

Riviera 43

Twin Volvo Penta TAMD74P-B engines | Twin Disc marine gearboxes

This vessel-specific guide gives the owner a quick pre-trip routine and gives every mechanic, electrician and plumber one place to record maintenance. It supports - but does not replace - the Volvo Penta, Twin Disc and Riviera manuals or the equipment data plates.

Vessel & owner details

FIELD	DETAIL	FIELD	DETAIL
Vessel name	MV Southern Star	Registration	QLD DEMO-043
Owner	Daniel Mercer (fictional)	Primary berth	Hope Island Marina
HIN	SAMPLE-HIN-ONLY	Insurance	Example policy - not insured
Emergency contact	Alex Mercer (fictional)	Guide issued	10 Oct 2026

Propulsion identification

ITEM	PORT	STARBOARD
Engine	Volvo Penta TAMD74P-B	Volvo Penta TAMD74P-B
Engine serial no.	Not supplied - verify	Not supplied - verify
Current engine hours	1,248 h (example)	1,261 h (example)
Gearbox make	Twin Disc	Twin Disc
Gearbox model	Model to verify	Model to verify
Gearbox serial no.	Serial to verify	Serial to verify
Reduction ratio	Ratio to verify	Ratio to verify
Gear oil grade	CAT SAE 30*	CAT SAE 30*
Service refill quantity	Verify actual refill	Verify actual refill

Service baseline to record

BASELINE	PORT	STARBOARD
Baseline date / hours	10 Oct 2026 / 1,248 h	10 Oct 2026 / 1,261 h
Engine oil quantity filled	Record at next service	Record at next service
Gearbox oil quantity filled	Record at next service	Record at next service
Normal idle oil pressure	To establish - test	To establish - test
Normal cruise temperature	To establish - sea trial	To establish - sea trial
Charging voltage	To establish - test	To establish - test

ILLUSTRATIVE EXAMPLE ONLY | Vessel, owner and service records are fictional.

Service parts & fluid specifications

Parts and quantities below cover both TAMD74P-B engines unless noted otherwise.

SERVICE ITEM	PART NUMBER	TOTAL QUANTITY
Engine oil filter	847741	2
Engine oil by-pass filter	3827069	2
Engine primary Racor filter	2040TM	2
Engine-mounted fuel filter	21492771	4
Air filter	3838952	2
Crankcase filter	876069	4
Pencil anode	838929	6
Raw-water impeller	AN2053	2

Kohler generator

MODEL	SERIAL NUMBER	CURRENT HOURS	OIL TYPE / QUANTITY
Kohler - model TBC	Verify from plate	683 h (example)	Verify with manual

GENERATOR SERVICE ITEM	PART NUMBER	QUANTITY
Primary fuel filter	FS1233	1
Secondary fuel filter	FF5087	1
Oil filter	LF3462	1
Raw-water impeller	AN2051	1
Coolant	Green coolant	As required

Fluids currently used

SYSTEM	PRODUCT / TYPE	QUANTITY / METHOD
Port engine	Penrite VDS 4 SAE 15W-40 diesel engine oil	Record actual refill on page 1; fill gradually and confirm on the dipstick
Starboard engine	Penrite VDS 4 SAE 15W-40 diesel engine oil	Record actual refill on page 1; fill gradually and confirm on the dipstick
Port Twin Disc gearbox	CAT SAE 30 transmission oil	Record actual refill on page 1; use the correct gearbox level-check procedure
Starboard Twin Disc gearbox	CAT SAE 30 transmission oil	Record actual refill on page 1; use the correct gearbox level-check procedure
Closed cooling systems	Green heavy-duty diesel coolant currently fitted	Approx. 34 L system capacity per engine; use the same known product
Kohler generator cooling system	Green coolant currently fitted	Use the same known product; record actual refill quantity after service

Important: Green colour alone does not identify coolant chemistry. Use the same known product already installed, or fully drain and flush before changing coolant type.

PRE-TRIP ENGINE CHECK

Complete before every departure

VESSEL S/S Southern Star

DATE 10 Oct 2026

ENGINE HOURS 1,248 / 1,261

12 checks before you leave the berth

1

☐ ENGINE OIL

Boat level, engines off. Dipstick level between MIN and MAX.

2

☐ COOLANT - COLD ONLY

Check expansion tank level. Never remove a hot pressure cap.

3

☐ FUEL

Enough for the trip plus a safe reserve. Fuel valves open.

4

☐ FUEL SEPARATOR

No water, sludge or heavy contamination visible in the bowl.

5

☐ RAW-WATER STRAINER

Basket clear, lid sealed and seacock fully open.

6

☐ BILGE & LEAKS

Bilge normal. No new oil, fuel, coolant or seawater leaks.

7

☐ BELTS, HOSES & CLAMPS

Belts sound and firm. Hoses secure; no splits, bulges or drips.

8

☐ BATTERIES & ISOLATORS

Battery switches on, terminals secure and voltage normal.

9

☐ GEARBOX OIL

Check as specified for the fitted gearbox; oil clean, not milky.

10

☐ SAFETY & STEERING

Steering, controls, bilge pumps, nav lights and required safety gear ready.

11

☐ START & LISTEN

Start in neutral. Confirm alarms self-test, then clear; listen for anything unusual.

12

☐ EXHAUST WATER & GAUGES

Strong water flow at both exhausts; oil pressure, charging and temperature normal.

DO NOT DEPART if you find fuel, a new leak, an active alarm, no exhaust cooling water, low oil pressure or rising temperature. Shut down and arrange inspection.

How to complete each check

Complete these checks with the vessel secured. If the vessel or equipment manual gives a different method, follow that manual.

1

Check the engine oil

What to do: Keep the boat level and stop the engine. Pull the dipstick, wipe it clean, refit it fully, then remove it again to read the level.

GOOD: Oil sits between MIN and MAX and looks like normal engine oil.

STOP: Below MIN, above MAX, milky/creamy oil, metal particles, or a level that has risen unexpectedly.

2

Check coolant - only when cold

What to do: Check the translucent expansion tank or header tank against its cold-level mark. Use the same approved coolant already in the system.

GOOD: Level is at the cold mark; coolant is clear and its usual colour.

STOP: Engine is hot, level has dropped, or coolant is rusty, oily or cloudy. Never open a hot pressure cap.

3

Confirm fuel and fuel valves

What to do: Check the gauge or tank level and allow a sensible reserve for delays or rough weather. Confirm supply and return valves are in their normal operating positions.

GOOD: Enough clean fuel for the planned trip plus reserve; valves open.

STOP: Uncertain range, unexpected fuel loss, diesel smell or wet fuel fittings.

4

Inspect the fuel-water separator

What to do: Look through the clear bowl. If water is present and you know the correct procedure, drain it into a suitable container before starting.

GOOD: Clean diesel with no separate water layer, sludge or excessive debris.

STOP: Water returns quickly, heavy contamination, air leaks, damaged bowl, or fuel weeping.

5

Check the raw-water intake

What to do: Confirm the seacock is fully open. Inspect the strainer basket for weed, shells or plastic and ensure its lid is correctly seated and sealed.

GOOD: Seacock open, basket clear, lid tight and no leaks.

STOP: Blocked basket, cracked lid, damaged seal, seized seacock or water leaking into the bilge.

6

Inspect the bilge and engine space

What to do: Use a torch. Compare the bilge with its usual condition and look beneath engines, filters, pumps, coolers and hose joints.

GOOD: Bilge level is normal and there are no fresh drips, smells or loose items.

STOP: New oil, diesel, coolant or seawater; rising bilge level; strong fuel smell. Do not start if fuel is present.

Start-up and final checks

7

Inspect belts, hoses and clamps

What to do: With engines off, look for belt cracks, glazing, fraying or black dust. Squeeze accessible hoses and check clamps and connections.

GOOD: Belts are intact and firm; hoses are secure with no swelling, splits or chafe.

STOP: Loose/damaged belt, soft or bulging hose, loose clamp, fresh drip or hose rubbing through.

8

Check batteries and electrical supply

What to do: Set battery isolators to the vessel's normal running position. Check terminals are secure and visually inspect for heat damage or corrosion.

GOOD: Secure, clean connections and normal resting voltage for the fitted system.

STOP: Hot/melted wiring, loose terminals, severe corrosion, low voltage or repeated breaker/fuse trips.

9

Check marine gearbox oil

What to do: Follow the gearbox plate/manual because some gearboxes are checked cold and others at operating temperature. Use its own dipstick.

GOOD: Correct level; oil looks clean and clear for the specified grade.

STOP: Milky oil, burnt smell, metal, low level or difficulty selecting gear.

10

Ready the vessel and safety systems

What to do: Test steering and control movement before leaving. Confirm bilge pumps, navigation lights, communications and legally required safety equipment.

GOOD: Controls move smoothly; pumps/lights work; gear is present, accessible and in date.

STOP: Stiff or unreliable steering/controls, failed bilge pump, missing safety equipment or unresolved electrical fault.

11

Start correctly and listen

What to do: Ventilate the engine space, place controls in neutral, then start. Confirm the alarm sounds during key-on self-test and clears after starting.

GOOD: Starts normally, alarms clear promptly and idle sounds smooth and familiar.

STOP: Alarm stays on, hard starting, rough idle, knocking, smoke beyond normal start-up haze or strong fumes.

12

Confirm cooling flow and instruments

What to do: Immediately check for a strong, steady raw-water discharge at each exhaust. Watch oil pressure, charging voltage and temperature as the engines warm.

GOOD: Steady exhaust water, normal oil pressure and charging, stable temperature, no leaks.

STOP: No/weak water flow, warning light/buzzer, low oil pressure, no charge, rising temperature or a fresh leak.

After returning: Inspect the engine space for new leaks, smells or increased bilge water. Record engine hours and report anything that changed during the trip.

Maintenance schedule at a glance

Use running hours or calendar time, whichever comes first. This is a conservative plan for a saltwater pleasure vessel; adjust to operating conditions, history and the serial-specific manuals.

INTERVAL	MECHANICAL / PROPULSION	ELECTRICAL / PLUMBING	WHO
Before every trip	Oil, coolant, fuel, separators, strainers, leaks, belts, gearbox levels; exhaust water and gauges after start	Battery supply, alarms, steering/controls, bilge pumps, navigation lights, safety systems	Owner
After every trip	Fresh leak check; note engine hours and abnormalities	Check bilge level; isolate systems as required	Owner
Monthly / 25-50 h	Drain water separators; inspect belts, hoses, clamps, air intakes, raw-water strainers and seacocks	Test all bilge pumps/float switches, battery charger, shore lead/RCD, nav/anchor lights; inspect toilets for leaks	Owner / trade
100 h / 6 months	Inspect engine/gear mounts, shaft seals, couplings, fuel system, exhaust, turbo/aftercooler hoses, anodes and impellers	Battery load/terminal check; inspect earthing/bonding; test freshwater and waste systems	Mechanic / electrician / plumber
200 h / 12 months	Engine oil and filters; fuel filters; raw-water impellers; gearbox oil/filter or screen per exact model; full engine and drive inspection	Electrical inspection; bilge and high-water alarms; pumps, valves, hoses, hot-water system and toilets	Qualified trades
500 h / 2 years	Coolant renewal/analysis as applicable; inspect heat exchangers, oil/gear coolers, exhaust elbows and mounts; oil samples	Battery capacity test; shore-power/RCD test; inspect tanks, sanitation hoses, pumps and through-hulls	Qualified trades
1000 h / major service	Valve clearances; injector test; turbo/boost system; aftercooler and heat-exchanger service/pressure test; crankcase breather; full gearbox/shaftline inspection	Comprehensive electrical and plumbing survey	Qualified trades
Lay-up / recommission	Preserve fuel, cooling and cylinders as required; service before storage; recommission and sea trial	Isolate/maintain batteries; drain/protect water systems; recommission and leak test	Qualified trades

The older TAMD74P instruction book states most scheduled operations must be completed at least annually even where hours have not been reached. Service sooner after overheating, contamination, extended idling, heavy load, long storage or any oil/coolant/fuel ingress.

Semi-annual vessel checks

Complete every six months or sooner where use, condition or a defect warrants it. Mark each item OK, monitor or repair and attach photos where useful.

AREA	SEMI-ANNUAL CHECK	STATUS / NOTES
Engines & gearboxes	Inspect fluid levels/condition, leaks, mounts, belts, hoses, clamps, fuel lines, exhaust, raw-water flow and controls. Take engine and gearbox oil samples and trend results.	OK - no active leaks; samples planned
Cooling & seacocks	Clean strainers; exercise every seacock; inspect through-hull hoses, tails and double clamps; check coolant condition and anodes.	OK - strainers clean; anodes monitor
Bilge systems	Clean bilges; test all pumps in manual and automatic modes; test float switches and high-water alarm; inspect hoses and outlets.	OK - float switches tested
Electrical & batteries	Check battery condition, terminals, isolators, charging voltage, shore lead/inlet, charger, RCD/RCBO and visible cabling for corrosion or heat.	Monitor - slight port terminal corrosion
Lighting & electronics	Test navigation/anchor lights, deck and interior lights, horn, VHF, GPS, sounder, alarms, gauges and both control stations.	OK - lights, VHF and alarms tested
Freshwater plumbing	Inspect tanks, pumps, accumulator, filters, taps, showers, hot-water system and engine coolant loop for leaks and correct operation.	OK - freshwater pressure holding
Sanitation / grey water	Test toilets, vacuum generators, holding tank level, vents, pump-out fittings, shower sumps and grey-water pumps; inspect for odour or leaks.	Monitor - sanitation hose odour
Safety equipment	Check fire extinguishers, EPIRB/PLB, flares, lifejackets, first aid, smoke/CO alarms and expiry dates against vessel requirements.	OK - inventory / expiry review
Deck & superstructure	Inspect rails, cleats, hatches, windows, seals, drains, anchor windlass, chain/rode, swim platform and visible deck fittings.	OK - fittings inspected
Steering & controls	Check steering operation, hydraulic fluid/leaks, rudder gear, throttles/shifts and neutral-safety function.	OK - no hydraulic seepage
Kohler generator	Check oil and coolant levels, leaks, Racor/primary fuel condition, raw-water strainer, hoses, belt, battery, exhaust-water flow, output voltage/frequency and load operation.	OK - generator ran under load

Oil-sample reports should identify port or starboard, component, oil hours, total engine hours, oil brand/grade and any top-up since the previous sample.

Annual vessel checks

Complete every 12 months, combining scheduled servicing with a full condition review of the Riviera 43.

AREA	ANNUAL CHECK / SERVICE	STATUS / NOTES
Engines	Change Penrite VDS 4 15W-40 engine oil and filters; replace fuel filters; inspect air intake/breather, turbo, exhaust, belts, mounts and all leaks. Complete diagnostic/sea-trial checks.	Scheduled - annual engine service
Gearboxes & shaftline	Change CAT SAE 30 gearbox oil and service filter/screen as fitted; inspect coolers, hoses, mounts, couplings, alignment, shafts, seals and operating behaviour.	Scheduled - inspect shafts and seals
Raw-water cooling	Replace both engine impellers; inspect pumps, recover missing vanes, clean strainers, check coolers/heat exchangers, exhaust elbows and seawater discharge.	Scheduled - renew both impellers
Coolant systems	Test green coolant condition/concentration, inspect caps, thermostats, hoses and clamps; pressure-test unexplained loss and renew coolant when due.	Test coolant; confirm chemistry
Hull below waterline	Haul out: inspect hull/antifoul, through-hulls, seacocks, rudders, shafts, propellers, bearings, trim tabs and underwater lights; renew anodes as required.	Due at next haul-out
Electrical survey	Load/capacity test batteries; inspect AC/DC boards, shore protection, charging systems, earthing/bonding, engine alarms, emergency circuits and cable condition.	Scheduled - full electrical test
Plumbing & sanitation	Inspect freshwater, hot water, bilge, grey-water and black-water systems; service pumps/filters and test every valve, alarm and level sender.	Scheduled - sanitation inspection
Safety & fire systems	Service extinguishers/suppression system; verify detection alarms, EPIRB, flares, lifejackets, first aid and required documentation.	Review expiries and suppression
Structure & deck gear	Inspect hull/deck joins, windows, hatches, rails, cleats, windlass, anchor gear, drains, flybridge fittings and signs of water ingress.	Inspect during annual visit
Final sea trial	Record cruise rpm, temperatures, pressures, charging, steering, vibration, smoke, power balance and post-trial leaks.	Sea trial after service
Kohler generator	Change engine oil and LF3462 oil filter; replace FS1233 and FF5087 fuel filters and AN2051 impeller; inspect coolant, belt, mounts, exhaust, fuel system, battery/charging and test under load.	Scheduled - generator service

Corrective repairs, parts, haul-out, contractors and major cleaning/testing should be quoted separately unless included in the agreed service scope.

Service & maintenance record

Type: M = mechanic / propulsion, E = electrician, P = plumber / sanitation, O = owner check. Record port and starboard separately where applicable.

DATE	HOURS	TYPE	SYSTEM / EQUIPMENT	WORK CARRIED OUT	PARTS / FLUIDS	TECHNICIAN
12/02/25	905	M	Port engine	Annual oil/filter service	15W-40 / filters	A. Taylor
12/02/25	918	M	Stbd engine	Annual oil/filter service	15W-40 / filters	A. Taylor
12/02/25	905	M	Port gearbox	Oil / strainer check	SAE 30	A. Taylor
12/02/25	918	M	Stbd gearbox	Oil / strainer check	SAE 30	A. Taylor
17/05/25	975	E	Batteries	Terminal clean & test	Contact protector	R. Collins
17/05/25	975	P	Bilge pumps	Auto / manual tested	No parts	R. Collins
22/08/25	1,045	M	Port engine	Strainer / belt check	No parts	A. Taylor
22/08/25	1,056	M	Stbd engine	Cooling inspection	No parts	A. Taylor
22/08/25	1,045	P	Fresh water	Pressure / leak test	Hose clips	R. Collins
07/11/25	1,118	M	Generator	Oil and filter service	LF3462 / engine oil	A. Taylor
07/11/25	1,118	E	Shore power	RCD operation check	No parts	R. Collins
07/11/25	1,118	O	Safety	Expiry / gear audit	No parts	D. Mercer

Service & maintenance record - continued

Type: M = mechanic / propulsion, E = electrician, P = plumber / sanitation, O = owner check. Record port and starboard separately where applicable.

DATE	HOURS	TYPE	SYSTEM / EQUIPMENT	WORK CARRIED OUT	PARTS / FLUIDS	TECHNICIAN
10/02/26	1,185	M	Port engine	Filters / cooling check	Fuel filters	A. Taylor
10/02/26	1,197	M	Stbd engine	Filters / cooling check	Fuel filters	A. Taylor
12/04/26	1,203	E	Engine room	Charge voltage check	No parts	R. Collins
12/04/26	1,203	P	Sanitation	Hoses / pump inspection	No parts	R. Collins
09/07/26	1,227	M	Port engine	Raw-water flow check	No parts	A. Taylor
09/07/26	1,240	M	Stbd engine	Raw-water flow check	No parts	A. Taylor
10/10/26	1,248	O	Vessel checks	Pre-trip visual checks	No parts	D. Mercer
10/10/26	1,261	O	Vessel checks	Hours and bilge logged	No parts	D. Mercer
PLANNED	-	M	Both engines	Annual service due	Per service plan	To assign
PLANNED	-	M	Gearboxes	Oil / screen service	Verify models	To assign
PLANNED	-	M	Cooling	Impellers / anodes	Per parts list	To assign
PLANNED	-	E	AC/DC systems	Electrical inspection	As required	To assign

