person to work with you. As usual, put your prop in neutral and have your fuel line "on". Turn the key one stop and then hand crank your flywheel with the decompression lever off (up position). When the flywheel is spinning well, throw the lever to it's on (down) position. The engine will start every time. It's reassuring to know that you can always start the engine -- even with a dead battery. Do it now and then to to keep in prectice. As an added safety precaution, show your crew how to do it.

- Sid Rosen

"Celia's" MD6B engine had been idling for approximately seven minutes when the engine alarm tripped. Just before shut-down, I noticed that the "oil light" was most assuredly on. Opening the engine compartment, I observed approximately two quarts of oil sloshing in the drip pan under the engine. What I found was my oil filter at rest on a motor mount. One of the few changes between the MD6A and MD6B was the oil filter assembly. The oil filter cartridge for the MD6A has a male fitting that screws into the block. The MD6B has a female fitting that screws into a male fitting protruding from

the block. This male fitting is not a permanent part of the block, but rather screws into the block. When removing filters during previous oil changes, this male fitting was backed out little by little, until vibration made the whole mess fall out. Using a rag to apply finger tension on the male fitting screwed it all the way back in, before re-installing the oil filter.

- Sam Amoss

Volvo makes a tach kit, part No.840082, for about $135. which includes all the wiring harness, the sender, and an illuminated tach and rheostat. You simply unscrew a hex plug on the port side of the engine, a little above and behind the oil filter, and screw in the sender unit, hitch up the wiring as per directions, and mount the tach instrument and rheostat/switch where you will. This latter is probably the toughest part. I mounted mine just to starboard of the engine gauge cluster plate, measuring carefully and cutting the hole with a hacksaw through that fantastically tough 1/2" fiberglass of the cockpit. You'll never use that holesaw for anything else, and a quarter-inch electric drill is smoking at the end of it. Now I don't have to depend on the speedometer for engine setting -- I have the little turbine wheel impeller type and it gets fouled by sea grass or any trash, and it's a comfort to know what the engine is doing.

I raised the lazarette lid and was greeted with a blast of oily exhaust fumes. The whole aft end of the boat was coated with greasy soot from a leak in the riser just at the point where the cooling water enters the exhaust. Removing the exhaust riser, we found it looked like it was made of stainless steel lace. I've since discovered there's a thing called "impingement erosion" which occurs when a stream of water is directed against the side of the exhaust. The water jets in at right angles and strikes the wall opposite and simply wears the steel away; no corrosion, simply erosion. The mechanic boggled at the term, but said he had seen several examples of it and hadn't understood why. He modified the cooling water/exhaust system to inject the water through a tube bent in an "S" to inject into the center of the exhaust along the axis instead of at right angles about three inches aft and below the manifold, ran it into a "water box" which I was told was made for the Yamaha and then back to a riser and muffler. The water box was mounted on top of the fiberglass duct in the engine compartment next to the starboard partition, and now I have a lot more room to work on the transmission. It seems quieter too.

- Jesse Adams

Additional sources for Vega and Volvo diesel engine parts are:

Vegatillbehor
P.O.Box 2284
S-310 58 Vessigebro
Sweden
(owned by Henry Gustafsson, a member of the Swedish VEGA Association)
Telephone: 46-34620610

Stanton Marine & Leisure
94 Everton Road
Hordle, Lymington
Hampshire SO4 OFD
England
Telephone: 0425-619402

There are many local dealers in Volvo parts. However, they are "here today, gone tomorrow," so any listing would be outdated by the time it is printed. Consult your telephone book "yellow pages."

The address of VOLVO PENTA, a Division of Volvo North American Corporation, is P.O. Box 915, Rockleigh Industrial Park, Rockleigh, New Jersey 07647.

We decided to install a 13 H.P. Volvo MD7A engine in late 1981. Straight shaft with a 16" Michigan prop (2-blade) that was computer-matched to the boat and engine by Michigan. At 2500 rpm we get 6.5 knots. We cruise at 1900 rpm and get 5.5 knots. Renewed the sound-proofing and extended it further in the engine compartment, with much success.

- Herb Edwards

My trusty MD6A diesel finally gave out after 13 years of faithful service. Seawater scored the cylinders due to either (1) blown head gasket, (2) cracked block, or (3) rusted-thru manifold. Rather than repair it, I had a new engine installed: Volvo Penta Model 2002, 2 cylinder, 18 H.P., freshwater cooled, with standard transmission and 3-bladed prop. It fit onto the old engine bed with some modification and much money.

- Art Levin

Tarka II is almost 15 years old. She is in great shape since she was Awl-gripped last year and looks almost new. I have the MD6A diesel engine and had a regular reverse gear installed. What a joy! The engine has also had a conversion to fresh water cooling. I put in a Sendure heat exchanger, designed for the MD6A. The system was running a bit too hot, so I will install a Sendure oil cooler to help the heat exchanger run cooler. My mechanic said that if it were not for the fresh water cooling, the boat would most likely be needing a new engine by this time.

- Jim Ranti

We've had several inquiries for information on the installation of our new engine, on which we did all of the work ourselves and only had a mechanic doublecheck the installation after it was done.

Engine Specifications: We chose the Yanmar 1GM 7.5 H.P. diesel engine primarily because it had the smallest dimensions and lightest weight of any we found. We wanted to keep within the original engine box and the 1GM had a reduction gear small enough to fit the space. We installed it over a year ago and find that with a clean bottom it will do 6¼ knots at 2900 rpm. In a moderate sea it slows down to 4 knots. The engine temperature runs at manufacturer's specifications at all speeds- a cool 125°. It does not vibrate excessively, and ours came with flexible rubber motor mounts.

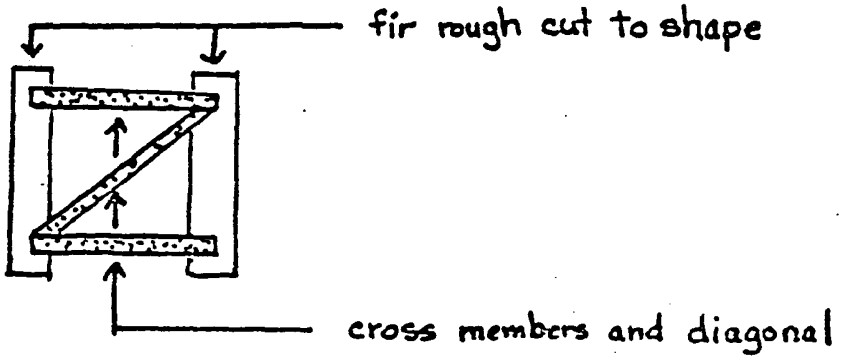
Bearing Box and Shaft: We used the outside bearing box that was with the original engine. Since we replaced the original shaft with a 1" stainless steel shaft, it was necessary to enlarge the bearing box opening. To do this, we used a 1" carborundum wheel with a 3/8" drill to grind out the inside of the bearing box.

Stuffing Box: We used the original Vega stuffing box for the first six months with the new engine before changing to a 1" stuffing box made by Perko. The original stuffing box was worn enough to accommodate the new 1" shaft without modification.

Engine Bed: We broke out the original engine bed and ground down the fiberglass mounts close to the hull (it doesn't have to be accurate, just somewhat close). With the inside stuffing box and old shaft removed, we ran a plumb line thru the middle of the outside bearing box and thru the shaft log to a batten which we had suspended on the forward ends of the galley dressers, lining it up thru the center of the shaft log. Extra care here made lining up the shaft and engine much easier later on. We could then determine the size of the new bed, using the dimensions listed in the engine brochure.

We roughcut to shape two 2x6 pieces of fir, using the plumb line and engine brochure information to determine their dimensions. We squared these up with cross members and a diagonal temporarily tacked to it. See figure #1. The base of the bed where it rests against the hull does not have to be too tight or too accurate.

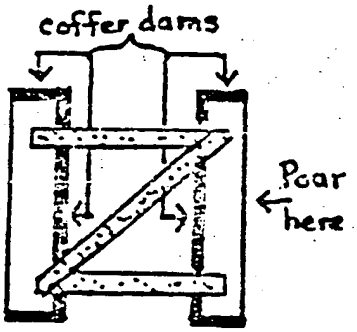
#1



On the inside edges and ends of the bed we built a coffer dam against the hull with fiberglass and resin. Using a mixture of resin, microballoon, and Cabocil, we poured this on the outside of the bed so that it ran under the roughed-in wood form to make a seal between the roughed-in bed and the hull. The mixture must be thin enough to pour

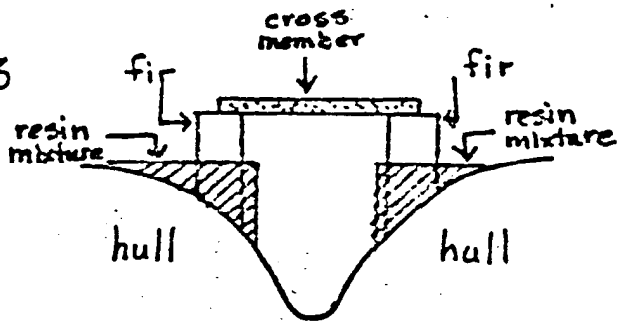
and run under the wood. See figures #2 and #3.

#2



TOP VIEW

#3



SIDE VIEW

When this mixture was hard, we removed the cross members and diagonal we had temporarily tacked to the fir. Next we took fiberglass cloth and resin and covered the bed tightly all around to form a solid fiberglass bed with a wood core. We used 7 to 8 layers of cloth to complete the job.

Installing the Engine: We put the engine in place; not a hard job considering the 154 pounds the engine weighs. The dimensions were close enough so we had to do a little final fitting with the flexible rubber mounts. We lagged the mounts through the glass into the wood core. Next we put the 1" shaft, with coupling in place, thru the stuffing box. We finished lining up the engine with the couplings, using the face of the couplings to make the final alignment.

Controls and Instrument Panel: We used a Morse control as recommended by Yanmar. We found a used one which fit in the place of the Vega control. For a throttle we used a Bowden wire control and Bowden wire-type handle. A choke cable was used as a remote engine stop switch and was mounted in one of the existing instrument panel spots. We decided to install the instrument panel inside the cabin in the space above the steps for security reasons, and so it would be out of the weather.

Prop and Clutch: The engine came with a conventional clutch with a 2.62 reduction which we utilized with a conventional 2-bladed prop. The Yanmar representative recommended a prop with a 12" diameter and 8" pitch. This was unsatisfactory, so we tried a 12-10 and 12-12. We are now using the 12" diameter 12" pitch, but I believe a 12-12 three-bladed prop would not load the engine and would give more thrust.

Fuel Tank, Exhaust, and Muffler: We are using the original copper tank, although a fiberglass or iron tank is recommended for diesel. We used the existing exhaust system, but stripped the water cooling hose off the outside since the Yanmar is a wet exhaust. We hate any engine noise, so we installed a neoprene muffler (M-40, available from BOAT/US).

- Bill and Karen Sides

A problem Vega owners may experience is a low oil pressure warning. The yellow oil pressure light glowed brightly when the engine was hot and idling. The light went out at about 1000 rpm. The light was also out when the engine was cold. After many anxious moments, I was relieved to find that the trouble was a faulty oil pressure sender unit. Recommend replacing this sender first when troubleshooting for low oil pressure.

- Don Angell

My MD6A is working on its third oil pressure sender unit. Symptom in my case was an oil leak from somewhere in the vicinity of the oil filter - above which is the sender unit. Seems the unit has an integral plastic part that eventually deteriorates and leaks. Sometimes the yellow oil pressure light also indicates this problem. Replacement of the sender unit is a cinch. Remove the wire to the tip by loosening the small nut, and then unscrew the sender like a spark plug and replace. Volvo part #807078.

- Art Levin

In the hope that my experience gained in the last year getting a Bosch fuel injection pump retimed to the engine will benefit someone else, I will attempt to expand on the instructions contained in the workshop manual. My engine is an MD6B, my manual for an MD6A, but I found no difference.

"Lyra" did not react to the starter as quickly as normal, nor did she respond to the throttle until warming her bowels. As the weeks passed, the malady worsened, until she drifted into complete silence. Fault finding started with the fuel system, so out came the injectors for cleaning and adjustment; no problem there. On checking the filters, evidence of bacterial growth appeared even tho the filters had been changed within a month or two of the trouble, and I always use fuel additives to disperse water and to prevent bacterial growth. With a clean fuel tank and properly adjusted injectors, I belatedly checked the fuel pump. Clean fuel flowed from all connections on the intake side, but no fuel was coming out of the connections on the after side of the pump. What seemed obvious was the brown "goo" grown by the bacteria had entered the pump and "gooed" the works.

Dismounting the fuel injection pump from the engine after having removed all of the nuts, bolts, fuel lines, and the large 19 mm nut on the aft end of the pump shaft that drives the water pump requires some courage when one does not know by what means the pump is fastened to the shaft. The only fastener found was that created by seven years use - a few good raps on the aft end of the shaft with a rubber mallet and a piece of wood completes the dismounting procedure. This can be accomplished with fewer problems if the manifold is first removed; it will have to be removed for the final timing procedure anyway.

The installation procedure in the workshop manual is not sufficiently detailed for my mechanically novice mind. After the gear wheel on the water pump shaft has been properly positioned as shown on page 17 of the manual and the water pump has been remounted, the fuel injection pump is mounted on the two bolts on the flange at the rear of the pump.

Contrary to the manual, do not mount the manifold at this time as it restricts rotation of the pump for final timing. For the same reason, do not reconnect the fuel lines to the forward end of the pump as yet. Paragraph No. 75 on page 21 of the manual properly describes the timing procedure, but I needed additional information. After receiving bad advice from three mechanics, Volvo's district representative finally set me straight. The No. 2 cylinder of the engine is the aft cylinder and the "rock" position of its valves requires one of its valves to be fully opened and the other valve to be fully closed. Once this stage has been reached, the manual can again be followed: rotate the flywheel so that thefigure "10" on the flywheel points to the mark on the block. The "mark on the block," for others who may approach my mechanical genius, is the downward pointing projection of the blowout plug housing located just above the flywheel. Actually, we found a small mark on the underside of the projection once we removed some paint and made use of a small inspection mirror. Such a mirror is very useful in the timing procedure's final step.

Final timing procedure is adequately described in the manual, but in order to line up the marks as found inside of the inspection cover, the pump must be able to rotate. By loosening the two nuts on the pump's mounting bolts, having the pump free from the restrictions of fuel lines, and uninhibited by a mounted manifold, one can freely rotate the pump to make this final adjustment.

I am still having problems starting the engine, but I am confident that timing is not the cause. Hard to believe after 500± running hours, but I have been advised by one of the aforementioned mechanics that my engine is worn out. Compression in both cylinders is down, but I can rationalize that the fuel problems that caused all of my original trouble have left deposits on the valves that result in poor seating. Hopefully, some extensive running will verify this conclusion. By the way, once started the engine runs with less vibration than it ever has, and once the engine is warm its starting problems disappear.

- Robert R. Brillhart

This is to let all know that the BMW 12 H.P. diesel works great in my Vega "Lightning." I recently completed the installation and I am thrilled with the engine's performance. I thoroly lined the engine compartment with lead-lined foam, which really paid off in quietness. I opted for a 3-blade prop for increased performance in reverse.

I purchased my Vega engineless and I put a 15 H.P. Johnson long-shaft outboard on a flip-down bracket on her. The outboard performed admirably, pushing me easily at hull speed, but its exposed position on the transom was not consistent with the overall seaworthiness of the Vega.

- Doug McDaniel

While reinstalling my MD6A diesel in my Vega, my mechanic suggested that it would take a lot of strain off the batteries and starter if I made a practice of cranking the engine while decompressing it. An engineer friend confirmed the value of this and suggested installing a remote decompression device.

After staring at the problem for about three hours, I eventually devised a simple device which allows me to decompress the engine from the cockpit as I turn the ignition key. It consists of a 12" long ¼" threaded brass rod fitted with a handle at the top and a clamp and a plastic loop on the other end. The loop fits over the decompression lever, and when the handle is pushed up or down the decompression lever follows suit. I found a place about four inches to the right of the ignition key, where the rod can go straight down to the decompression lever below.

Now, when I start my engine, I just raise the handle about two inches, turn the key, and when I hear the flywheel gather momentum I slowly push the handle down and the engine starts. Works every time.

- Brendon Donegan

I chose a VETUS 10.5 H.P. diesel engine because it is a 2-cylinder, well-known engine block (Mitsubishi) and gearbox (Hurth). The engine bed was fabricated by cutting out the old mountings with a scroll saw and grinding even with the hull using a disk grinder. Glassing in 2" by 5" oak logs was done with two layers of mat on the outsides and four layers on the insides. West epoxy was used for all fiberglass work. The location for mounting the bed logs was found by mounting them to the loose engine and supporting the engine in place with chainfalls in the correct position, then marking the location of the bed logs. The installation is very strong and there is good clearance for maintenance and cleanup under the engine .

The shaft is 3/4" bronze. A 1" shaft was tried, but it was found that engine vibration at idle could cause the shaft to hit the shaft tube. A standard Perko stuffing box was used, but the dimension of the mounting rubber is greater than the shaft tube. Therefore, I wrapped the tube with fiberglass cloth and epoxy resin until the correct diameter was achieved. This makes the brass tube redundant and reduces the chances of electrolysis problems. I fabricated a new stern bearing using teflon impregnated deldrin, machined to the correct clearances. I tried teflon before but it does not hold up. The propeller chosen was a 2-blade 13" diameter, 8" pitch. However, a 7" pitch came with the engine under special request, and the 8" would cause an indeterminate delay. The supplied propeller has a nonstandard 1" shaft taper, so a special shaft was made. I suggest that anyone else not use the nonstandard prop

(continued)

and order one with a 3/4" shaft hole, and use a stainless steel shaft. What I have is working well, but I would prefer American standard parts under the water in case emergency repairs need to be done someday.

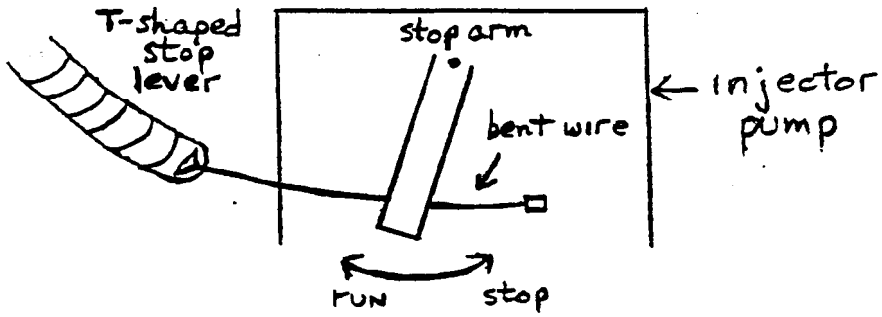
I would allow two weeks for the conversion if one is not going to spend fulltime on the project. The engine is about $2,200, and it will require about $500 in extras. So for about $3,000 one can have a new engine and no leaks around the stuffing box. The boat now has a maximum speed of 6.4 knots, average cruising speed of 5 knots, and ability to motor into 20-knot winds and 4-foot chop at about 4 knots. Fuel consumption is 0.25 to 0.3 gal/hr.

- William Edelstein

The story starts when my starter would not. Upon discovering that a new one from Volvo would cost about $900, I had it rebuilt for $65. Lesson #1: check the "yellow pages." After reinstalling the starter, black sooty smoke poured out of the exhaust, and the engine ran very rough. A new problem had developed which turned out to be a broken thrust peg in injector # 2.

Isolating an engine problem is a step-by-step process detailed in any diesel repair manual. I will mention one that will tell you if the problem is in cylinder # 1 or # 2. While the engine is running (keep clear of moving parts!), loosen the high pressure steel pipe where it attaches to injector # 1. Note any change in the engine RPM or if it runs rougher. Retighten # 1, repeat with # 2. The problem will be in the injector or cylinder that had no change when loosened.

But I still could not get the engine to run properly. So I bled it repeatedly, ran down my batteries several times, and raised my blood pressure 20 points. Finally, I again had my injectors re-checked at a company that specializes in injector and injector pump repair. My injectors were okay, but the mechanic had several other ideas to check. Whereupon I found that my problem was in the stop arm on the fuel injector pump. I had accidently bent the wire that runs from the stop arm on the fuel injector pump to the T-shaped stop lever (see diagram). The engine was thereby half shut off all the time. After straightening the wire, the engine started fine and has continued to run great.

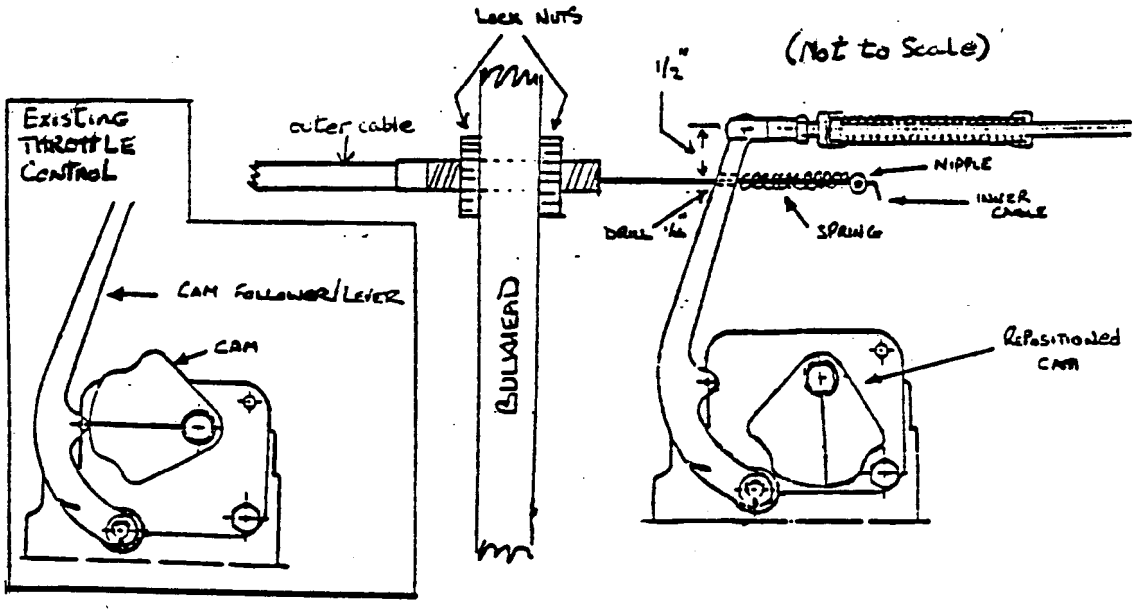


- Paul Halvachs

Having rammed my berth and got severely entangled with the davits of the motor-cruiser in the next berth, I decided to do something about the diabolical combined pitch and throttle control fitted to KRICKA. The system I devised was to use a twin-lever control as fitted to Evinrude/Johnson outboards to take over the control of the throttle, and to leave the pitch control on the normal lever.

Investigation of the linkage to the throttle showed that the throttle was closed by a cam operating from the starboard side of the engine/gearbox, and opened by a spring on the cam follower-lever. The cam, which is on a taper, was moved around on its shaft so that it no longer operated the lever, and then refixed. (Thus, it can be restored to normal operation in the event of a cable failure on the remote unit.) I then drilled a 1/16" hole, ½" below the clevis pin in the lever, and passed the inner of the remote cable thru this hole; the outer being fixed using the plastic threaded connector into the removable bulkhead aft of the engine. The inner cable then had a compressable spring and a brass nipple to retain it and prevent slackness.

I can now control engine revolutions and prop pitch separately. This makes KRICKA much better to handle in confined spaces, and I'm certain it is more economical now as I set the controls for optimum performance. The other lever and cable on the remote unit I have used to operate the decompression lever on the rocker cover. This entailed making several brackets and fittings -- sketches of which I will send to anyone interested. The actual control unit is screwed inside the port cockpit locker.



- Rob Peckham
(Vega Assoc. of Gt. Britain)

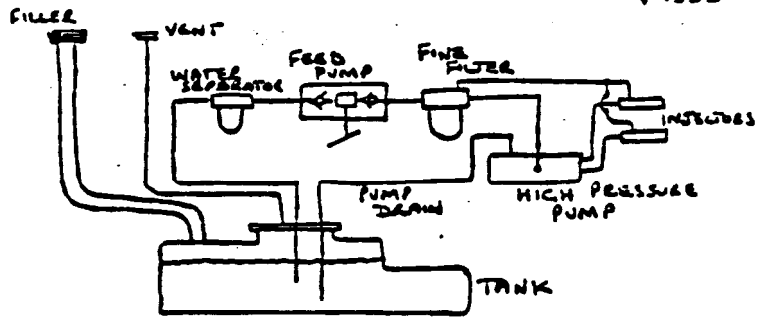
Many Vega owners have had starting problems due to air locks from joint leaks in the fuel system, because the Vega fuel tank is underneath the engine and any leak will have the effect of allowing air to be drawn into the system when the engine is stopped. The air finds its way into the body of the high pressure injection pump, where it becomes trapped behind the pistons, which have a very small displacement and they reciprocate without pumping anything.

To reduce the possibility of this happening on CHELABELLE, I have fitted a small reservoir positioned just inside the starboard cockpit locker, and piped the pump drain thru this reservoir so that when the engine is stopped the reservoir provides a positive pressure on the fuel system of at least ½ p.s.i.

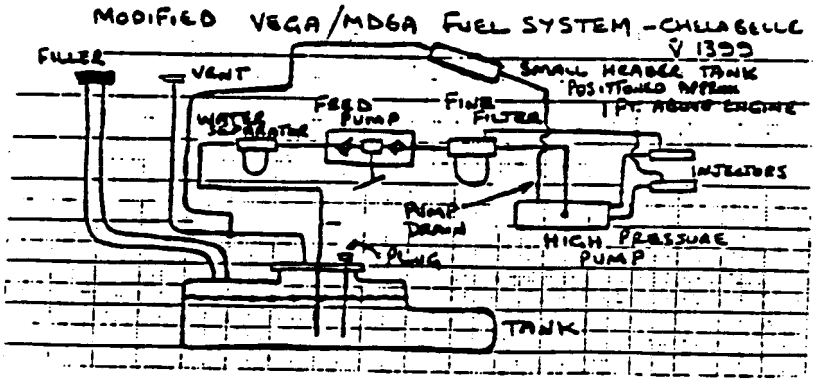
The tank return from the new reservoir is uppermost, and it drains back to the air space at the top of the tank (not under the fuel surface, which would create a syphoning effect). Access to the fuel tank is difficult, so I cut the vent hose, inserted a tee, and connected the tank return to that. The standard pump return is under the surface and therefore not reusable. Drawings of the original and modified system are shown below.

The reservoir was made from a piece of 28 mm copper tube, ½ meter long, with reduced fittings at each end to 8 mm diameter. 8 mm bore, clear flexible hose was used to connect the reservoir to the pump and tee. This size of reservoir would replenish a leakage of 1/10 litre.

ORIGINAL VEGA/MD6A FUEL SYSTEM - CHELABELLE V 1393



MODIFIED VEGA/MD6A FUEL SYSTEM - CHELABELLE V 1393



- Don Seddon
(Vega Assoc. of Gt. Britain)

On Board Spare Parts Kit For

VOLVO PENTA

MD6A

Qty.	Parts #	Description	Short Cruise	Extended Cruise
1	834693 & 834694	Regulator & Relay	XX	XX
1 set	958362	Drive Belt MO-1234	XX	XX
1 set	960336	Drive Belt MO-1235	XX	XX
1	824823	Fuse Block	XX	XX
1	875807	Impeller Kit	XX	XX
2	804695	Pump Seal	XX	XX
1	833366	Thermostat	XX	XX
1	416033	Thermostat Gasket	XX	XX
1	243464	Fuel Filter	XX	XX
1	840043	Spare Fuel Injector		XX
	3875738	Fuel Injector Pipe		XX
	3875739	Fuel Injector Pipe		XX
1	833323	Fuel Pump		XX
1	875508	Upper Gasket Set	XX	XX
1	875509	Lower Gasket Set	XX	XX
1	3875691	Engine Oil Filter	XX	XX

SHOP MANUALS

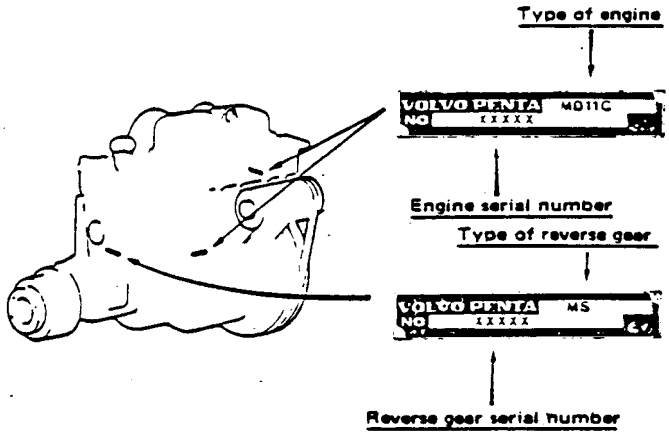
PARTS BOOKS

MD6A, 6A/110S, 6B, ... 3023 & 3258

TECHNICAL PUBLICATIONS

PARTS BOOKS

MD 6A, 6B 2600



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