

SERVICE BULLETIN

BULLETIN NUMBER: 5

DATE: 2003

MODEL: Universal & Westerbeke Propulsion Engines

SUBJECT: Oil Filter Hazard - 20 mm filter on 3/4" adapter

Over the years *Universal* diesel marine engines have been fitted with oil filter adapters (the threaded stud that holds the filter onto the engine) with both metric and imperial threads. That is why a different filter is specified for some models that seem very similar to others.

The Universal M12, M2-12, M18, M3-20, M3-20A, M-25, 5421, M25-XP, M25-XPB, M4-30, M-35, M-35B, M-40B use a metric thread filter (#300209), while the Universal M15, 5411, M-20, 5416, M-30, and 5424 use an imperial thread filter (#299381) [The Universal 5432 and the M-40 with a Kubota 1501 block use a large imperial thread filter (#299584), while the M-40 with a Kubota 1502 block and the M-50 use another large imperial thread filter (#299927)].

The problem stems from the unfortunate coincidence that adapters with 20 mm x 1.5 metric threads and 3/4" NF (16 tpi) imperial threads are so similar in size that an oil filter with the 20 mm x 1.5 metric threads will screw (albeit loosely) onto an adapter with 3/4" NF threads. (A filter with 3/4" NF imperial threads will not screw onto an adapter with 20 mm x 1.5 metric threads.) Unfortunately, although the metric filter will screw on and tighten down, because the 2 sizes/types of threads do not mate properly engine oil pressure may suddenly blow the filter off the adapter at any time while the engine is running. If the filter blows off under high pressure while the engine is underway it could cause serious injury or death to anyone close to the engine, as well as a complete engine failure.

Usually the first indication that a filter with 20 mm metric threads is being installed on an oil filter adapter with 3/4" imperial threads is that although the filter will thread on the filter mounting adapter, it will feel very loose compared to a normal thread. Another indication that the filter is incorrect may be an oil leak at the rubber filter seal no matter how much the filter is tightened, because the diameter of the seals on the metric and imperial filters are slightly different.

All Universal marine engines use the same secondary engine-mounted fuel filter (#298854), which fits an adapter with 20 mm x 1.5 metric threads... the same threads used on the metric oil filter adapter, so even if an engine uses imperial oil filters, it will still require metric fuel filters.

Because the oil filter adapter may be either type of thread regardless of the engine model due to the installation of new parts during repair work (the adapter is mounted on the front cover, not the engine block itself, and is replaced whenever a new cover is installed), when installing a new oil filter always verify it has the same thread as the filter adapter. One way to check

the adapter is by trying to slip a 3/4" open-end wrench over the adapter threads. If the 3/4" wrench slips over the threads the adapter is 3/4" NF imperial, and the oil filter must have 3/4" NF imperial threads. If the 3/4" wrench will not fit over the threads the adaptor has metric threads, and so the oil filter must have 20 mm x 1.5 metric threads. Another way to verify the filter and adapter thread size is to carry a 3/4" NF nut and a 20 mm bolt in your toolbox to test both adapters and filters. A 3/4" NF imperial nut will not thread onto a 20 mm x 1.5 adapter, and a 20 mm bolt will not thread into a 3/4" NF filter.