

WESTERBEKE

MARINE ENGINE PRODUCTS

SERVICE BULLETIN 92

ISSUED: April 28, 1976

SUBJECT: Troubleshooting Water Temperature and Oil Pressure Gauges

MODELS: All

DISTR: Distributors, Shipments

Given a presumably faulty gauge indication with the instrument panel energized, the first step is to check for 12 VDC between the ign. (B+) and neg. (B-) terminals of the gauge.

Assuming there is 12 volts as required, leave the instrument panel energized and perform the following steps:

1. Disconnect the sender wire at the gauge and see if the gauge reads zero, the normal reading for this situation.
2. Connect the sender terminal at the gauge to ground and see if the gauge reads full scale, the normal reading for this situation.

If both of the above gauge tests are positive the gauge is undoubtedly OK and the problem lies either with the conductor from the sender to the gauge or with the sender.

If either of the above gauge tests is negative, the gauge is probably defective and should be replaced.

Assuming the gauge is OK, proceed as follows. Check the conductor from the sender to the sender terminal at the gauge for continuity.

Check that the engine block is connected to ground. Some starters have isolated ground terminals and if the battery is connected to the starter (both plus and minus) the ground side will not necessarily be connected to the block.

If the sender to gauge conductor is OK and the engine block is grounded, the sender is probably defective and should be replaced.

P/N 21616

4/28/76

SERVICE BULLETIN

DATE: May 1, 1980

BULLETIN NUMBER: 107

MODEL: All Models

SUBJECT: Thermostats

Beginning approximately May, 1980, thermostats supplied by the factory have a by-pass hole sufficient to allow adequate water flow through the exhaust manifold, head, and block, during engine warm-up.

This flow is mandatory, especially in the case of marine engines and generator sets which have significant load applied soon after start-up.

We strongly recommend that only genuine WESTERBEKE thermostats be used in WESTERBEKE products to assure proper design in this regard.



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SERVICE BULLETIN

DATE: 6 May 1982 BULLETIN NUMBER: 114
MODEL: All Marine Propulsion Engines
SUBJECT: Domestic Water Heater Installation Using Westerbeke FLOWCONTROLLER

Principle: There are two 7/8" hose connections at the end of the manifold which provide a parallel flow of engine cooling water to and from the heater. These connections are part of the FLOWCONTROLLER which assures a flow of hot water through the heater at all times and yet precludes excessive restriction of engine cooling water flow caused by the heater - all simply and automatically.

Installation: Remove the returnbend which normally connects the 7/8" hose spuds on engines as shipped from the factory. Connect these spuds to the heater with 7/8" ID wire inserted hose. The spud marked "out" indicates the flow from the engine and the spud marked "in" indicates the flow returning to the engine.

Hoses should rise continuously from their low point at the heater and to the engine so that trapped air will rise naturally from the heater to the engine. If trapped air can rise to the heater, then an air bleed petcock must be installed at the higher fitting at the heater for bleeding the air while filling the system. Avoid loops in hose runs which will trap air.

If any portion of the engine cooling water circuit to or from the heater rises above the engine's own pressure cap, then the pressurized remote expansion tank must be installed in the circuit to be the highest point. The tank kit Part Number is 24177. Install the remote expansion tank in a convenient location such as a sail locker for ease of checking fresh water coolant level.

The cap on the engine mounted expansion tank/manifold should not be opened once the system is installed and filled.

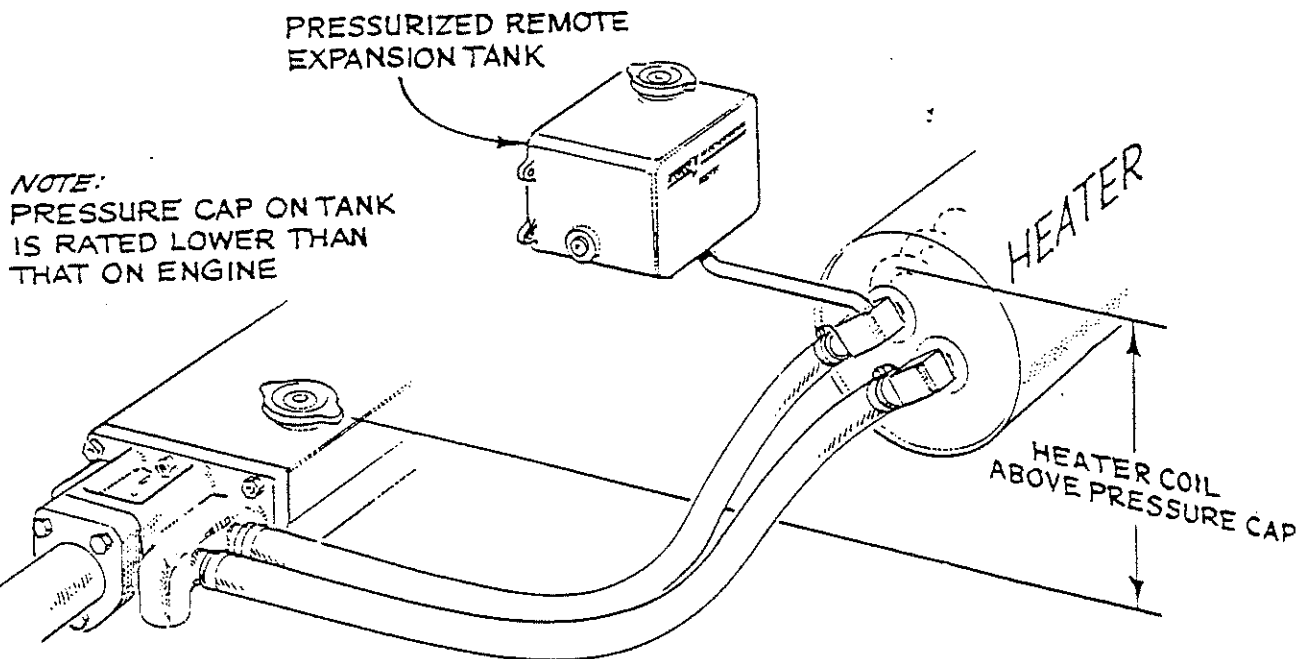
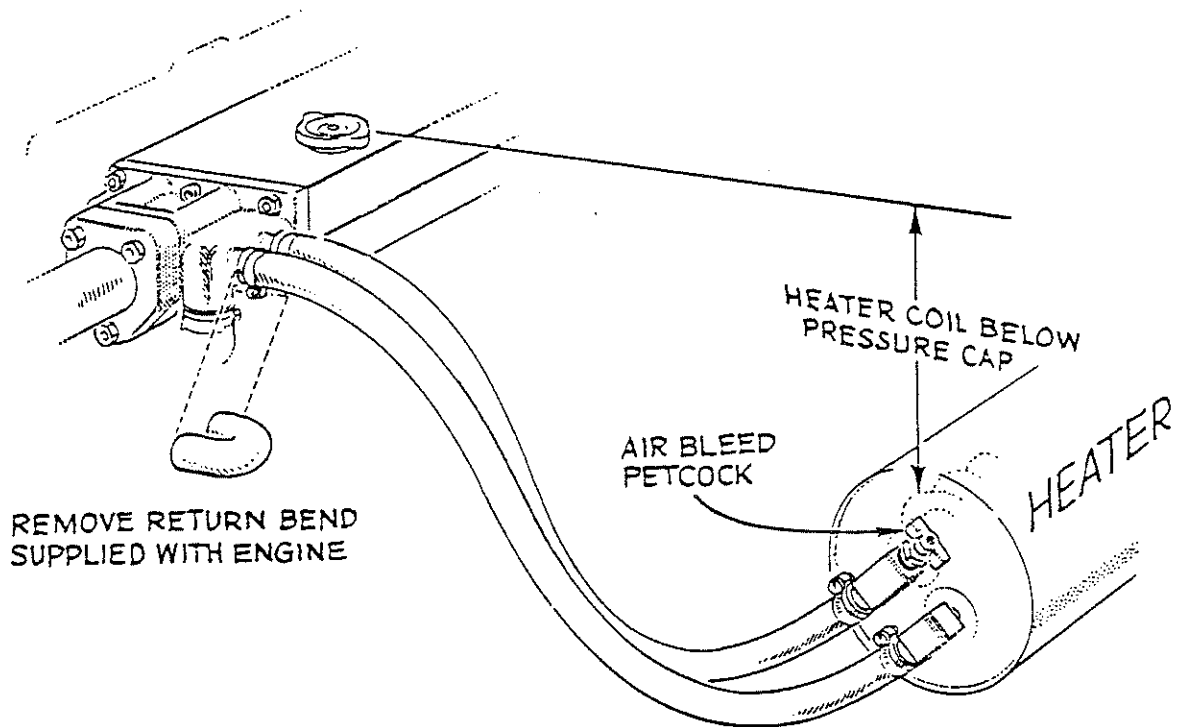
The hose connection from the heater to the remote expansion tank should be routed and supported so as to rise continuously from the heater to the tank enabling any air in the system to rise.

FLOWCONTROLLER kits are available for retro-fit to late 1980, 1981 and 1982 Westerbeke marine engines which employ the "two-pass" exhaust manifold. The kit numbers are:

Kit #32276 for engines whose exhaust manifold is on the left side of cylinder head (W21, RD60, W27, RD80, W33).

Kit #32274 for W13 and Kit #32275 for W52 and W58 engines whose exhaust manifold is on the right side of the cylinder head.

HEATER BELOW ENGINE



HEATER ABOVE ENGINE

SERVICE BULLETIN

DATE: August 14, 1983

BULLETIN NUMBER: 125

MODEL: All (Propulsion & Generators)

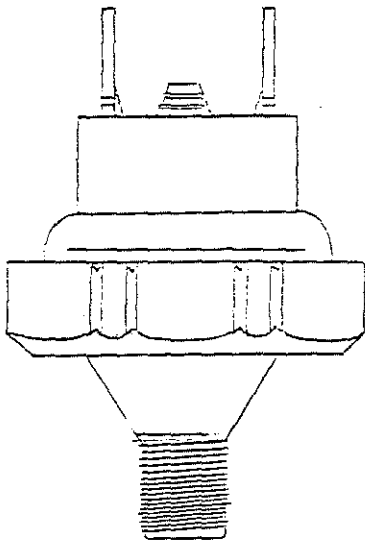
SUBJECT: Oil Pressure Switches

When removing and installing oil pressure switches of the type illustrated below, care should be taken to use the correct type socket specifically designed to correctly fit the metal circumference of these switches.

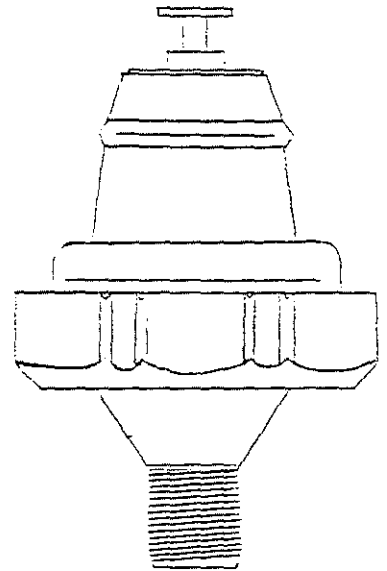
The correct socket can be acquired through well-known tool manufacturers such as Snap-On, New Britain, Cromwell, Proto and others. The use of channel lock pliers, vise-grips or pipe wrenches, is not advised, in that they may cause damage to the seal between the metal body and the plastic center insert, resulting in a leak and/or switch failure.

ILLUSTRATION

DUAL PRONG



SINGLE PRONG



Distribution: Master Distributors, OEM's, Registered Manual List

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SERVICE BULLETIN

DATE: November 8, 1983

BULLETIN NUMBER: 132

MODEL: A11

SUBJECT: Manufacturing Date Code

A manufacturing date code consisting of 4 digits is stamped into unit I.D. tag following the engine serial number.

The manufacturing date code consists of a letter, followed by three digits. An example of this date code is shown below:

| <u>ENGINE SERIAL</u> | <u>MANUFACTURE DATE CODE</u> |
|----------------------|-----------------------------------|
| 4922 | C 2 1 0 |
| Engine Block Number | (1980's) '82 10th month (October) |

The first letter and number indicate the year in which the unit was manufactured:

| | | |
|---------------------|---------------------|---------------------|
| <u>A</u> - 1960's | <u>B</u> - 1970's | <u>C</u> - 1980's |
| (<u>A4</u> - 1964) | (<u>B7</u> - 1977) | (<u>C3</u> - 1983) |

The last two numerals indicate the month in which the unit was manufactured:

| | | |
|-------------------------|---------------------|-------------------------|
| A <u>402</u> - February | B <u>706</u> - June | C <u>311</u> - November |
|-------------------------|---------------------|-------------------------|

SERVICE BULLETIN

DATE: February 9, 1984

BULLETIN NUMBER: 136

MODEL: All HBW Transmissions and V-Drives

SUBJECT: HBW (Short Profile Sailing Gears) Transmission Shift Lever Adjustment

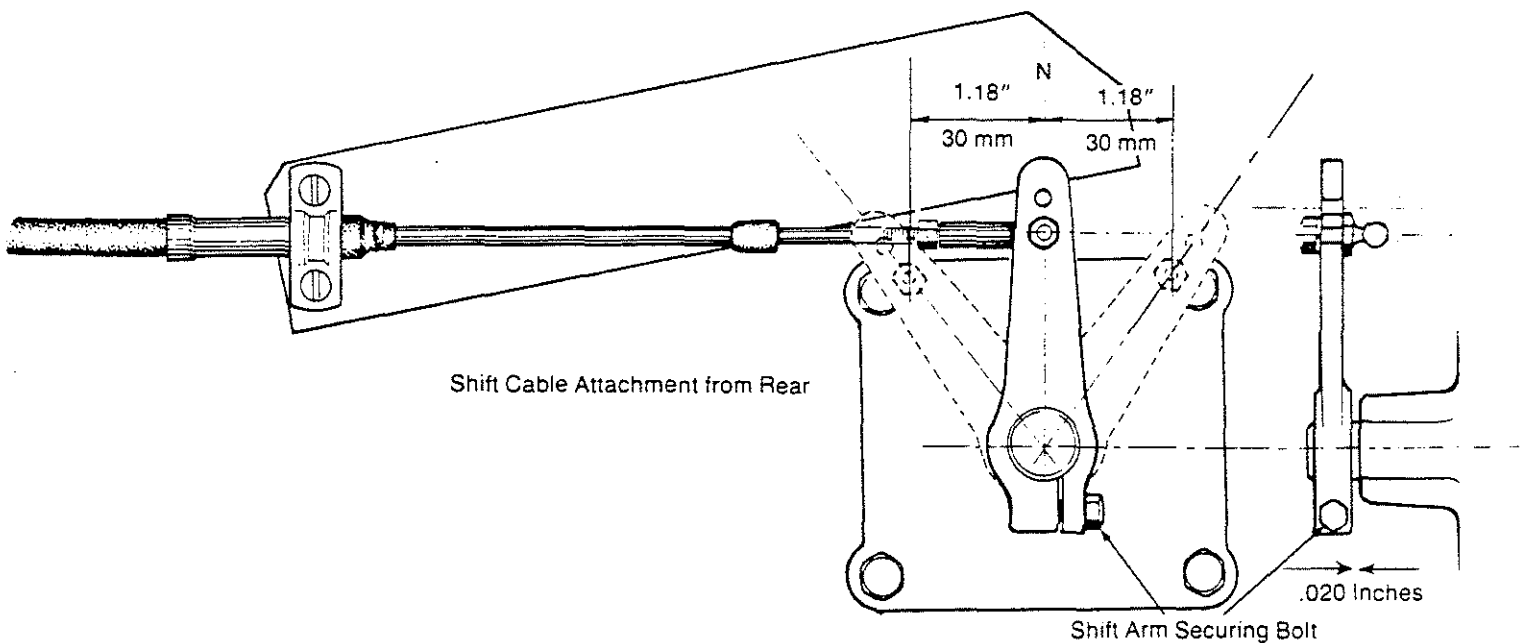
The adjustment of the shift lever on the transmission when attaching the shift control cable to it, is of prime importance to insure proper clutch engagement and long service life for the transmission.

The control cable, when attached to the transmission shift arm ball joint connector, should be attached so as to be at a 90° angle with the lever and transmission in the neutral position (Ref. Illustration).

The transmission shift arm can be rotated on the transmission side cover shifting shaft by loosening the securing bolt (13mm) and rotating the shift arm to produce the 90° angle between the arm and the shift cable when the transmission is in neutral. Insure that there is at least .020 inch clearance between the shift arm and the shift cover before retightening the securing bolt.

The shift cable and pedestal control must allow the transmission shift arm to move from the neutral position into the forward or reverse engagement a MINIMUM of 1.37 inches (35mm) when the outermost ball joint attachment hole is used on the shift arm, or 1.18 inches (30mm) when the inner is used. Use of the inner attachment hole is preferred (Ref. Illustration).

Minimum Travel (inner hole used)



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over.....

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Failure to properly adjust the shift arm and cable to produce the MINIMUM shift arm travel required for clutch engagement will result in clutch slippage and eventual failure.

Adjusting the shift arm and shift cable to produce shift lever movement greater than the minimum is recommended.

Movement at the shift arm preferably should be 1.5 to 2 inches of arm movement into the forward and reverse position. Cockpit controls must be of a design that will allow for this desired cable travel.

This shift lever travel should be verified at initial commissioning, and periodically thereafter (at least once a year).

When shifting the transmission from the controls in the vessel's cockpit, it should be done smoothly and without hesitation (dump it into gear).

SERVICE BULLETIN

DATE: 1/23/85

BULLETIN NUMBER: 148

MODEL: ALL PROPULSION ENGINES

SUBJECT: FIELD TROUBLESHOOTING TACHOMETER/HOURMETER PN 11917

The tachometer/hourmeter used in propulsion engine instrument panels contains two separate electrical circuits with a common ground. One circuit operates the hourmeter, and the other the tachometer. The hourmeter circuit operates on 12 volts/alternator charging voltage supplied to the (+) terminal on the back of the instrument.

The tachometer circuit operates on AC voltage 6-8 volts, fed from one of the diodes in the alternator and supplied to the "tach inp." terminal while the engine is running, and the alternator producing battery charging voltage 13.0-14.8 volts D.C.

The following are procedures to follow when troubleshooting a fault in either of the two circuits in the tachometer/hourmeter.

HOURLMETER FAULT

CHECK

1. Inoperative
 1. Check for proper DC voltage between (+) and (-) terminals.
 - A. Voltage present - meter defective - repair or replace.
 - B. Voltage not present - trace (+) and (-) electrical connections for fault. (Jump 12 Volts DC to meter (+) terminal to verify operation.)

TACHOMETER FAULT

CHECK

1. Inoperative
 1. Check for proper AC voltage between "Tach Inp." terminal and (-) terminal with engine running.
 - A. Voltage present - attempt adjusting meter through calibration access hole. No results, repair or replace meter.
 - B. AC voltage not present - check for proper alternator D.C. output voltage.
 - C. Check for A.C. voltage at tach terminal on alternator to ground.
 - D. Check electrical connections from "tach Inp." terminal to alternator connection.



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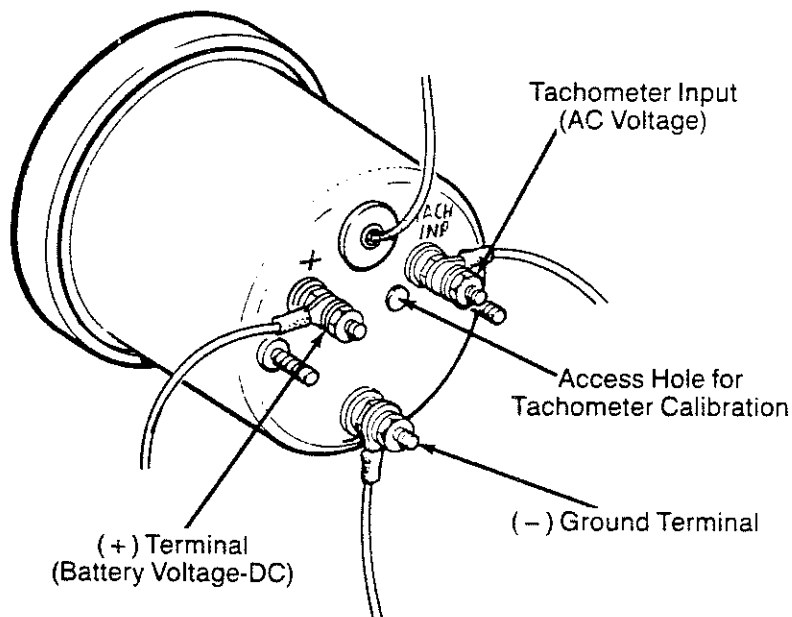
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2. Sticking

1. Check for proper A.C. voltage between "tach inp." terminal and (-) terminal.
2. Check for good ground connection between meter (-) Terminal and alternator.
3. Check alternator is well grounded to engine block at alternator pivot bolt.

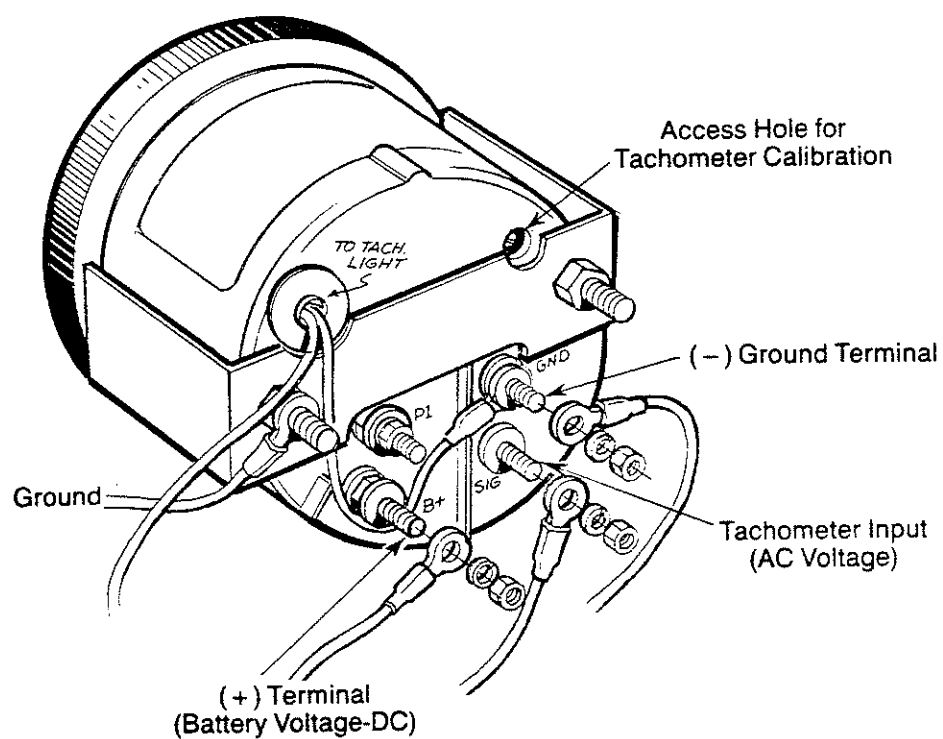
3. Inaccurate

1. With hand-held tach on front crankshaft pulley retaining nut or strobe type tach read front crank shaft pulley R.P.M. Set engine R.P.M. with hand or strobe tach at 1500-1800 R.P.M.
2. Adjust tachometer with small Phillips type screwdriver through calibration access hole in rear of tachometer covered with translucent plug. Zero tach and bring to R.P.M. set by strobe or hand tach. (Verify R.P.M. at idle and at high speed 2500-3000 R.P.M.) (Adjust tach as needed.)



LATE MODEL TACHOMETER

Replaces Earlier Model as Shown on Page 2 of this Bulletin



SERVICE BULLETIN

DATE: April 13, 1985 BULLETIN NUMBER: 153
MODEL: All Current Production Propulsion and Generator Models
SUBJECT: Check valves and Fuel Pick-up Screens

1. Fuel starvation problems have occurred, resulting from the installer placing a check valve in the fuel supply line to the engine. Check valves can restrict the engine mounted fuel pump's ability to draw fuel from the fuel tank through the check valve and any in-line filters to the engine. This results in air being drawn into the system, causing loss of engine power and/or engine stoppage.

Check valves should not be installed in the fuel supply line to the engine.

2. Fuel tank pick-up tubes have been found to randomly have fine gauze screens installed in them by the tank manufacturer. These gauze screens can clog from debris in the fuel and stop fuel flow from the tank, resulting in loss of engine power and/or engine stoppage.

If a fuel starvation problem is encountered, check fuel supply to the engine from the fuel tank and examine the pick-up tube for the presence of a gauze screen and, if present, remove it. Gauze type screens should not be installed in fuel tank pick-up tubes. Fuel filtering must be accomplished by the serviceable fuel filters/separators between the fuel tank and engine as well as by the filters in the engine mounted fuel system.

NOTE: Monitoring return fuel can give an indication of supply restriction and/or air.

Return fuel should be free of air.



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SERVICE BULLETIN

DATE: May 22, 1985

BULLETIN NUMBER 155

MODEL: All Propulsion Engines with Keyswitches
Incorporated in their Instrument Panels

PART NO. 35132

SUBJECT: Keyswitch Maintenance

To help insure the smooth and proper operation of ignition key switch mechanisms, some preventative maintenance is necessary, to prevent sticking and guard against rust and wear.

Owners are advised that periodically lubricant should be applied to the key switch mechanism.

This lubricant should be in the form of WD-40 or Lock-Ease (graphited lock fluid). One or the other should be used. DO NOT combine the two, as this produces a sludgy mixture.

Apply the lubricant into the switch through the key slot and onto the key itself, inserting the key into the switch, and work it through the various switch functions.

NOTE: Battery power to the key switch should be shut off when performing the above so as not to cause unwanted starting of the engine.

SERVICE BULLETIN

DATE: 12 June 1991

BULLETIN NUMBER: 193

MODEL: Universal M18, M25 & M25XP

SUBJECT: DC Alternator Mounting

Westerbeke Corporation has become aware that some early model Universal M18, M25 and M25XP marine engines having the DC charging alternator mounted directly to the front gear case cover have experienced failure of the gear case cover at this mounting point.

Owners of these early Universal models are encouraged to inspect their units and if they find the DC charging alternator mounted directly to the front gear case cover that they purchase a conversion kit PN# 256891 that will allow for the mounting of the alternator on a bracket that is attached to the engine's exhaust manifold as later model engines were configured to. The illustration with this bulletin lists the kit components and shows their location on the engine.

If failure of the mounting area on the front gear case cover has occurred, two approaches can be taken to repair it.

1. The gear case cover can be removed from the engine and the gear case cover which is cast aluminum may be repaired by heliarc and reinstalled on the engine.

Items needed to accomplish this:

| QTY | PN | Description |
|-----|--------|-----------------------|
| 1 | 300180 | Case Gasket |
| 3 | 300160 | "O" Rings |
| 1 | 298485 | R/W Pump Gasket |
| 1 | 300204 | F/W Pump Gasket |
| 1 | 299545 | Throttle Plate Gasket |

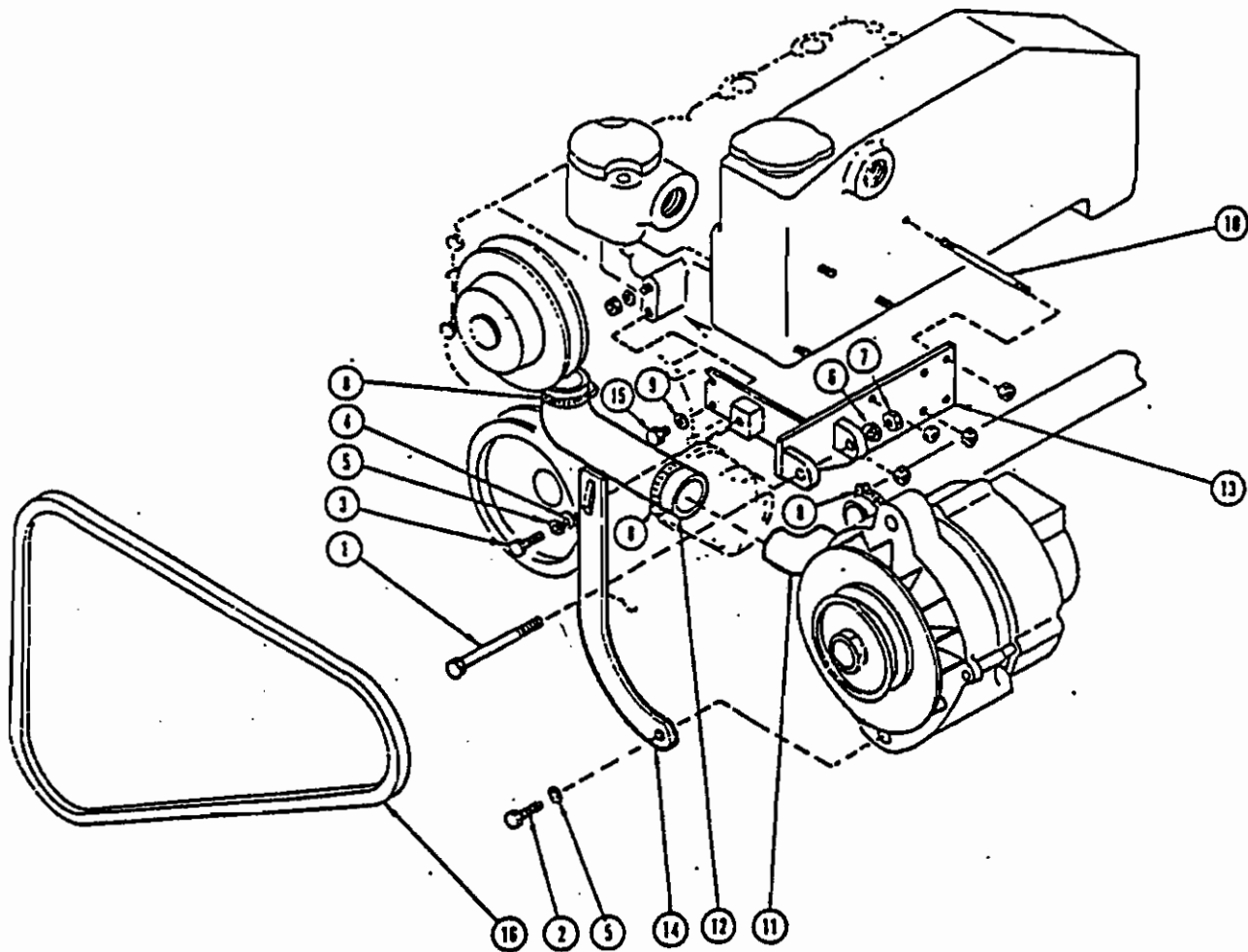
2. Removing the gear case cover and replacing it with a new gear case cover.

Items needed to accomplish this:

| QTY | PN | Description |
|-----|--------------------------------------|-------------|
| | (All items listed in number 1 above) | |
| | And... | |
| 1 | 300140 | Gear Case |
| 1 | 299404 | Oil Seal |

Contact your local area Westerbeke/Universal dealer to order the alternator mount conversion kit #256891 and front gear case cover parts as needed.

Alternator Mounting Kit #256891 Components



| Item | Quantity | P/N | Description |
|------|----------|--------|--------------------|
| 1 | 1 | 031615 | Capscrew 3/8 |
| 2 | 1 | 031553 | Capscrew 5/16 |
| 3 | 1 | 031555 | Capscrew 5/16 |
| 4 | 1 | 031759 | Flat Washer 5/16 |
| 5 | 2 | 031758 | Lock Washer 5/16 |
| 6 | 1 | 031764 | Lock Washer 3/8 |
| 7 | 1 | 031762 | Nut 3/8 |
| 8 | 3 | 011386 | Hose Clamp |
| 9 | 1 | 031783 | Lock Washer 6mm |
| 10 | 4 | 300095 | Stud 6mm |
| 11 | 1 | 302150 | Elbow |
| 12 | 1 | 302251 | Molded Hose |
| 13 | 1 | 302087 | Alternator Bracket |
| 14 | 1 | 302088 | Adjustment Strap |
| 15 | 1 | 018804 | Capscrew 6mm |
| 16 | 1 | 302190 | Alternator Belt |

The issuance of this Service Bulletin is not justification for the submitting of a warranty claim to Westerbeke Corporation related to the purchase, repair or installation of this mounting kit or gear case cover.

SERVICE BULLETIN

DATE: 5 August 1991

BULLETIN NUMBER: 195

MODEL: Universal Model M25, M25XP, M30, Model 5424 and 5432

SUBJECT: Heat Exchanger #299049

Early versions of the above model Universal propulsion engines were configured with a two inch diameter heat exchanger P/N #299049 where as later and current production models have a three inch diameter heat exchanger P/N #299835.

Complaints have been received from the field on some of the above early model engines regarding high water operating temperatures (above 190 degrees F). Complaints of overheating when operating the engine at high or maximum rated engine r.p.m.

These complaints are possibly related to the heat exchanger size used on these early models. One should keep in mind that there are other components and areas of the engine's cooling system that could cause or contribute to high operating temperatures and overheating. These are:

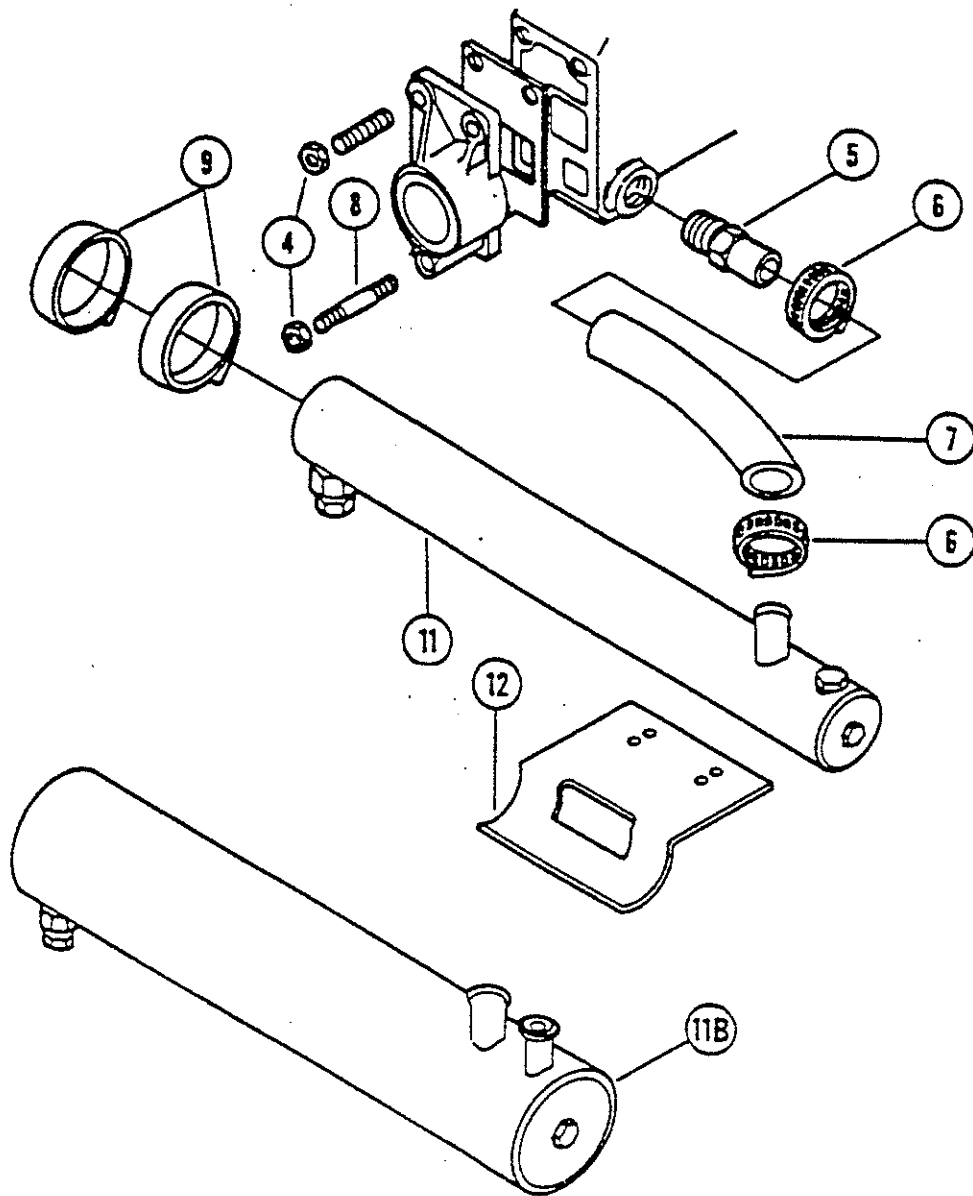
1. Supply hose to the raw water pump. Hose material should be wire reinforced so as not to collapse due to pump suction. This hose should be neatly routed so as to avoid sharp bends or possible kinking that would obstruct water flow.
2. The raw water supply hose inside diameter should be as large as a standard hose nipple will allow the raw water pump to accept without bushing up. (Example - pump inlet 1/2 N.P.T. standard nipple will accept 3/4 I.D. hose).
3. Raw water pump internal wear and impeller fatigue.
4. Reduced flow of raw water and/or fresh water through the heat exchanger due to corrosion, scale or debris inside the exchanger.
5. Internal corrosion of the water injected exhaust elbow causing raw water flow restrictions.
6. Domestic hot water heater improperly plumbed into the engine's fresh water circuit.

If these areas 1-6 have been inspected and any faults that are found are corrected and overheating still occurs, it is recommended that the operator consider replacing the two inch diameter heat exchanger (P/N #299049) originally supplied with the engine with the three inch diameter heat exchanger Universal incorporated on later models (P/N #299835).

Revised
January 1992

The illustration shows this larger heat exchanger, reference #11B. The contoured mounting bracket reference #12 will have to be reworked to fit the contour of the larger exchanger. This can easily be done by removing the bracket and using a piece of three inch iron pipe as a template to rework the bracket to the proper contour. Use two cushions #033487 between the exchanger body and the bracket along with heavy duty clamps (P/N #303070) when mounting the heat exchanger to the reworked bracket. The illustration helps show these components.

Heat Exchanger Group - New Style



| Ref # | Part Number | Description |
|-------|-------------|------------------|
| 9 | 303070 | Heavy Duty Clamp |
| 11 | 299049 | 2 Inch Exchanger |
| 11 B | 299835 | 3 Inch Exchanger |
| 12 | 301142 | Mounting Bracket |
| 14 | 033487 | Cushion Pad |

Note: The issuance of this Service Bulletin is not justification for the submitting of a warranty claim to Westerbeke Corporation related to the purchase or installation of any of the parts mentioned in this bulletin.

SERVICE BULLETIN

DATE: 13 November 1992

BULLETIN NUMBER:
#206

MODEL: Universal Diesel
Propulsion Models

SUBJECT: R.P.M. Ranges

There appears to be some conflicting specifications in the field with regards to r.p.m. ranges for the current Universal propulsion models such as idle range, cruising range and maximum r.p.m. range.

Below is a list of current Universal models with recommended r.p.m. ranges:

| <u>Model</u> | <u>Idle R.P.M.</u> | <u>Cruise R.P.M.</u> | <u>Maximum R.P.M.</u> |
|--------------|------------------------|--------------------------|---------------------------|
| M2-12 | 1000 - 1200 | 2500 - 3000 | 3500 - 3600 |
| M3-20 | 1000 - 1200 | 2500 - 3000 | 3500 - 3600 |
| M25XP | 1000 - 1200 | 2100 - 2600 | 3100 - 3200 |
| M4-30 | 1000 - 1200 | 2500 - 3000 | 3500 - 3600 |
| M-35 | 800 - 1000 | 2100 - 2600 | 3100 - 3200 |
| M-40 | 800 - 1000 | 1800 - 2200 | 2700 - 2800 |
| M-50 | 800 - 1000 | 2000 - 2500 | 2900 - 3000 |

Note: Attempting to reduce idle speed below the minimum shown may produce unstable engine operation and stalling.

Note: The propeller used either 2 or 3 blade, should allow the engine to reach its maximum rated r.p.m. +0 - 100 r.p.m. at full open throttle underway in forward gear to ensure the availability of rated horsepower when needed.

SERVICE BULLETIN

DATE: April 13, 1994

BULLETIN # 213

MODEL: UNIVERSAL PROPULSION

SUBJECT: NO STARTER MOTOR ACTIVATION

Reports have been received from the field from Universal propulsion engine owners concerning the starter motor on their Universal engine not activating when the start button in the instrument panel is depressed. A clicking noise only is produced by the solenoid on the starter.

Investigation has found that this is the result of a voltage loss at the "S" terminal on the starter solenoid. Voltage is supplied to the starter solenoid when the starter button in the instrument panel is depressed.

The following are causes for this voltage loss:

1. Panel and/or engine harness molded plug connector is loose or the connector pins are corroded.
2. Corrosion or loose connection in the 10 amp buss fuse holder installed in the yellow and red stripped wire in the engine harness going to the starter solenoid "S" terminal.
3. Wire size in start circuit too small to carry amperage to energize starter solenoid. #10 AWG multi strand wire should be used between the key switch and the glow plug push button, between the glow plug push button and the start button and from the start push button to the "S" terminal on the starter solenoid.

Any one or combination of the three causes will have the potential to produce a voltage loss at the "S" terminal on the starter solenoid.

This voltage loss can be intermittent on a cold engine starting attempt or a hot engine starting attempt depending on the state of charge that the cranking battery has at that time.

SERVICE BULLETIN

DATE: 15 MAY 1996

**BULLETIN NUMBER#
223**

MODEL: ATOMIC FOUR GASOLINE PROPULSION ENGINE

SUBJECT: CYLINDER HEAD GASKET #263776

THERE ARE TWO CYLINDER HEAD GASKETS PART NUMBER #263776 CURRENTLY USED ON THE ATOMIC FOUR GASOLINE ENGINE. THEY ARE BEING REPLACED BY A SINGLE GASKET OF GRAPHITE COMPOSITION.

THIS IS BEING DONE TO IMPROVE THE SERVICE LIFE OF THE HEAD GASKET.

THIS NEW GASKET'S PART NUMBER IS #200452. ONLY ONE GASKET WILL BE REQUIRED.

THE CYLINDER HEAD STUD NUT TORQUE WILL REMAIN THE SAME AT 35 FT/LB WITH THE ENGINE COLD. NO RETORQUE IS REQUIRED.

NO SEALANT IS NEEDED WITH THIS NEW GASKET.

NOTE: COMPRESSION SHOULD BE CHECKED AFTER THE INSTALLATION OF THIS NEW GASKET. COMPRESSION RANGE IS BETWEEN 95 - 125 P.S.I..

THIS COMPRESSION TEST IS ADVISABLE ESPECIALLY FOR THOSE ENGINE THAT HAVE HAD THE CYLINDER HEAD RESURFACED FOR ONE REASON OR ANOTHER.

COMPRESSION PRESSURES IN EXCESS OF 125 P.S.I. CAN HAVE A DETRIMENTAL EFFECT ON THE SEALING ABILITY OF THIS NEW HEAD GASKET.

NOTE: WHEN RESURFACING A CYLINDER HEAD THE SURFACE FINISH SHOULD BE #125.

ON THE BACK OF THIS PAGE IS AN ILLUSTRATION OF THE BOLT PATTERN OF THE ATOMIC FOUR CYLINDER HEAD. FOLLOW THE NUMBERED SEQUENCE WHEN TORQUING THE CYLINDER HEAD STUD NUTS. BE SURE TO APPLY A SMALL AMOUNT OF OIL TO THE THREADS OF THE STUDS BEFORE INSTALLING THE NUTS.

OVER

PN#200451



SERVICE BULLETIN

DATE: 1-Aug-02 **BULLETIN NUMBER:** 235 Update (pg. 1)

SUBJECT: Cam Shaft Drive Tang Reinforcing Sleeve

MODEL AFFECTED: Universal M 25XPB, M 25XPBC, M 35B, M 35BC

DETAIL: Service Bulletin 235 was originally published in August 2002; see page two and three of this update for more information. Since the original publication date it has been determined that the majority of cam / pump drive problems were caused by sea water pump maintenance or lack of maintenance issues. For information regarding proper maintenance refer to your Operator's Manual. Keep in mind the sea water pump, as well as other cooling system components, require daily inspection and immediate attention should a problem exist.

The purpose of this update is to stress the importance of sea water pump seal maintenance. Seals left leaking for long periods will cause engine damage. This update is also to inform our customers that although we still strongly urge you to insure there is a cam reinforcing sleeve installed, it is no longer available free of charge from Westerbeke.

To have your engine professionally inspected by a qualified technician or to purchase a cam reinforcing sleeve kit part number 48245, please contact you local Westerbeke Dealer or Distributor.

Updated 28-June-2013

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SERVICE BULLETIN

DATE: 10 JUNE 2003

**SERVICE BULLETIN: #235
(ADDITIONAL)**

MODELS: UNIVERSAL M25XPB, M25XPBC, M35B AND M35BC

SUBJECT: CAM SHAFT DRIVE TANG REINFORCING SLEEVE

THERE HAVE BEEN CONCERNS FROM THE FIELD REGARDING THE FIT OF THE REINFORCING SLEEVE ON THE CAM SHAFT DRIVE TANG END.

TO ENSURE SECURITY OF THE SLEEVE WHEN INSTALLED ON THE CAMSHAFT.

- 1. WIPE THE CAMSHAFT TANGS CLEAN AND DRY AS WELL AS THE INSIDE SURFACE OF THE REINFORCING SLEEVE.**
- 2. APPLY LOCTITE #620 TO THE OUTSIDE SURFACE OF THE CAMSHAFT TANGS AND THE INNER SURFACE OF THE REINFORCING SLEEVE.**
- 3. INSTALL THE REINFORCING SLEEVE ONTO THE CAMSHAFT END WITH A TWISTING MOTION.**
- 4. ALLOW THE LOCTITE TO CURE FOR 24 HOURS BEFORE OPERATING THE ENGINE.**

Updated 06/28/2013

SERVICE BULLETIN

Important - Avoid Cam Shaft Failures

DATE: AUGUST 2002

SERVICE BULLETIN #235

MODELS: UNIVERSAL M25XPB, M25XPBC, M35B AND M35BC

SUBJECT: CAM SHAFT DRIVE TANG REINFORCING SLEEVE

Random reports have been received from the field related to the failure of the sea water pump drive tang on the cam shafts of early Model "B" Series *UNIVERSALS* listed above.

These failures are related to early production models and it has been found that the sea water pump drive tang reinforcing sleeve had not been installed.

Production models with a manufacturing date code of E001 (January 2000) and older are suspect.

Owner/operators are advised to immediately remove the sea water pump off the front gear case of their engine and inspect the cam shaft sea water pump drive end to make sure it has this reinforcing sleeve. The illustrations show the cam shaft end with and without the reinforcing sleeve.

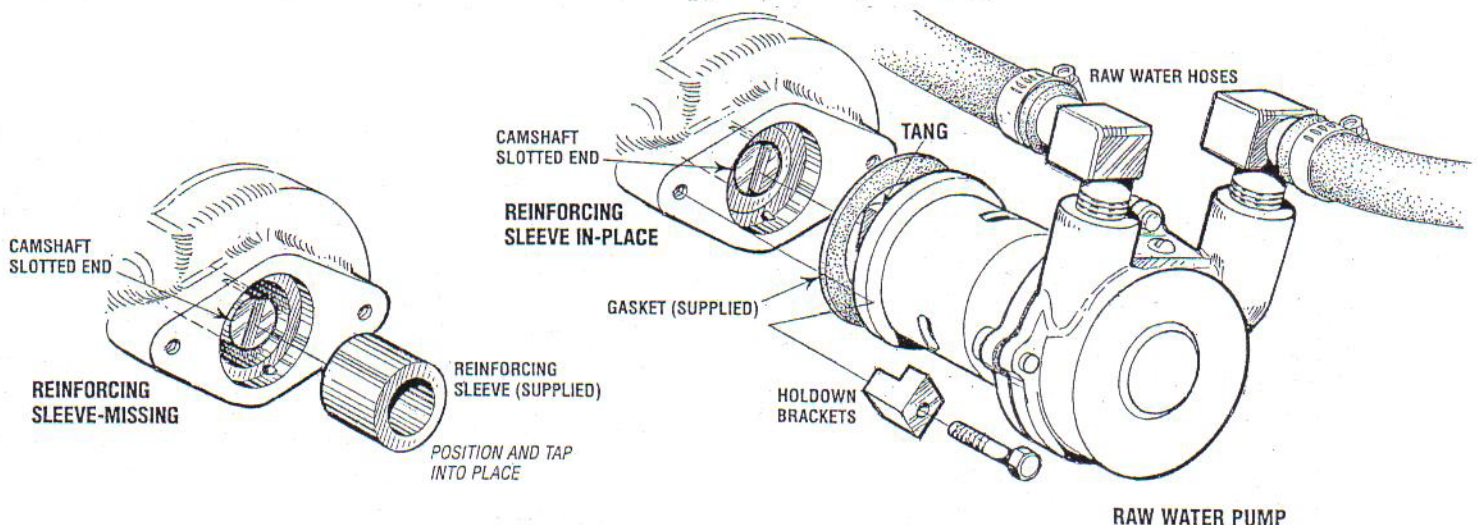
If the reinforcing sleeve is not present, contact the *WESTERBEKE CORPORATION* immediately at 508(823-7677 or email us at help@westerbeke.com referencing this Service Bulletin #235 and a sleeve and sea water pump mounting gasket will be sent at no charge. Please have the serial number of your engine available when making this request.

The reinforcing sleeve is easily installed as it is just a slight force fit fully over the sea water pump drive end of the cam shaft. Position the reinforcing sleeve squarely onto the end of the cam shaft and gently tap/push it fully onto the shaft end so it is flush with the end of the shaft.

Reinstall the sea water pump using the replacement mounting gasket supplied with the reinforcing sleeve.

This bulletin, along with a reinforcing sleeve and sea water pump mounting gasket, have been sent to all registered *UNIVERSAL* owners on record owning models listed manufactured prior to January 2000.

UNIVERSAL O.E.M. users of these models along with WESTERBEKE/UNIVERSAL Dealers are being sent copies of this bulletin and asked to pass this bulletin on to owners whose engines may be affected by it.



WESTERBEKE
WESTERBEKE CORPORATION • TEL. 1-508-823-7677
MYLES STANDISH INDUSTRIAL PARK,
150 JOHN HANCOCK ROAD, TAUNTON, MA 02780-7319

Updated 06/28/2013

SERVICE BULLETIN

DATE: 10 JUNE 2003

**SERVICE BULLETIN: #235
(ADDITIONAL)**

MODELS: UNIVERSAL M25XPB, M25XPBC, M35B AND M35BC

SUBJECT: CAM SHAFT DRIVE TANG REINFORCING SLEEVE

THERE HAVE BEEN CONCERNS FROM THE FIELD REGARDING THE FIT OF THE REINFORCING SLEEVE ON THE CAM SHAFT DRIVE TANG END.

TO ENSURE SECURITY OF THE SLEEVE WHEN INSTALLED ON THE CAMSHAFT.

- 1. WIPE THE CAMSHAFT TANGS CLEAN AND DRY AS WELL AS THE INSIDE SURFACE OF THE REINFORCING SLEEVE.**
- 2. APPLY LOCTITE #620 TO THE OUTSIDE SURFACE OF THE CAMSHAFT TANGS AND THE INNER SURFACE OF THE REINFORCING SLEEVE.**
- 3. INSTALL THE REINFORCING SLEEVE ONTO THE CAMSHAFT END WITH A TWISTING MOTION.**
- 4. ALLOW THE LOCTITE TO CURE FOR 24 HOURS BEFORE OPERATING THE ENGINE.**

Updated 06/28/2013

SERVICE BULLETIN

DATE: FEBRUARY 26, 2003

Service Bulletin: #236

MODEL: UNIVERSAL DIESEL
PROPULSION MODELS

SUBJECT: R.P.M. RANGES

There appears to be some conflicting specifications in the field with regards to r.p.m. ranges for the current Universal propulsion models such as idle range, cruising range and maximum r.p.m. range.

Below is a list of current Universal models with recommended r.p.m. ranges:

| <u>MODEL</u> | <u>R.P.M</u> | <u>R.P.M.</u> | <u>R.P.M</u> |
|--------------|--------------|---------------|--------------|
| M3-20B | 1000 –1200 | 2500 – 3000 | 3500 – 3600 |
| M25XPB | 1000 – 1200 | 2000 – 2500 | 2900 – 3000 |
| M-35B | 800 - 1000 | 2000 – 2500 | 2900 – 3000 |
| M-40B | 800 – 1000 | 2000 – 2500 | 2900 – 3000 |
| M-50B | 800 - 1000 | 2000 - 2500 | 2700 - 2800 |

These r.p.m. ranges are also listed in the operators manual that covers these models publication # 200550, available through any Westerbeke / Universal dealer.

NOTE:

- Attempting to reduce idle speed below the minimum shown may produce unstable engine operation and stalling.
- The propeller used either 2 or 3 blade should allow the engine to reach its maximum rated r.p.m. at full open throttle underway in forward gear to ensure the availability of rated horsepower when needed.



SERVICE BULLETIN

SERVICE BULLETIN #238

DATE: 28 FEBRUARY 2003

MODEL: ALL MODELS-DIESEL PROPULSION AND GENERATORS AND GASOLINE GENERATORS

SUBJECT: FUEL PUMP INLET FILTER PN#048076

A FILTER IS BEING ATTACHED TO THE INLET OF "ALL" FUEL PUMPS ON BOTH DIESEL PROPULSION AND GENERATORS AND GASOLINE GENERATOR MODELS BEGINNING THE LATTER PART OF MARCH 2003. (MANUFACTURING DATE CODE E303)

THIS IS BEING DONE TO ENSURE THAT THE FUEL ENTERING THE FUEL PUMP IS BEING PROPERLY FILTERED TO PROTECT THE FUEL PUMP FROM CONTAMINATION.

THE INLET OPENING OF THE FILTER IS THE SAME AS THE INLET OPENING IN THE FUEL PUMP (1/8 X 27 NPTF). THIS SHOULD POSE NO PROBLEMS WITH EXISTING FUEL LINE CONNECTIONS.

THIS FILTER "MUST" BE USED. IF THE FILTER IS REMOVED WARRANTY ON THE FUEL PUMP IS VOID.

THE FILTER SHOULD BE REPLACED ON A NEWLY COMMISSIONED UNIT AFTER THE FIRST 50 HOURS OF OPERATION. THEN EVERY 250 HOUR, ANNUALLY OR AS NEEDED.

WESTERBEKE CORPORATION STILL RECOMMENDS THE INSTALLATION OF A PRIMARY FILTER/WATER SEPARATOR BETWEEN THE FUEL TANK AND THE ENGINE. THE FILTER USED IN THIS SHOULD NOT HAVE A MICRON RATING SMALLER THAN 10 MICRONS.





SERVICE BULLETIN

DATE: 9-Dec-05 **BULLETIN NUMBER:** 247 Update (pg. 1)

SUBJECT: Fuel Filter Bracket # 300103

MODEL AFFECTED: Universal M 25XPB, M 25XPBC, M 35B, M 35BC, M 40B

DETAIL: Service Bulletin 247 was originally published in December 2005, see page two of this update for more information. Since the original publication date it has been determined that the majority of bracket problems were caused by excessive vibration due to low engine idle speed. For information regarding the proper engine idle speed refer to your Operator's Manual. Keep in mind the accuracy of the engine instrument panel's electric tachometer should be verified with a known good photo electric tachometer.

The purpose of this update is to stress the importance of correct engine idle speed and to inform our customers that the fuel filter bracket (P.N. 300103) is no longer available free of charge from Westerbeke.

To have your engine professionally inspected by a qualified technician or to purchase a replacement bracket please contact you local Westerbeke Dealer or Distributor.

Updated 18-June-2013

WESTERBEKE CORPORATION

Myles Standish Industrial Park, 150 John Hancock Road, Taunton, MA 02780-7319 • Tel: 508.823.7677 • Fax: 508.884.9688

www.westerbeke.com

SERVICE BULLETIN

DATE: 9-Dec-05 BULLETIN NUMBER: 247 Update (pg. 2)

SUBJECT: Fuel Filter Bracket # 300103

MODEL AFFECTED: Universal M 25XPB, M 25XPBC, M 35B, M 35BC, M 40B

DETAIL: FRACTURES HAVE BEEN REPORTED FROM THE FIELD IN THE AREA OF THE 90-DEGREE BEND

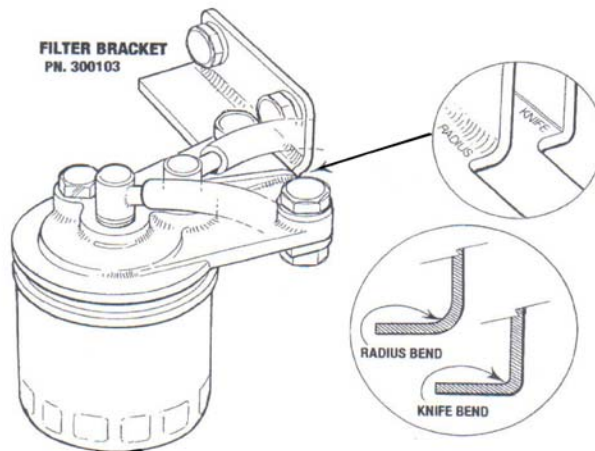
IN THE #300103 BRACKET. INSPECTION OF BRACKETS RETURNED FROM THE FIELD HAS SHOWN THAT THE 90- DEGREE BEND WAS INCORRECTLY PERFORMED USING A KNIFE-EDGE BENDER RATHER THAN A RADIUS BENDER.

THIS KNIFE EDGE BENDING PROCESS PLACES A NOTICEABLE CREASE ALONG THE BEND WHICH CAN STRESS THIS AREA OF THE METAL CREATING THE POSSIBILITY OF A FRACTURE TAKING PLACE ALONG THIS CREASE.

THE ABOVE SUBJECT MODELS USING THIS BRACKET MANUFACTURED PRIOR TO SEPTEMBER 2004 (E409) ARE SUSPECT. VISUALLY INSPECT THE BRACKET AND IF A CREASE IS VISIBLE ALONG THE BEND AREA. CONTACT WESTERBEKE CORPORATION AT 508-823-7677. PROVIDE THE ENGINE MODEL AND SERIAL NUMBER AND A SHIPPING ADDRESS AND A REPLACEMENT BRACKET WILL BE SENT AT NO CHARGE.

NOTE: TO LOW OF AN ENGINE IDLE SPEED WILL PRODUCE FILTER VIBRATIONS THAT CAN AFFECT THE FILTER BRACKET AND LED TO ITS FRACTURING AT THE 90 DEGREE BEND.

THE ILLUSTRATION BELOW SHOULD HELP TO SHOW THE DIFFERENCES IN THE 90 DEGREE BEND.



Updated 18-June-2013

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PARTS DEPARTMENT BULLETIN

DATE: June 25, 2009

BULLETIN NUMBER: 2009-3

SUBJECT: SEA WATER PUMP #301357

DETAIL: THREE CHANGES HAVE TAKEN PLACE WITH SEA WATER PUMP #301357.

1. THE COVER PLATE IS NO LONGER A CASTING. IT IS NOW A STAMPED BRONZE PLATE.
2. THE CAM IN THE PUMP IS NO LONGER A SEPARATE COMPONENT. IT IS NOW MACHINED AS PART OF THE PUMP HOUSING.
3. THE COVER PLATE IS NOW SEALED WITH THE USE OF AN "O" RING AND THE PUMP HOUSING NOW HAS A MACHINED GROOVE IN IT TO RETAIN THE "O" RING.

THE "O" RING PN#201080 WILL BE ADDED TO THE IMPELLER KIT #200209 AND THE PUMP REPAIR KIT #200212.

INSERT A COPY OF THIS PARTS BULLETIN INTO EACH OF THE UNIVERSAL PARTS LISTS THAT ILLUSTRATE THIS SEA WATER PUMP.



WESTERBEKE CORPORATION, Myles Standish Industrial Park, 150 John Hancock Road, Taunton, MA 02780-7319, TEL: 508.823.7677

www.westerbeke.com
www.safeCOproducts.com

SERVICE BULLETIN

DATE: 30-May-14

BULLETIN NUMBER: 272

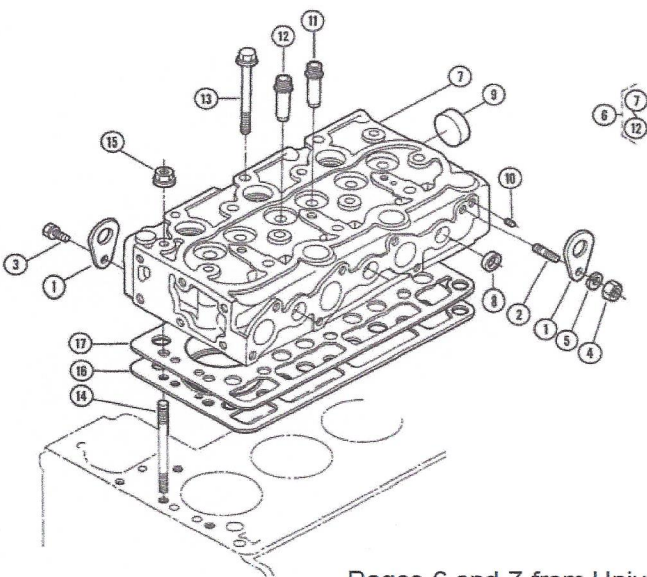
SUBJECT: Universal M25, M25XP, M25XPA and M25XPAC - Appropriate use of Cylinder Head Shims 300142 and 302185.

DETAIL: Confusion regarding when to use the cylinder head shim, reference 17 illustrated below, included in complete or upper gasket sets for the M25 and M25XP products has prompted the following explanation of when use of the shim is required.

Upon assembly of the engine by the manufacturer the cylinder head to piston top height clearance is measured to determine if a shim is needed. This results in inconsistency from one engine to the next. When replacing the cylinder head gasket on the subject models pay attention to whether a shim was originally used. Be sure to use the new shim if one originally existed in order to avoid the possibility of interference issues.

In the event you did not disassemble the engine and you do not know if a shim was used originally we recommend both the gasket and shim be installed to avoid problems. Installing a shim in either case is acceptable and preferred.

CYLINDER HEAD GROUP



| Item | Part No. | Unit | Description |
|------|----------|------|----------------------------------|
| 1 | 298666 | 2 | Engine Hook |
| 2 | 300135 | 1 | Stud |
| 3 | 300008 | 1 | Bolt |
| 4 | 299529 | 1 | Nut |
| 5 | 299515 | 2 | Spring Washer |
| 6 | 300136 | 1 | Cylinder Head Assembly |
| 6A | 302183 | | Cylinder Head Assembly M-25XP |
| 7 | | | Order by Item No. 6 |
| 8 | 299905 | 5 | Sealing Cap |
| 9 | 299906 | 1 | Sealing Cap |
| 10 | 299356 | 2 | Plug |
| 11 | 299386 | 3 | Inlet Valve Guide |
| 12 | 299394 | 3 | Exhaust Valve Guide |
| 13 | 300137 | 12 | Cylinder Head Bolt |
| 14 | 300138 | 2 | Cylinder Head Stud |
| 15 | 300139 | 2 | Cylinder Head Nut |
| 16 | 300141 | 1 | Cylinder Head Gasket M-25 |
| 16A | 302184 | | Cylinder Head Gasket M-25XP |
| 17 | 300142 | AR | Cylinder Head Gasket Shim M-25 |
| 17A | 302185 | | Cylinder Head Gasket Shim M-25XP |

Pages 6 and 7 from Universal M25 / M25XP parts list 200142 edition 1.