Workshop Manual

Wiring diagrams

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61, 62, 63, 71, 72, 73, 74-series

Group 30 Electrical system

Wiring diagrams

Marine engines

TAMD61A • TAMD62A
TAMD63L-A • TAMD63P-A
TAMD71A • TAMD71B
TAMD72A • TAMD72P-A • TAMD72WJ-A
TAMD73P-A • TAMD73WJ-A
TAMD74A-A • TAMD74A-B
TAMD74C-A • TAMD74L-A • TAMD74P-A
TAMD74C-B • TAMD74L-B • TAMD74P-B

Contents

Safety information

Introduction

The workshop manual contains technical data, descriptions and repair instructions for products or product versions noted in the table of contents, supplied by Volvo Penta. Make sure you use the correct workshop literature.

Read the available safety information, “General information” and “Repair instructions” in the workshop manual before you start to do any service work.

Important

The following special warning signs are found in the workshop manual and on the product.

WARNING! Warns for the risk of personal injury, major damage to product or property, or serious malfunctions if the instruction is ignored.

IMPORTANT! Is used to call attention to things which could cause damage or malfunctions to product or property.

NOTE! Is used to call attention to important information, to facilitate work processes or operation.

To give you a perspective on the risks which always need to be observed and precautions which always have to be taken, we have noted them below.

Make it impossible to start the engine by cutting system current with the main switch(es) and lock it (them) in the off position before starting service work. Fix a warning sign by the helmsman’s seat.

All service work should normally be done on a stationary engine. Some work, such as adjustments, need the engine to be running, however. Going close to a running engine is a safety risk. Remember that loose clothes, long hair etc. can catch on rotating components and cause severe injury.

If work is done adjacent to a running engine, a careless movement or a dropped tool can lead to personal injury in the worst case. Be careful with hot surfaces (exhaust pipes, turbos, charge air pipes, starting heaters etc.) and hot fluids in pipes and hoses on an engine which is running or which has just stopped. Re-install all guards which have been removed during service work, before re-starting the engine.

Make sure that the warning or information labels on the product are always clearly visible. Replace labels which have been damaged or painted over.

Never start an engine without the air filter in place. The rotating compressor turbine in the turbocharger can cause severe injury. Foreign bodies in the inlet pipe can also cause severe mechanical damage.

Never use start spray or similar products as a starting aid. Explosions could occur in the inlet manifold. Danger of personal injury.

Avoid opening the coolant filling cap when the engine is hot. Steam or hot coolant can spray out at the same time as the pressure which has built up is lost. Open the filler cap slowly, and release the pressure in the cooling system if the filling cap or tap has to be opened, or if a plug or coolant hose has to be removed when the engine is hot. Steam or hot coolant can stream out in an unexpected direction.

Hot oil can cause burns. Avoid skin contact with hot oil. Make sure that the oil system is de-pressurised before doing any work on it. Never start or run the engine with the oil filler cap removed, because of the risk of oil spillage.

Stop the engine and close the sea cocks before doing any work on the cooling system.

Only start the engine in a well-ventilated area. When operated in a confined space, exhaust fumes and crankcase gases must be ventilated from the engine bay or workshop area.

Always use goggles when doing any work where there is any risk of splinters, grinding sparks, acid splash or other chemicals. Your eyes are extremely sensitive, injury could cause blindness!

⚠ Avoid skin contact with oil! Long-term or repeated skin contact with oil can make your skin dry out. The consequence is irritation, dry skin, eczema and other skin disorders. Used oil is more hazardous to health than new oil. Use protective gloves and avoid oil-soaked clothes and rags. Wash regularly, especially before meals. Use special skin cream to avoid drying and facilitate skin cleaning.

⚠ Most chemicals intended for the product (e.g. engine and transmission oils, glycol, petrol (gasoline) and diesel oil) or chemicals for workshop use (e.g. degreasers, paints and solvents) are hazardous. Read the instruction on the packages carefully! Always observe the safety advice (e.g. use of breathing protection, goggles, gloves etc.). Make sure that other personnel are not inadvertently exposed to hazardous substances, such as via the air they breathe. Ensure good ventilation. Handle used and surplus chemicals in the prescribed manner.

⚠ Be very careful when searching for leaks in the fuel system and testing fuel injectors. Use goggles. The jet which comes from a fuel injector has very high pressure and considerable penetration ability. Fuel can force its way deep into body tissue and cause severe injury. Risk of blood poisoning (septicaemia).

⚠ All fuels, and many chemicals, are flammable. Make sure that open flames or sparks can not set them alight. Petrol (gasoline), some thinners and hydrogen gas from batteries are extremely flammable and explosive when mixed with air in the correct ratio. Do not smoke! Provide good ventilation and take the necessary precautions before you start welding or grinding in the vicinity. Always have a fire extinguisher easily available near the workplace.

⚠ Make sure that oil and fuel soaked rags, and used fuel and oil filters are stored in a safe place. Oil soaked rags can self-ignite in certain circumstances. Used fuel and oil filters are polluting waste and must be handed to an approved waste management facility for destruction, together with used lubrication oil, contaminated fuel, paint residue, solvents, degreasers and wash residue.

⚠ Batteries must never be exposed to open flames or electric sparks. Do not smoke close to the batteries. The batteries generate hydrogen gas when charged, which forms an explosive gas when mixed with air. This gas is very flammable and highly explosive. A spark, which can be formed if the batteries are wrongly connected, is enough to make a battery explode and cause damage. Do not move the connection when you attempt to start the engine (risk of arcing), and do not stand and lean over one of the batteries.

⚠ Never mix up the battery positive and negative poles when the batteries are installed. If the batteries are wrongly connected, this can cause severe damage to the electrical equipment. Please check the wiring diagram!

⚠ Always use goggles when charging and handling batteries. Battery electrolyte contains highly corrosive sulphuric acid. If this comes into contact with your skin, wash at once with soap and a lot of water. If you get battery acid in your eyes, flush at once with a generous amount of water, and get medical assistance at once.

⚠ Stop the engine and cut the system current with the main switch(es) before doing any work on the electrical system.

⚠ The clutch must be adjusted with the engine shut off.

⚠ The existing lugs on the engine/reverse gear should be used for lifting. Always check that the lifting devices are in good condition and that they have the correct capacity for the lift (the weight of the engine plus the reverse gear and extra equipment if installed).
The engine should be lifted with a customised or adjustable lifting boom for safe handling and to avoid damaging components on top of the engine. All chains or cables should be parallel to each other and should be as square as possible to the top of the engine.
If other equipment connected to the engine has altered its centre of gravity, special lifting devices may be needed to obtain the correct balance and safe handling.
Never do any work on an engine which just hangs from a lifting device.

⚠ Never work alone when heavy components are to be dismantled, even when safe lifting devices such as lockable blocks & tackle are used. Even when lifting devices are used, two people are needed in most cases. One who operates the lifting device and other who makes sure that components move freely and are not damaged during lifting.
When you work aboard a boat, always make sure that there is enough space for disassembly where you are working, with no risk for personal or material damage.

⚠ Components in the electrical and fuel systems on Volvo Penta products have been designed to minimise the risks of explosion and fire. The engine must not be operated in environments with adjacent explosive media.

⚠ **WARNING!** Fuel delivery pipes must not be bent or straightened under any circumstances. Damaged pipes must be replaced.

⚠ Remember the following when washing with a high pressure washer: Never aim the water jet at seals, rubber hoses or electrical components. Never use a high pressure washer for engine cleaning.

⚠ Only use the fuels recommended by Volvo Penta. Please refer to the instruction book. The use of fuel of inferior quality can damage the engine. In a diesel engine, poor fuel can cause the regulation rod to bind and the engine will over-rev, entailing a strong risk of personal injury and machinery damage. Poor fuel can also lead to higher maintenance costs.

General information

About the workshop manual

This workshop contains the wiring diagrams for the standard versions of engines TAMD61A, TAMD62A, TAMD63L-A, TAMD63P-A, TAMD71A, TAMD71B, TAMD72A, TAMD72P-A, TAMD72WJ-A, TAMD73P-A, TAMD73WJ-A, TAMD74A-A, TAMD74A-B, TAMD74C-A, TAMD74L-A, TAMD74P-A, TAMD74C-B, TAMD74L-B, TAMD74P-B.

The engine designation and number are noted on the number plate. The engine designation and number must always be given in all correspondence about an engine.

The workshop manual has been primarily prepared for Volvo Penta service workshops and their qualified personnel. This assumes that people who use the Manual have basic knowledge of marine drive systems and can do the tasks of a mechanical or electrical nature associated with the trade. Volvo Penta constantly improves its products, so we reserve the right to make modifications without prior notification. All information in this manual is based on product data which was available up to the date on which the manual was printed. Any material changes introduced into the product or service methods after this date are notified by means of Service Bulletins.

Spare parts

Spare parts for electrical and fuel systems are subject to various national safety requirements. Volvo Penta Original Spares comply with these requirements. No damage whatever, occasioned by use of non-original Volvo Penta spares for the product, will be compensated by the warranty offered by Volvo Penta.

Certified engines

When service or repairs are done to an emission certified engine, which is used in an area where exhaust emissions are regulated by law, it is important to be aware of the following:

Certification means that an engine type has been checked and approved by the relevant authority. The engine manufacturer guarantees that all engines made of the same type are equivalent to the certified engine.

This put special demands on service and repair work, as follows:

- Maintenance and service intervals recommended by Volvo Penta must be complied with.
- Only Volvo Penta original spares may be used.
- Service to injection pumps, pump settings and injectors must always be done by an authorised Volvo Penta workshop.
- The engine must not be converted or modified, except for the accessories and service kits which Volvo Penta has approved for the engine.
- Installation changes to the exhaust pipe and engine air inlet ducts must not be done.
- No seals may be broken by unauthorised personnel.

The general advice in the instruction book about operation, care and maintenance applies.

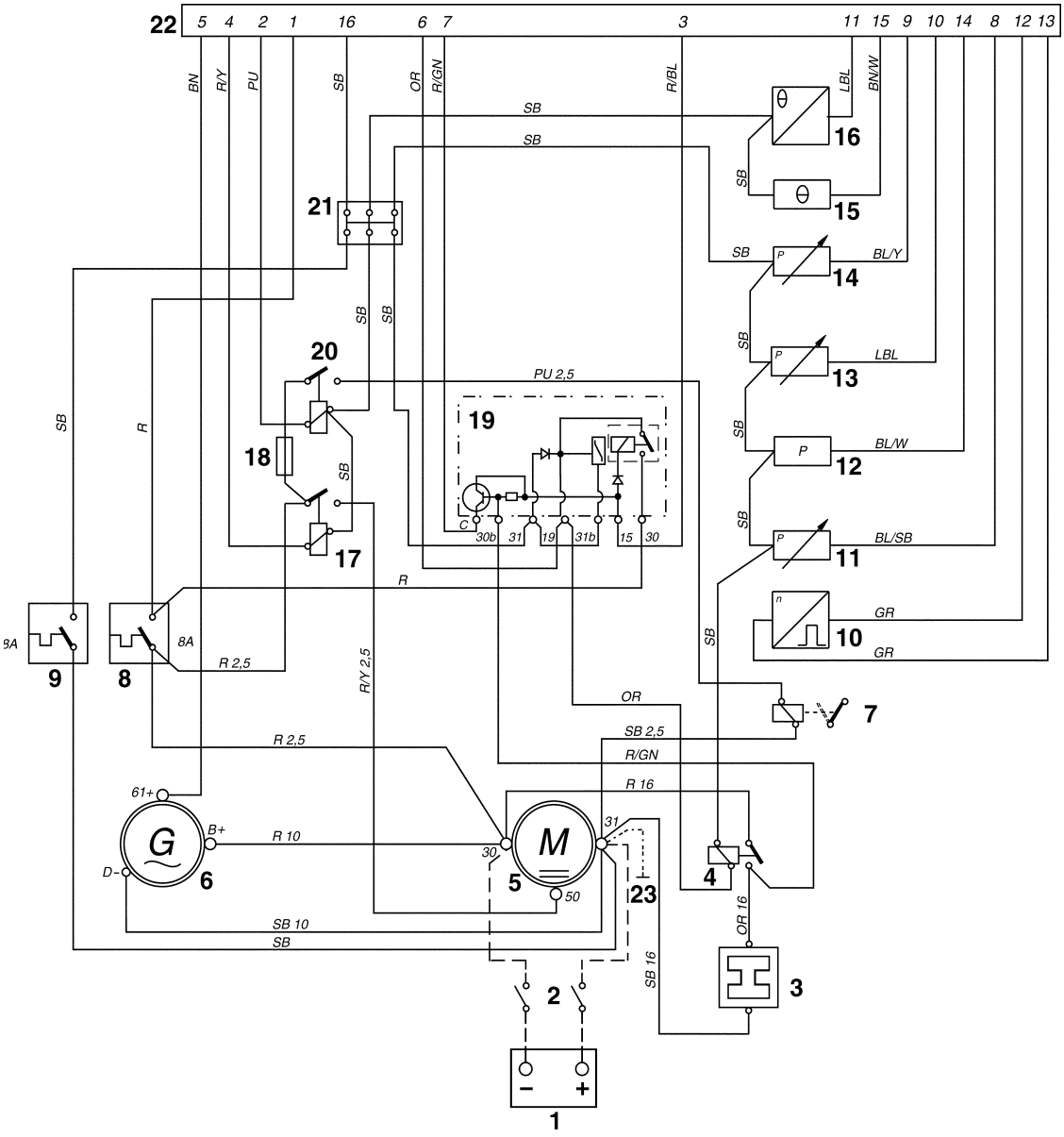
⚠ **IMPORTANT!** Delayed or inferior care/maintenance, and the use of non-original spares, mean that AB Volvo Penta can no longer be responsible for guaranteeing that the engine complies with the certified version.

Damage, injury and/or costs which arise from this will not be compensated by Volvo Penta.

Wiring diagrams – engines

Engines: TAMD61A*, TAMD71A* (12 V, 24 V)

*** Up to engine No. 1101021541/xxxx.**



1. Batteries (12V, 24V)
2. Main switch
3. Starting heater
4. High power relay
5. Starter motor
6. Alternator
7. Stop solenoid
8. Circuit breaker, 8A (+)
9. Circuit breaker, 8A (–)
10. Engine speed sensor
11. Oil pressure sensor, reverse gear
12. Oil pressure monitor, engine
13. Oil pressure sensor, engine
14. Pressure sensor, charge pressure
15. Coolant temperature monitor
16. Coolant temperature sensor
17. Starter relay
18. Fuse 8A (24 V), and 16A (12 V)
19. Timer relay
20. Stop relay
21. Earthing point
22. Connector, instrument panel
23. Earth cable

Cable colour

BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

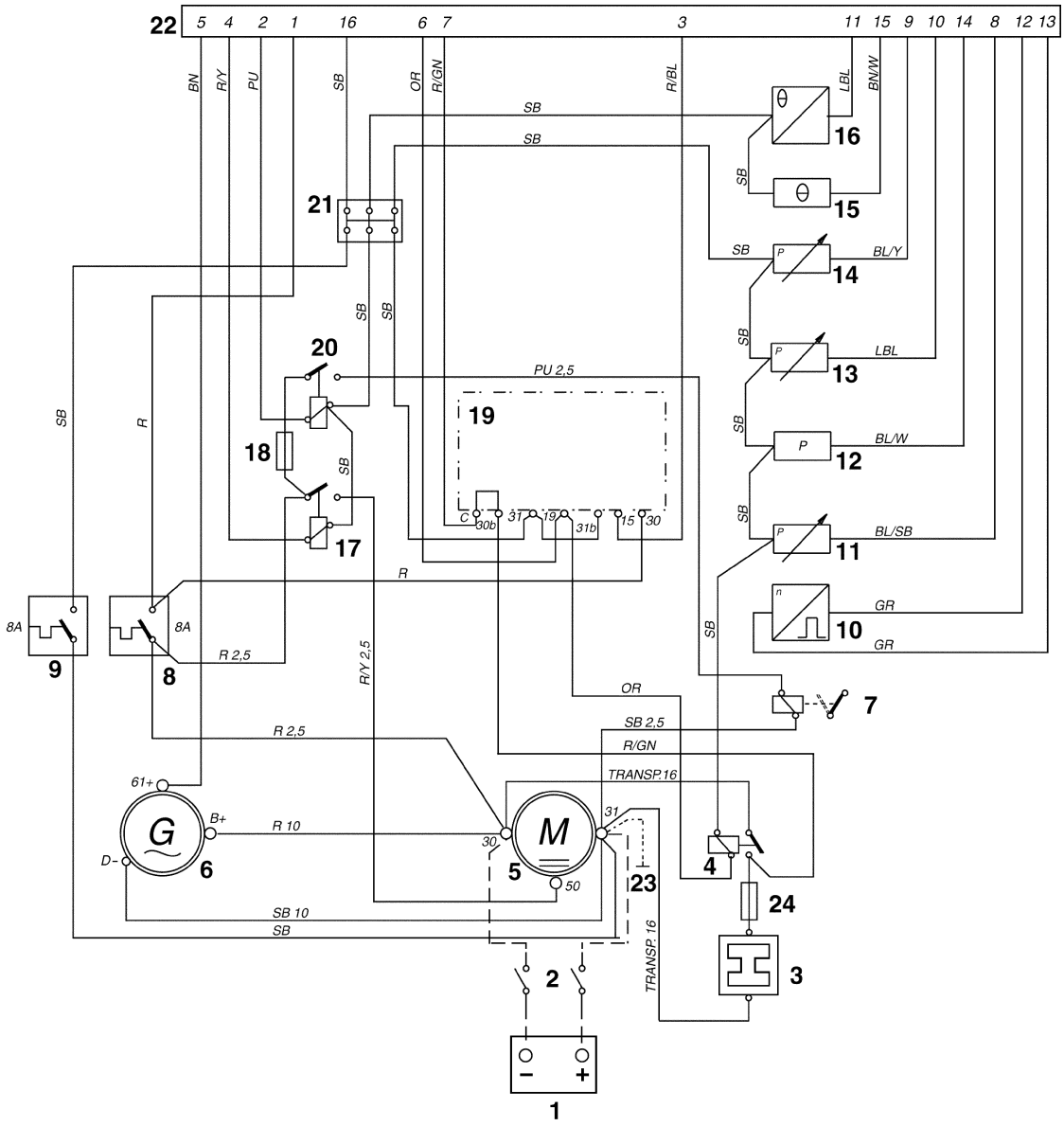
Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engines: TAMD61A*, TAMD62A, TAMD71A*, TAMD71B**, TAMD72A, TAMD72WJ-A** (12V, 24V)

*** As from. engine No. 1101021542/xxxx.**
**** Up to engine No. 207181083/xxxx.**



1. Batteries (12V, 24V)
2. Main switch
3. Starting heater
4. High power relay
5. Starter motor
6. Alternator
7. Stop solenoid
8. Circuit breaker, 8A (+)
9. Circuit breaker, 8A (–)
10. Engine speed sensor
11. Oil pressure sensor, reverse gear
12. Oil pressure monitor, engine
13. Oil pressure sensor, engine
14. Pressure sensor, charge pressure
15. Coolant temperature monitor
16. Coolant temperature sensor
17. Starter relay
18. Fuse 8A (24V), and 16A (12V)
19. Timer relay
20. Stop relay
21. Earthing point
22. Connector, instrument panel
23. Earth cable
24. Fuse (150A)

Cable colour

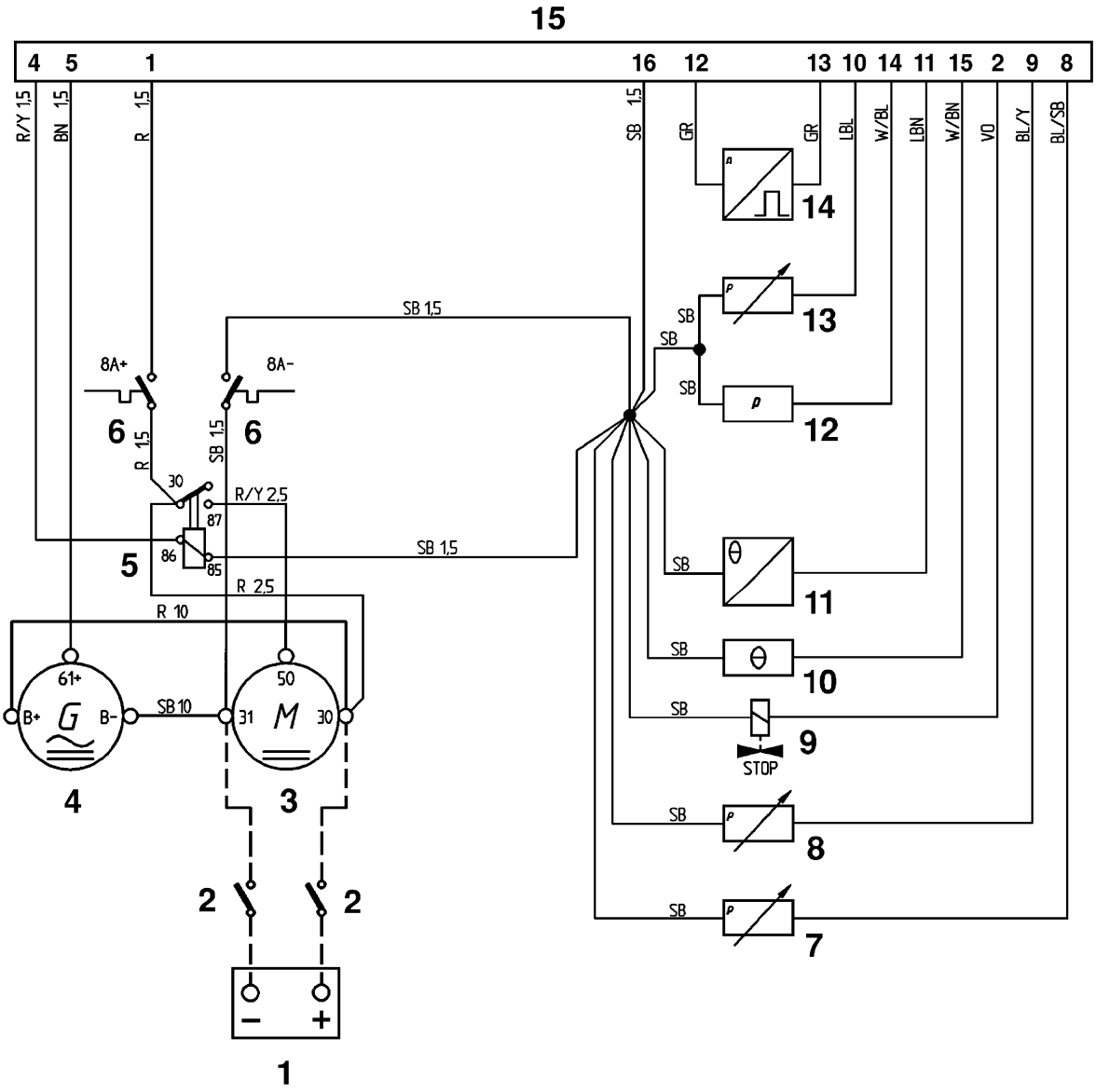
BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engines: TAMD63L-A, TAMD63P-A (12V, 24V)



1. Batteries (12V, 24V)
2. Main switch
3. Starter motor
4. Alternator
5. Starter relay
6. Circuit breakers (8A)
7. Oil pressure sensor, reverse gear (0–30 bar/0–435 psi)
8. Pressure sensor, charge pressure (0–3 bar/0–43.5 psi)
9. Fuel shut-off valve
10. Coolant temperature monitor (97°C/207°F, normally open – closes if fault occurs)
11. Coolant temperature sensor (40–120°C/104–248°F)
12. Oil pressure monitor, engine (0.7 bar/10 psi, normally open – closes if fault occurs)
13. Oil pressure sensor, engine (0–10 bar/0–145 psi)
14. Engine speed sensor
15. Connector, instrument panel

Cable colour

BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

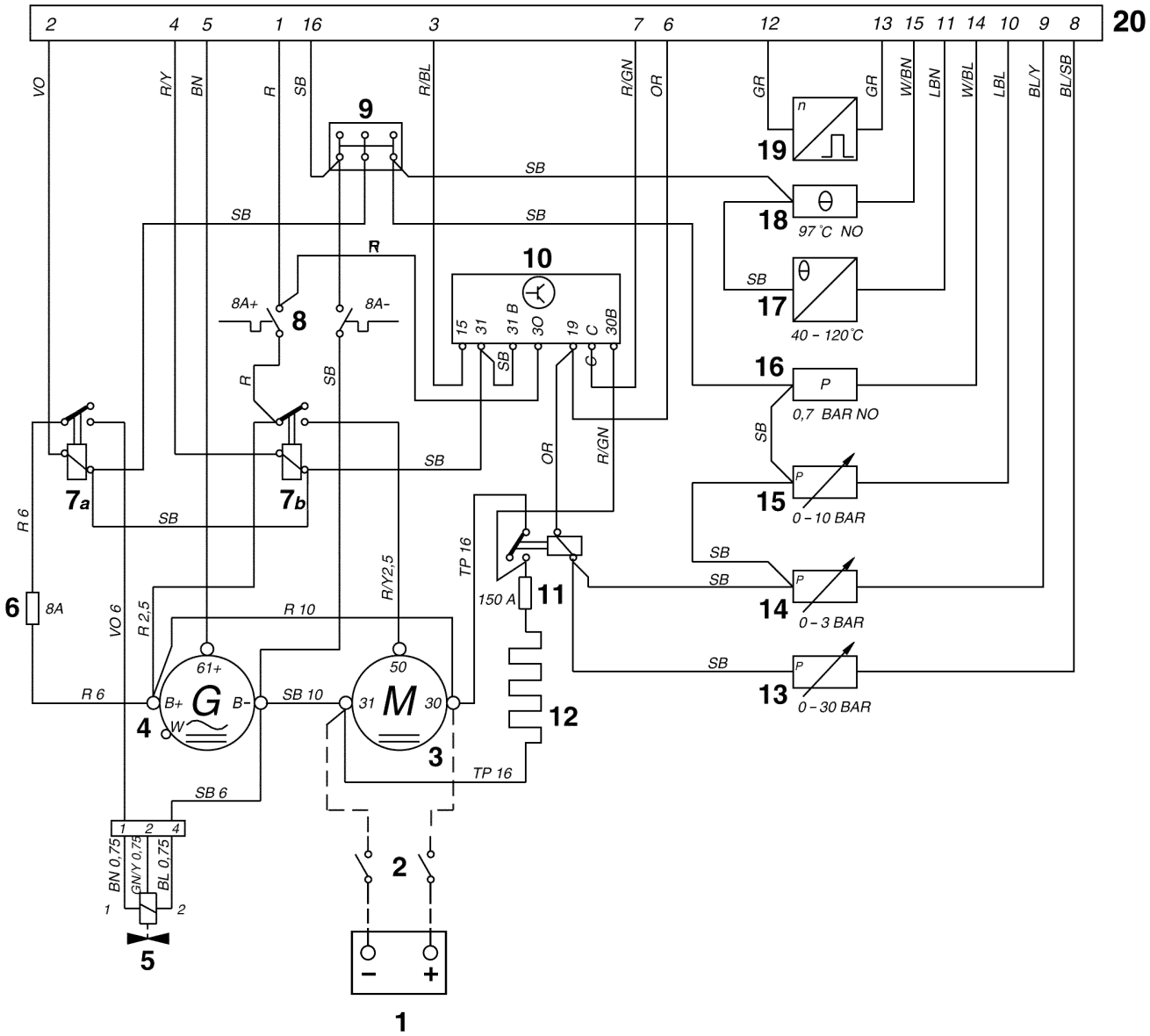
Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engines: TAMD71B* (12 V, 24 V)

*** As from. engine No. 207181084/xxxx.**



1. Batteries (12 V, 24 V)
2. Main switch
3. Starter motor
4. Alternator
5. Fuel shut-off valve
6. Fuse (8 A)

7a. Stop relay
7b. Starter relay

8. Circuit breakers (8 A)
9. Earthing point
10. Timer relay
11. Fuse (150 A)
12. Starting heater
13. Oil pressure sensor, reverse gear
14. Pressure sensor, charge pressure
15. Oil pressure sensor, engine

16. Oil pressure monitor, engine
17. Coolant temperature sensor
18. Coolant temperature monitor
19. Engine speed sensor
20. Connector, instrument panel

Cable colour

BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

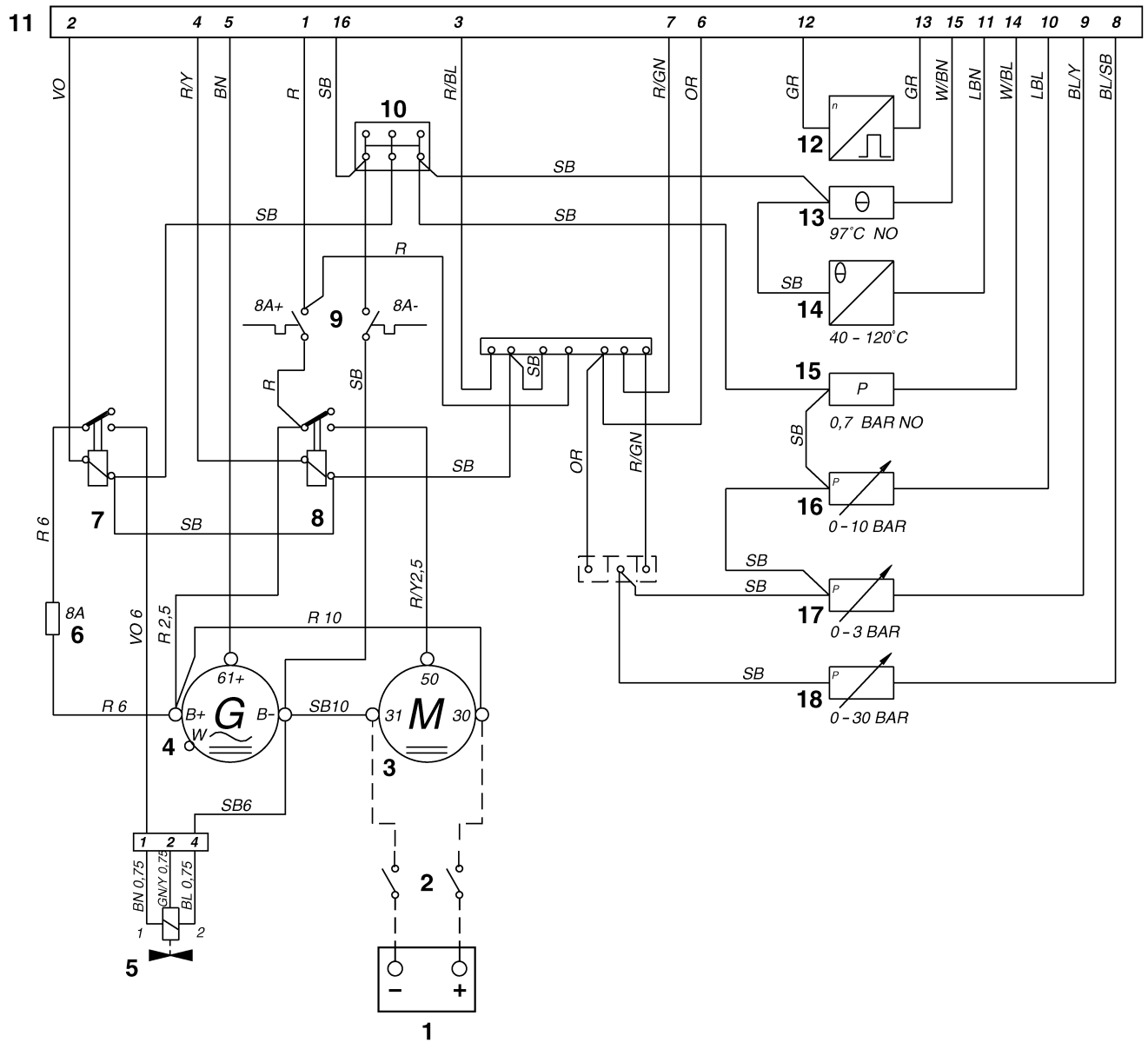
Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engines: TAMD72WJ-A* (12 V, 24 V)

*** As from. engine No. 207181084/xxxx.**



1. Batteries (12 V, 24 V)
2. Main switch
3. Starter motor
4. Alternator
5. Fuel shut-off valve
6. Fuse
7. Stop relay
8. Starter relay
9. Circuit breakers (8 A)
10. Earthing point
11. Connector
12. Engine speed sensor
13. Coolant temperature monitor
14. Coolant temperature sensor
15. Oil pressure monitor, engine
16. Oil pressure sensor, engine
17. Pressure sensor, charge pressure
18. Oil pressure sensor, reverse gear

Cable colour

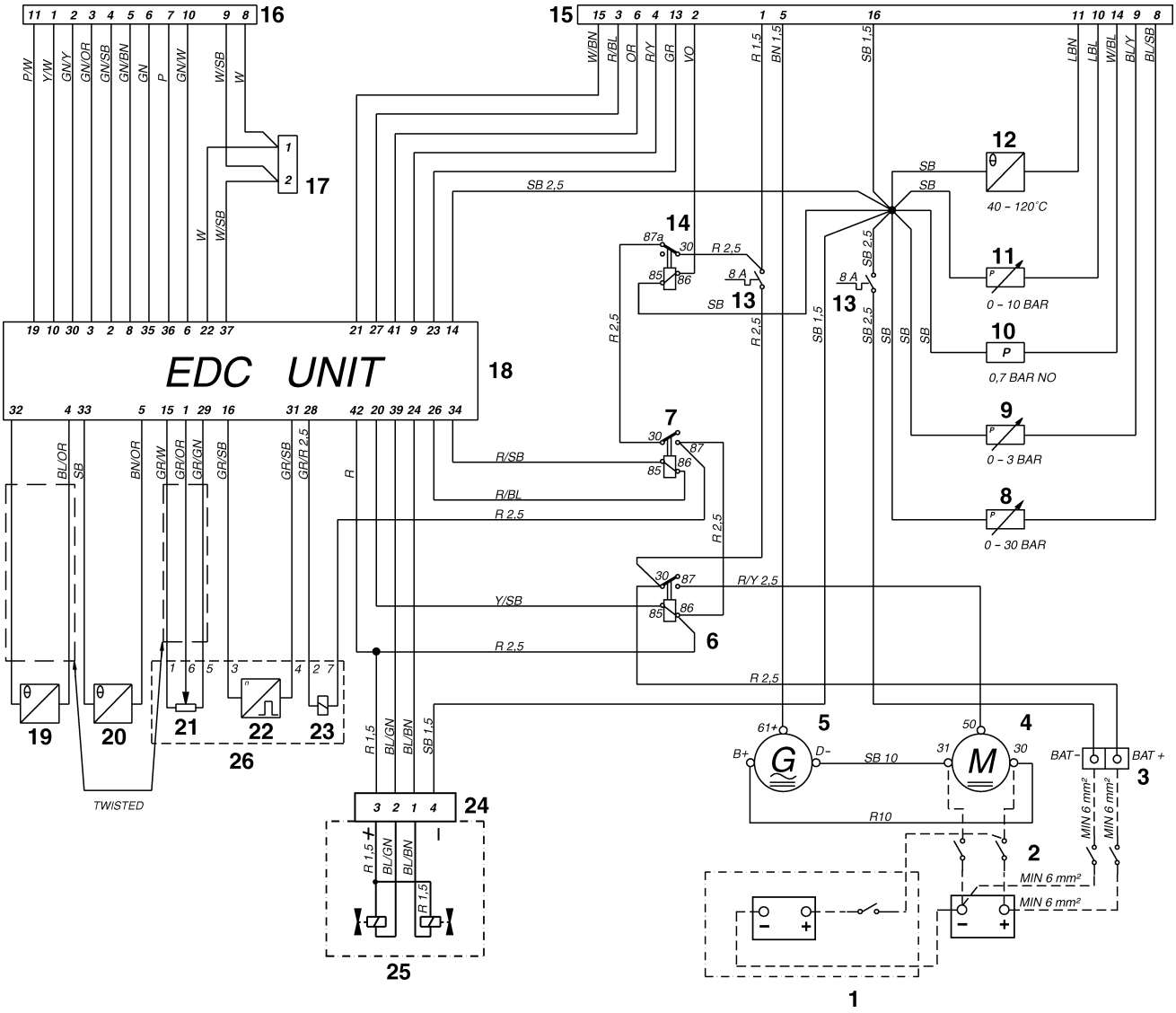
BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engine: TAMD72P-A (12V)



1. Batteries (12V)
2. Main switch
3. Connector
4. Starter motor
5. Alternator
6. Starter relay
7. Main relay
8. Pressure sensor reverse gear
9. Pressure sensor turbo
10. Pressure monitor oil
11. Oil pressure sensor
12. Coolant temperature sensor
13. Circuit breakers (8A)
14. Stop relay
15. Connector instrument panel
16. Connector controls
17. Connector diagnostic connector
18. Control unit
19. Temperature sensor charge air
20. Temperature sensor coolant
21. Position sensor, control rod
22. Engine speed sensor
23. Control solenoid EDC
24. Connector reverse gear
25. Shift solenoid, reverse gear
26. Injection pump

Cable colour

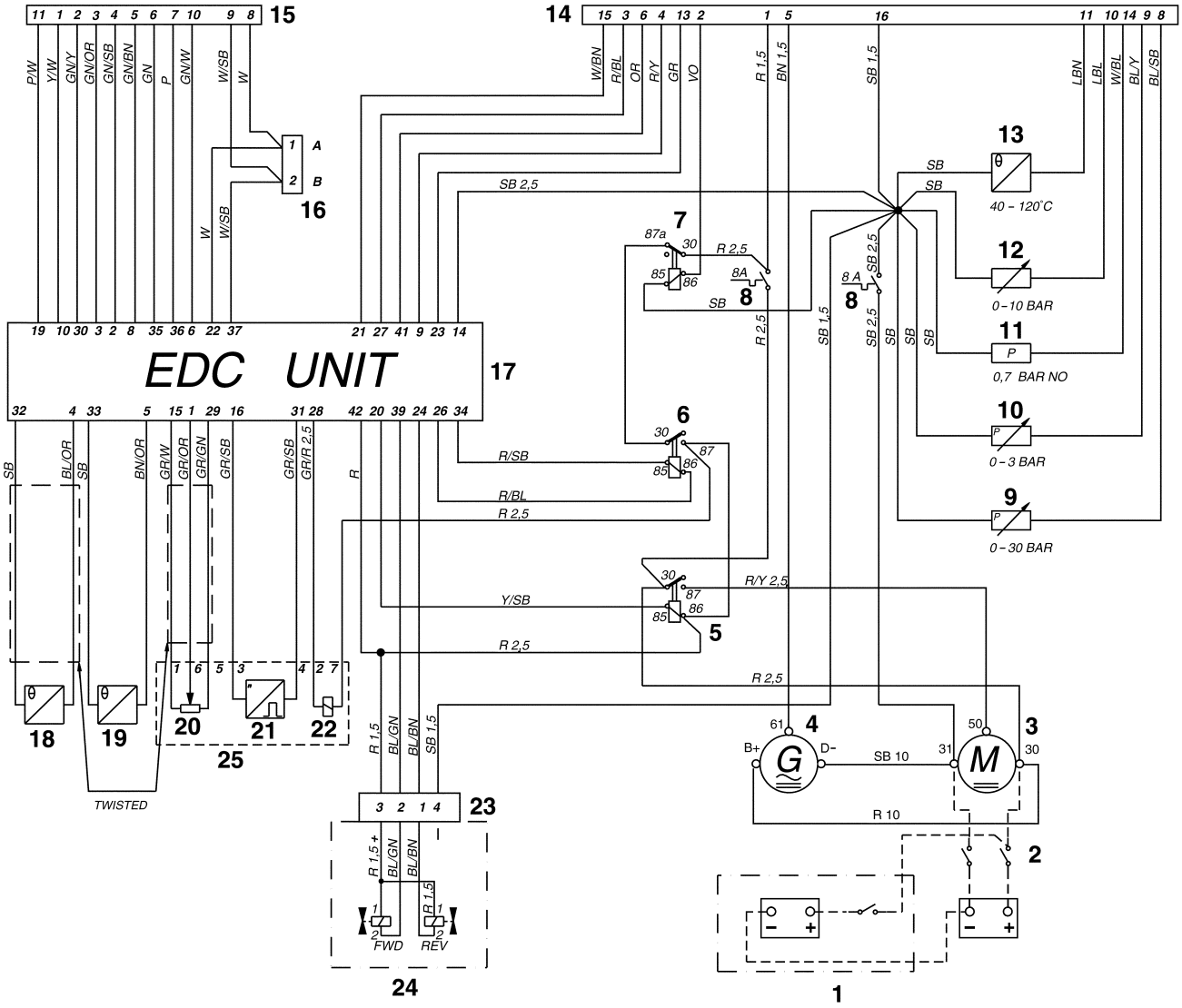
BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engine: TAMD72P-A (24 V)



1. Batteries (24 V)
2. Main switch
3. Starter motor
4. Alternator
5. Starter relay
6. Main relay
7. Stop relay
8. Circuit breakers (8 A)
9. Pressure sensor reverse gear
10. Pressure sensor turbo
11. Pressure monitor oil
12. Oil pressure sensor
13. Coolant temperature sensor
14. Connector instrument panel
15. Connector controls
16. Connector diagnostic connector
17. Control unit
18. Temperature sensor charge air
19. Temperature sensor coolant
20. Position sensor, control rod
21. Engine speed sensor
22. Control solenoid EDC
23. Connector reverse gear
24. Shift solenoid, reverse gear
25. Injection pump

Cable colour

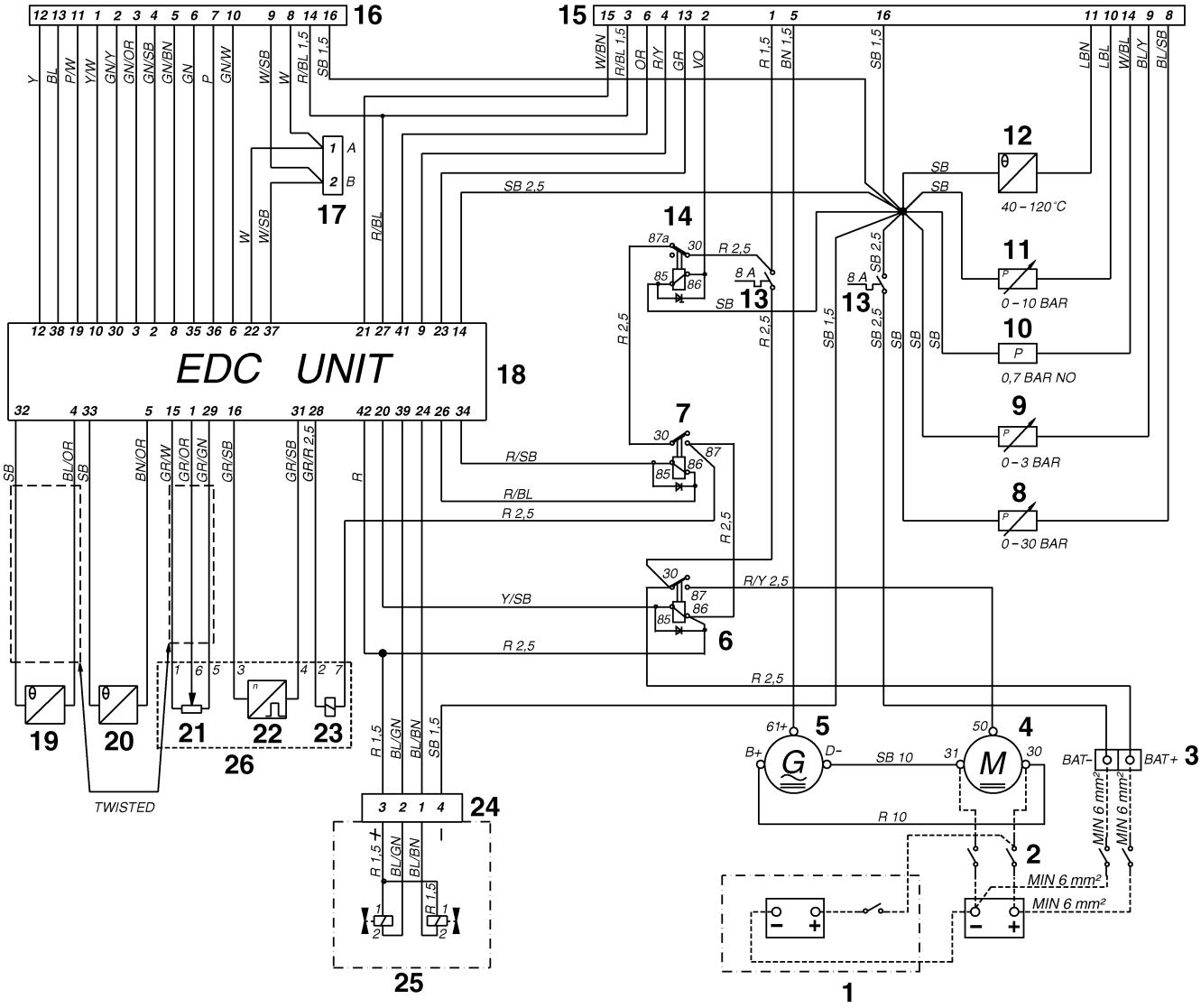
BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engine: TAMD73P-A (12 V)



1. Batteries (12 V)
2. Main switch
3. Connector battery
4. Starter motor
5. Alternator
6. Starter relay
7. Main relay
8. Pressure sensor reverse gear
9. Pressure sensor turbo
10. Pressure monitor oil
11. Oil pressure sensor
12. Temperature sensor coolant
13. Circuit breakers (8 A)
14. Stop relay
15. Connector instrument panel
16. Connector controls
17. Connector diagnostic connector
18. Control unit
19. Temperature sensor charge air
20. Temperature sensor coolant
21. Position sensor, control rod
22. Engine speed sensor
23. Control solenoid EDC
24. Connector reverse gear
25. Shift solenoid, reverse gear
26. Injection pump

Cable colour

BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

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Unspecified areas = 1.0 mm².

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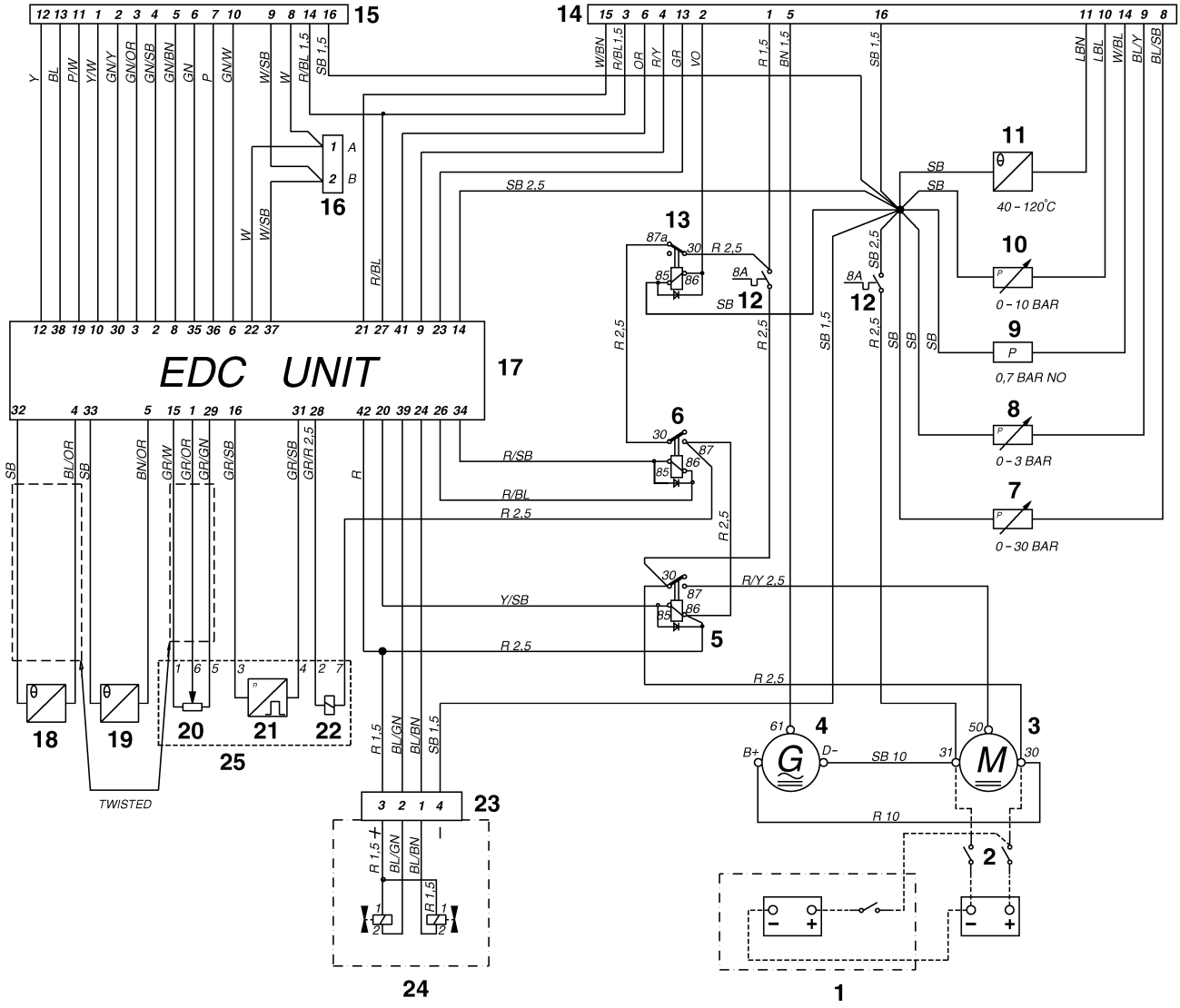
Engine: TAMD73P-A (24V)



1. Batteries (24V)
2. Main switch
3. Starter motor
4. Alternator
5. Starter relay
6. Main relay
7. Pressure sensor reverse gear
8. Pressure sensor turbo
9. Pressure monitor oil
10. Pressure sensor oil
11. Temperature sensor coolant
12. Circuit breakers (8A)
13. Stop relay
14. Connector instrument panel
15. Connector controls
16. Connector diagnostic connector
17. Control unit
18. Temperature sensor charge air
19. Temperature sensor coolant, EDC
20. Position sensor, control rod
21. Engine speed sensor
22. Control solenoid EDC
23. Connector reverse gear
24. Shift solenoid, reverse gear
25. Injection pump

Cable colour

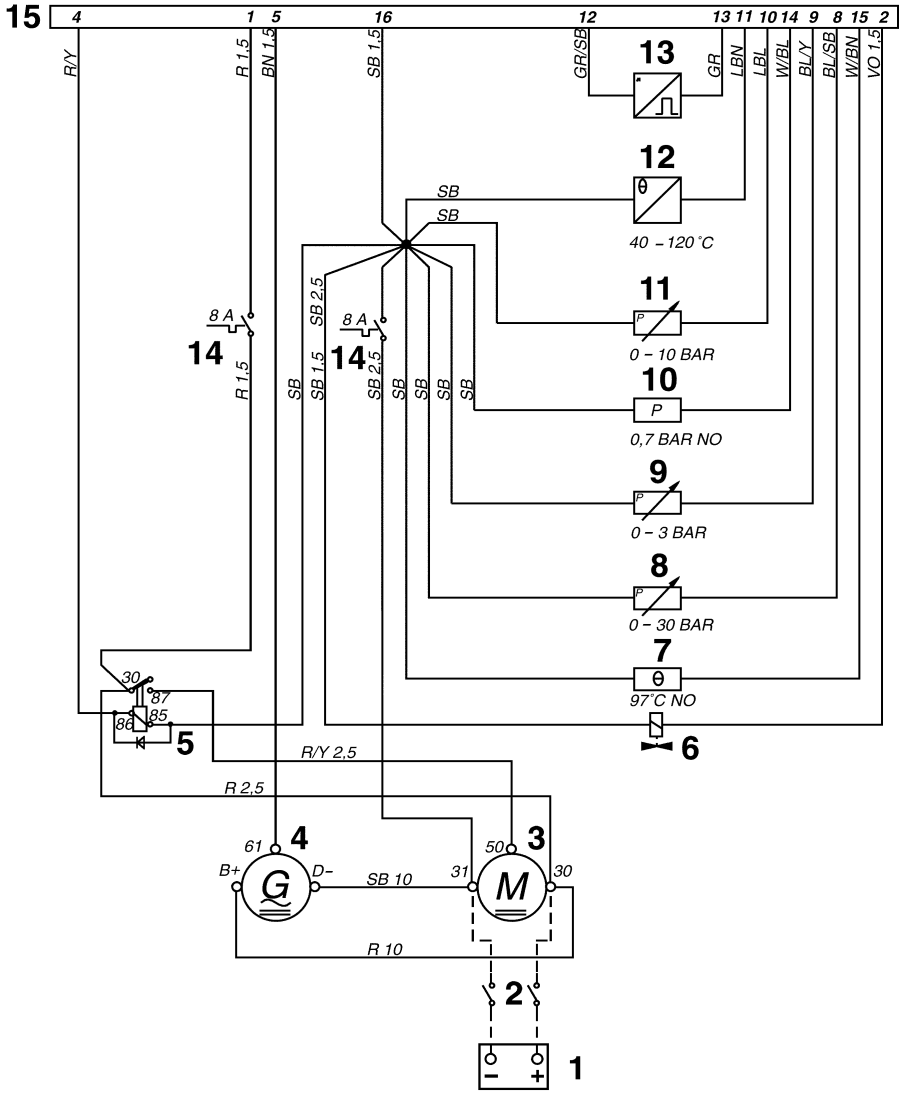
BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engines: TAMD73WJ-A, TAMD74A-A, TAMD74A-B (12V, 24V)



1. Batteries (12V, 24V)
2. Main switch
3. Starter motor
4. Alternator
5. Starter relay
6. Fuel shut-off valve
7. Coolant temperature monitor
8. Oil pressure sensor, reverse gear
9. Pressure sensor, charge pressure
10. Oil pressure monitor, engine
11. Oil pressure sensor, engine
12. Coolant temperature sensor
13. Engine speed sensor
14. Circuit breakers (8A)
15. Connector, instrument panel

Cable colour

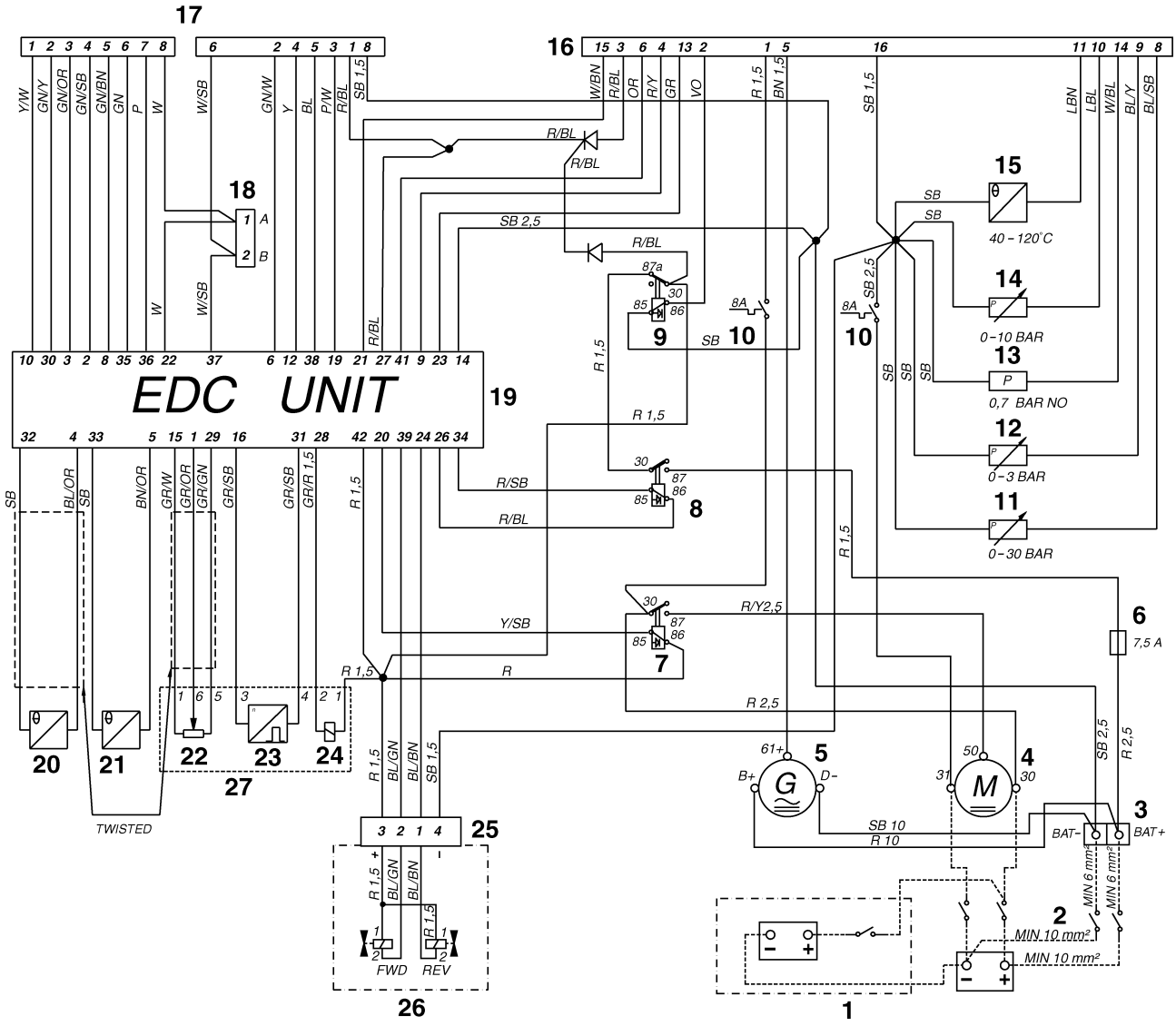
BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engines: TAMD74C-A, TAMD74L-A, TAMD74P-A (12 V)



1. Batteries (12 V)
2. Main switch
3. Connector, battery
4. Starter motor
5. Alternator
6. Fuse (7.5 A)
7. Starter relay
8. Main relay
9. Stop relay
10. Circuit breakers (8 A)
11. Oil pressure sensor, reverse gear
12. Pressure sensor, charge pressure
13. Oil pressure monitor, engine
14. Oil pressure sensor, engine
15. Coolant temperature sensor
16. Connector, instrument panel
17. Connector, controls
18. Connector, diagnostic connector
19. Control unit EDC
20. Temperature sensor, charge air
21. Coolant temperature sensor EDC
22. Position sensor, control rod
23. Engine speed sensor
24. Control solenoid EDC
25. Connector, reverse gear
26. Solenoid, reverse gear
27. Injection pump

Cable colour

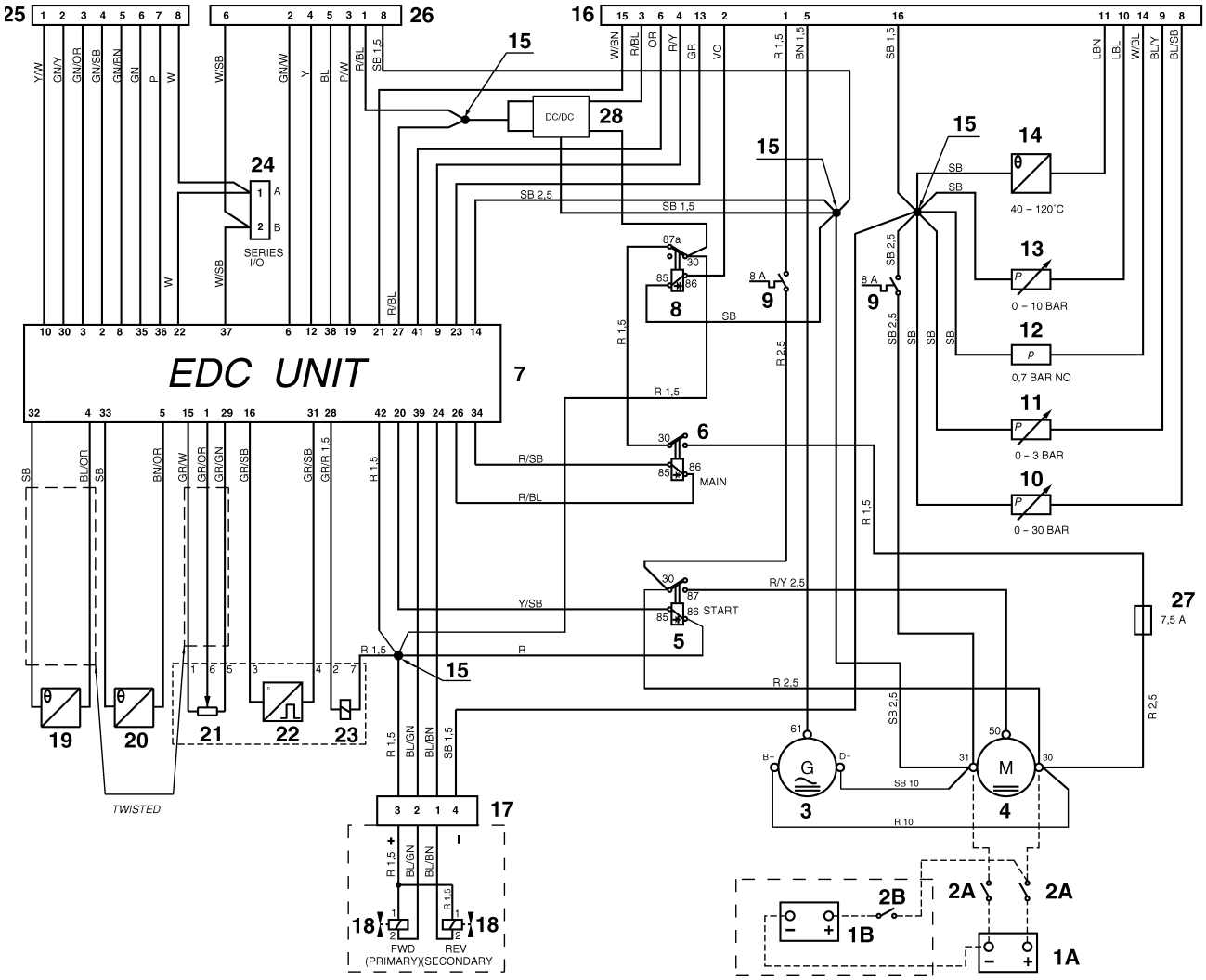
BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engines: TAMD74C-B, TAMD74L-B, TAMD74P-B (12V)



1A. Batteries (12V)
1B. Emergency/extra batteries
2A. Main switch
2B. Main switch for emergency/extra batteries
3. Alternator
4. Starter motor
5. Starter relay
6. Main relay
7. Control unit EDC
8. Stop relay
9. Circuit breakers (8A)
10. Oil pressure sensor, reverse gear
11. Pressure sensor, charge pressure
12. Oil pressure monitor, engine
13. Oil pressure sensor, engine
14. Coolant temperature sensor
15. Joint
16. Connector, instrument panel
17. Connector, reverse gear
18. Solenoid, reverse gear
19. Temperature sensor, charge air
20. Coolant temperature sensor EDC
21. Position sensor, control rod
22. Engine speed sensor
23. Control solenoid EDC
24. Connector, diagnostic connector
25. Connector, controls (male)
26. Connector, controls (female)
27. Fuse (7.5A)
28. Voltage converter

Cable colour

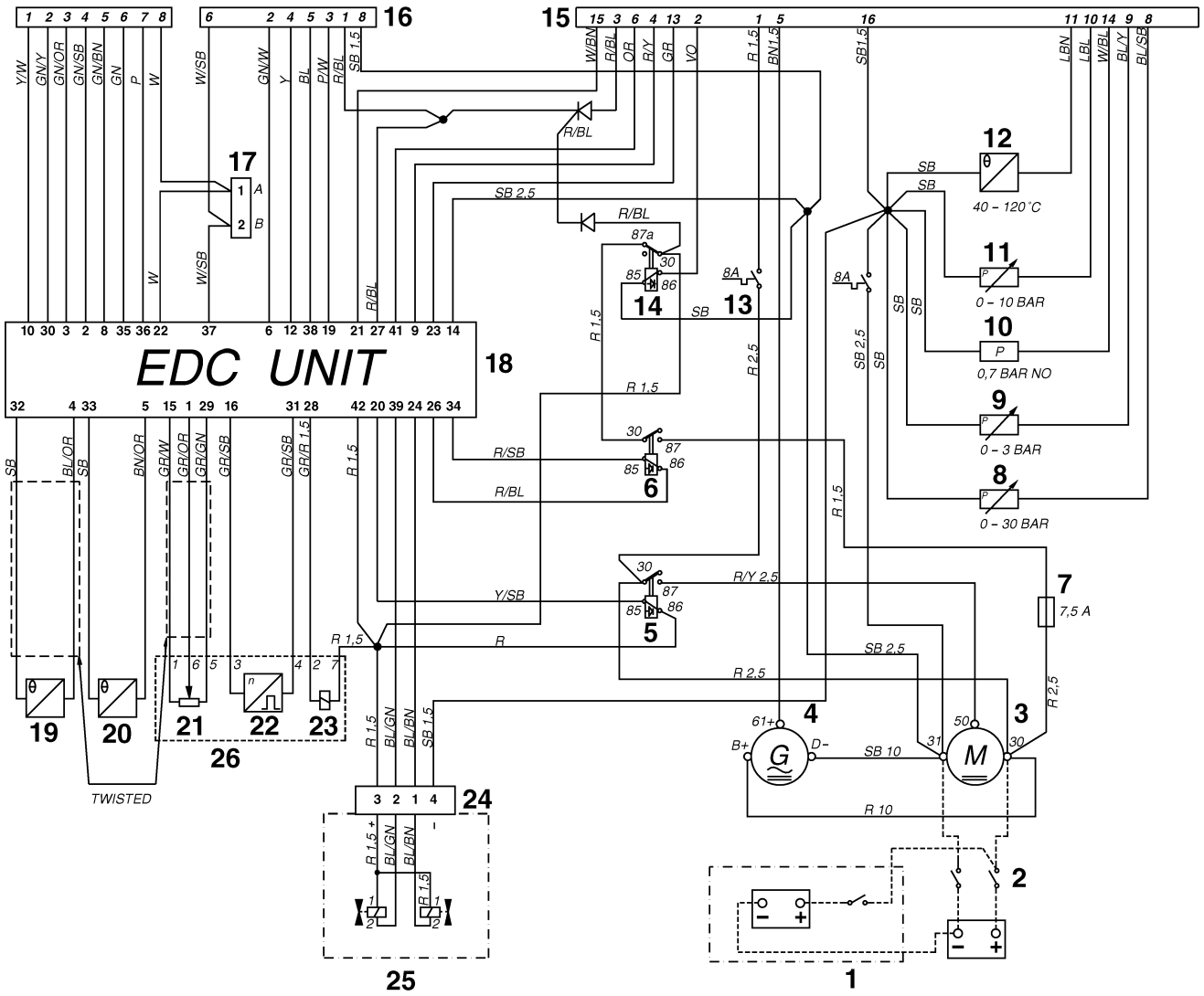
BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Engines: TAMD74C-A/B, TAMD74L-A/B, TAMD74P-A/B (24 V)



1. Batteries (24 V)
2. Main switch
3. Starter motor
4. Alternator
5. Starter relay
6. Main relay
7. Fuse (7.5 A)
8. Oil pressure sensor, reverse gear
9. Pressure sensor, charge pressure
10. Oil pressure monitor, engine
11. Oil pressure sensor, engine
12. Coolant temperature sensor
13. Circuit breaker (8 A)
14. Stop relay
15. Connector, instrument panel
16. Connector, controls
17. Connector, diagnostic connector
18. Control unit EDC
19. Temperature sensor, charge air
20. Coolant temperature sensor EDC
21. Position sensor, control rod
22. Engine speed sensor
23. Control solenoid EDC
24. Connector, reverse gear
25. Solenoid, reverse gear
26. Injection pump

Cable colour

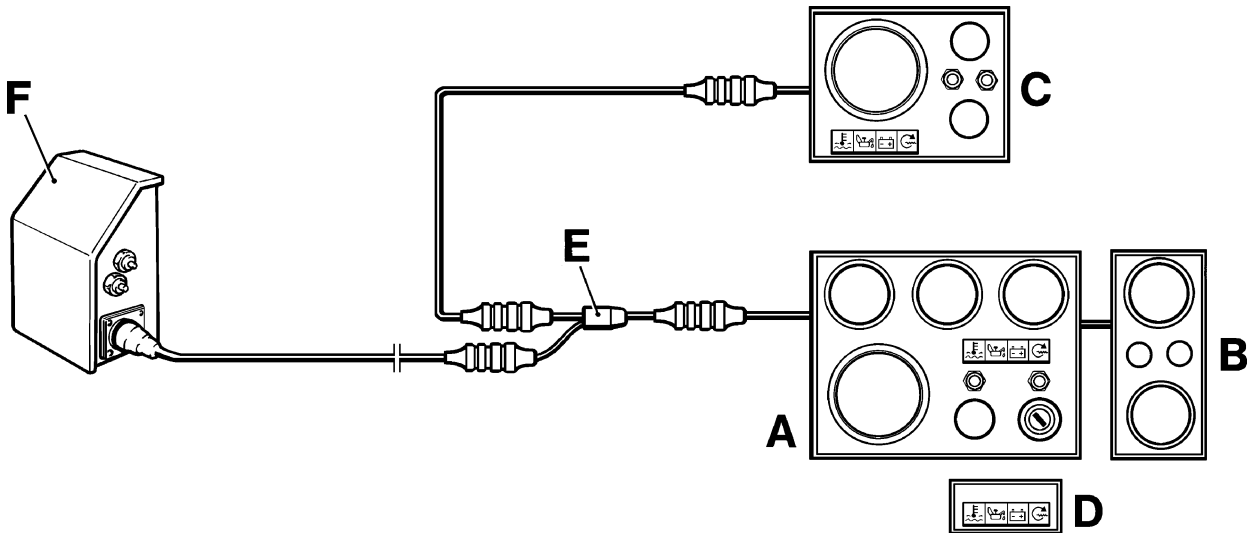
BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

Cable areas (mm²) are specified after the colour code in wiring diagrams.

Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Block diagram – instrument panels

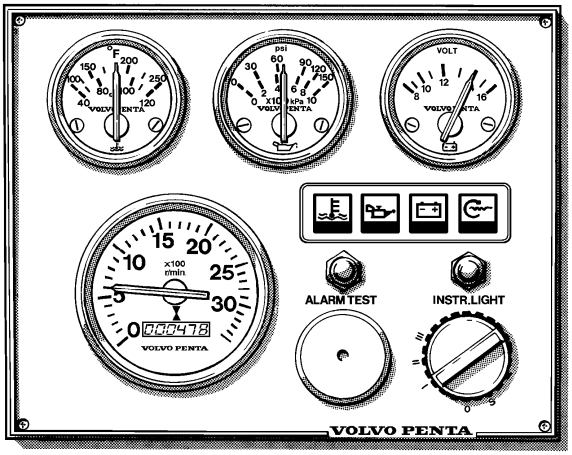


A. Main panel
B. Auxiliary panel
C. Panel for alternative controls (flying bridge)*****
D. Alarm board. (Only used when main panel ”A” is not found)
E. Branch connection
F. Junction box****** with fuses

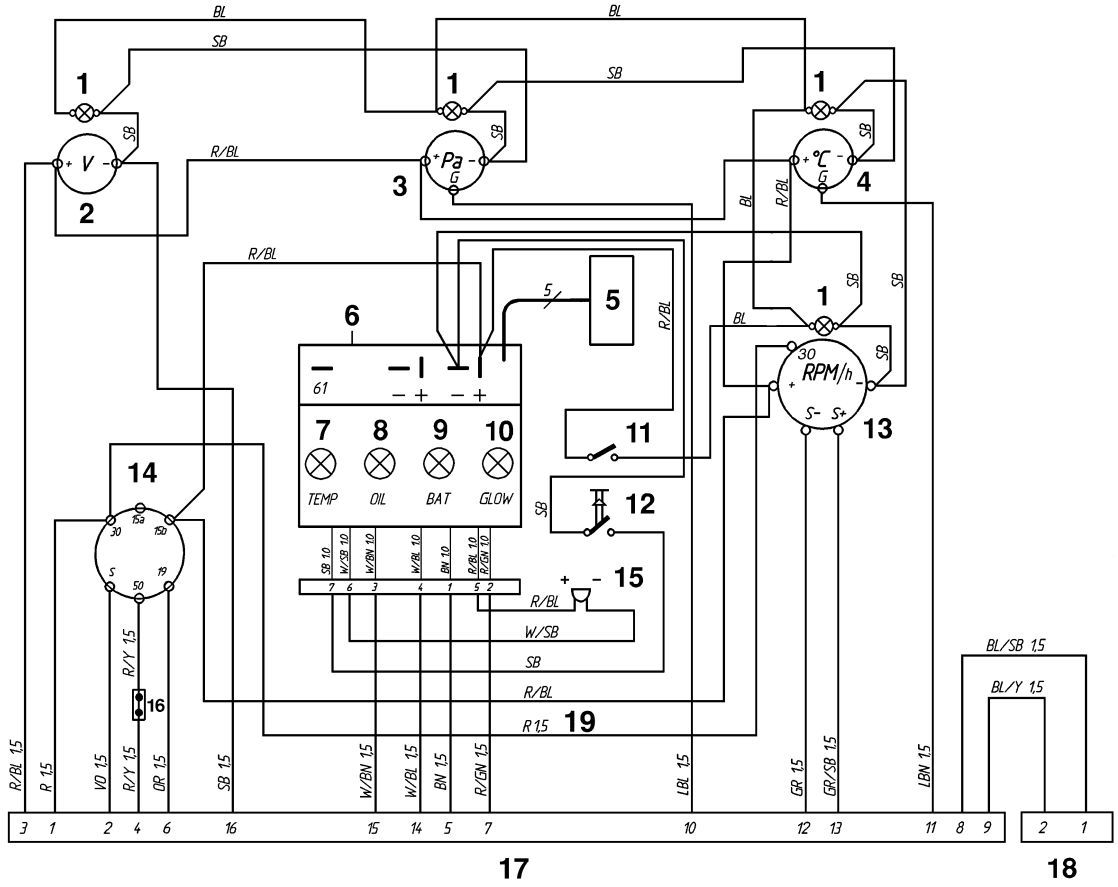
*** Note.** Main panel (A) can also be found on alternative controls.

**** Note.** Illustration shows TAMD63, TAMD73 and TAMD74.

Wiring diagram – instrument panel, main control position

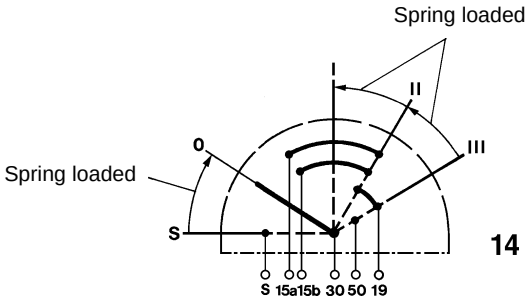


Instrument panel, main control position: TAMD61A, TAMD62A, TAMD63L-A, TAMD63P-A, TAMD71A, TAMD71B, TAMD72A, TAMD72WJ-A, TAMD72P-A, TAMD73P-A, TAMD73WJ-A, TAMD74A-A, TAMD74A-B, TAMD74C-A/B, TAMD74L-A/B, TAMD74P-A/B



1. Instrument lighting
2. Voltmeter
3. Oil pressure gauge
4. Coolant temperature gauge
5. Connector for connection of extra warning display (optional)
6. Alarm unit
7. Warning lamp, coolant temperature
8. Warning lamp, oil pressure
9. Warning lamp, charge
10. Warning lamp, pre-heating*
11. Switch, Instrument lighting
12. Switch – Alarm test/Acknowledge
13. Tachometer with built-in hours counter
14. Key switch
15. Alarm
16. Joining piece
17. Connector CPC 16-pin
18. Connector, turbo/reverse gear

* TAMD61, -62, TAMD71, TAMD72A, -WJ.

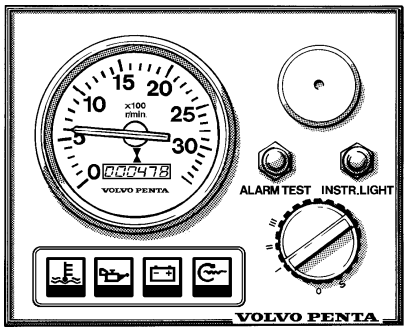


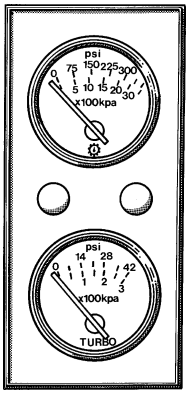
Cable colour

BL	=	Blue	P	=	Pink
LBL	=	Light blue	R	=	Red
BN	=	Brown	SB	=	Black
LBN	=	Light brown	VO	=	Violet
GN	=	Green	W	=	White
GR	=	Grey	Y	=	Yellow
OR	=	Orange			

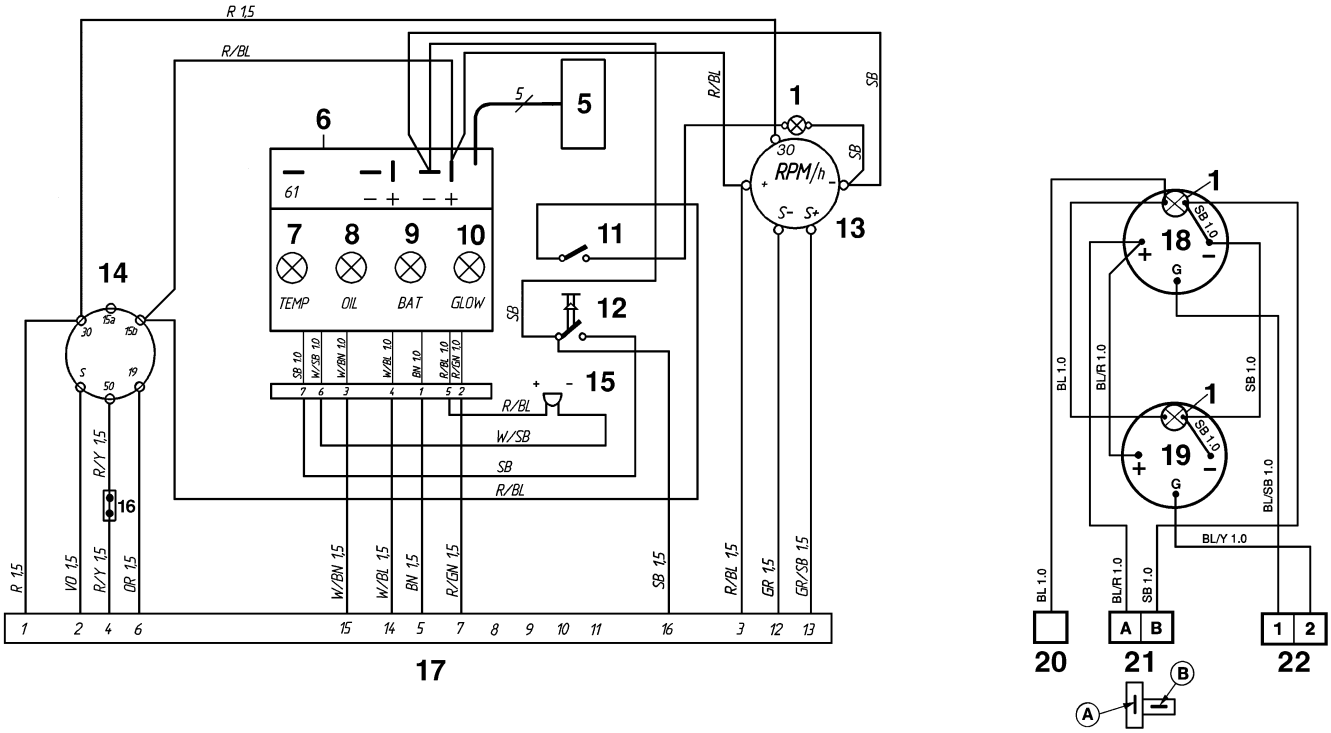
Not specified cable areas = 1.0 mm²

Wiring diagrams – instrument panel, alternative control position (flying bridge) and auxiliary panel



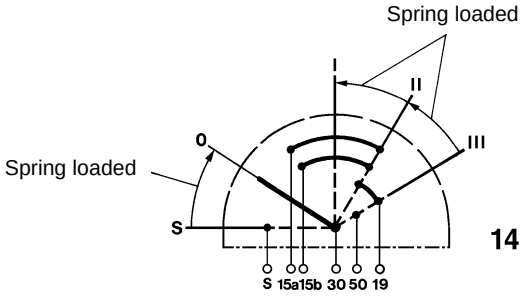


Instrument panel, alternative control position (flying bridge) and auxiliary panel: TAMD61A, TAMD62A, TAMD63L-A, TAMD63P-A, TAMD71A, TAMD71B, TAMD72A, TAMD72WJ-A, TAMD72P-A, TAMD73P-A, TAMD73WJ-A, TAMD74A-A, TAMD74A-B, TAMD74C-A/B, TAMD74L-A/B, TAMD74P-A/B



1. Instrument lighting
5. Connector, connection of extra warning display (optional)
6. Electronic unit, alarm
7. Warning lamp, coolant temperature
8. Warning lamp, oil pressure
9. Warning lamp, charge
10. Indication lamp, pre-heating*
11. Switch, Instrument lighting
12. Switch, Alarm test/Acknowledge
13. Tachometer with built-in hours counter
14. Key switch
15. Alarm
16. Joining piece
17. Connector CPC, 16-pin
18. Oil pressure gauge, reverse gear
19. Gauge for turbo charge pressure
20. Connection to instrument lighting on main panel
21. Connection to circuit board on main panel
22. Connection to connector (18) on main panel

* TAMD61, -62, TAMD71, TAMD72A, -WJ.



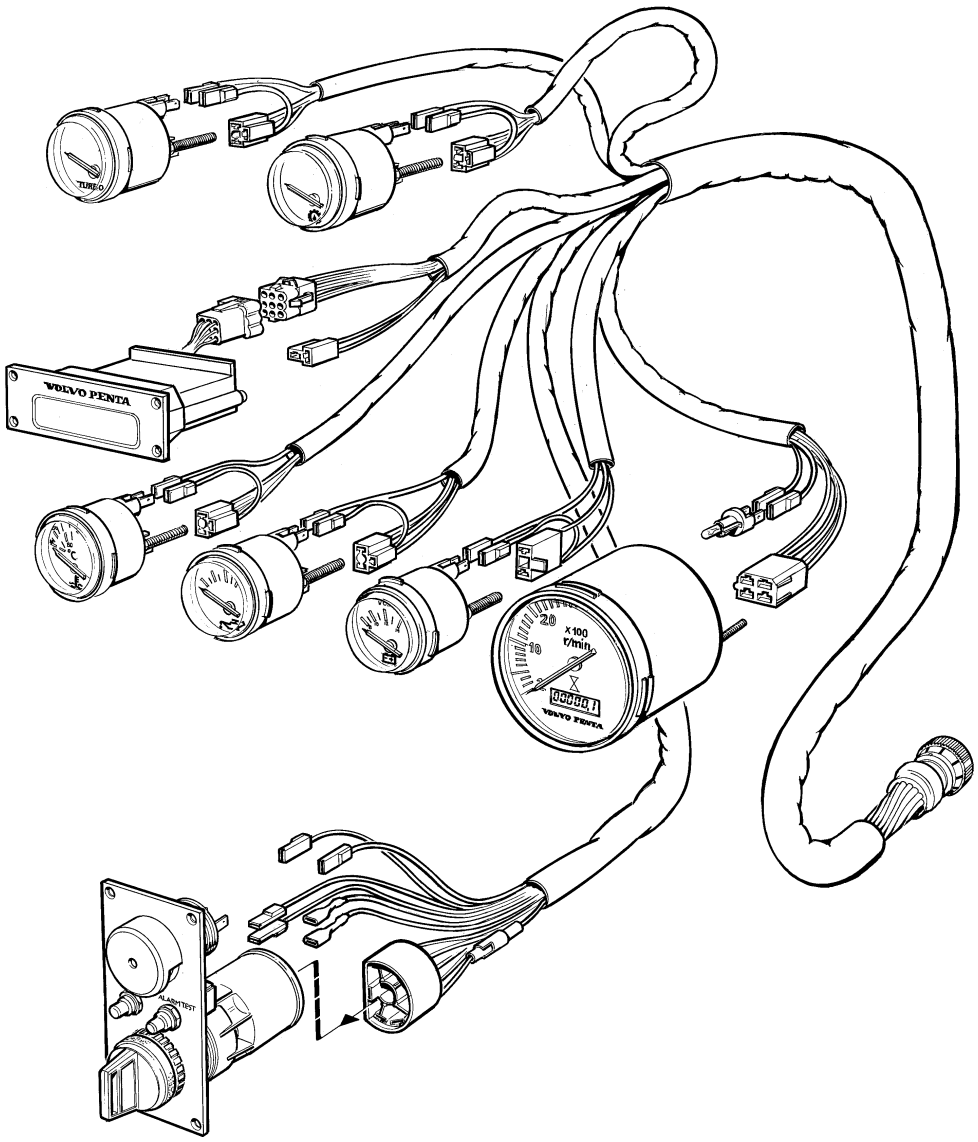
Cable colour

BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

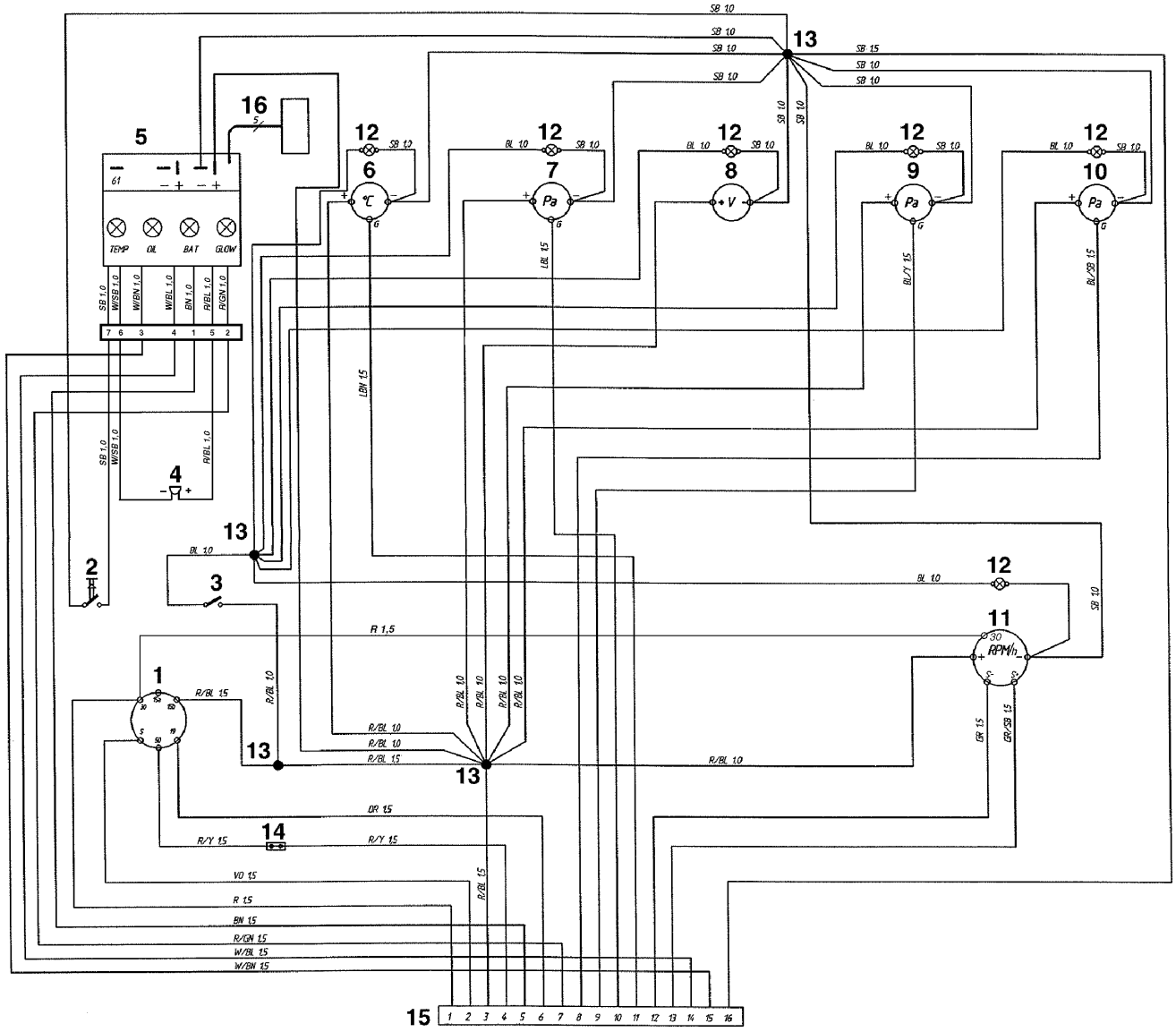
Cable areas (mm²) are specified after the colour code in wiring diagrams. Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Wiring diagram – instrument kit main control position



Instrument kit, main control position: TAMD61A, TAMD62A, TAMD63L-A, TAMD63P-A, TAMD71A, TAMD71B, TAMD72A, TAMD72WJ-A, TAMD72P-A, TAMD73P-A, TAMD73WJ-A, TAMD74A-A, TAMD74A-B, TAMD74C-A/B, TAMD74L-A/B, TAMD74P-A/B



1. Key switch
2. Switch – Alarm test
3. Switch – Instrument lighting
4. Alarm
5. Electronic unit, alarm
6. Coolant temperature gauge
7. Oil pressure gauge, engine
8. Voltmeter
9. Pressure gauge, charge pressure
10. Oil pressure gauge, reverse gear
11. Tachometer with built-in hours counter
12. Instrument lighting
13. Joint
14. Joining piece
15. Connector CPC, 16-pin
16. Connector for connection of extra warning display (optional)

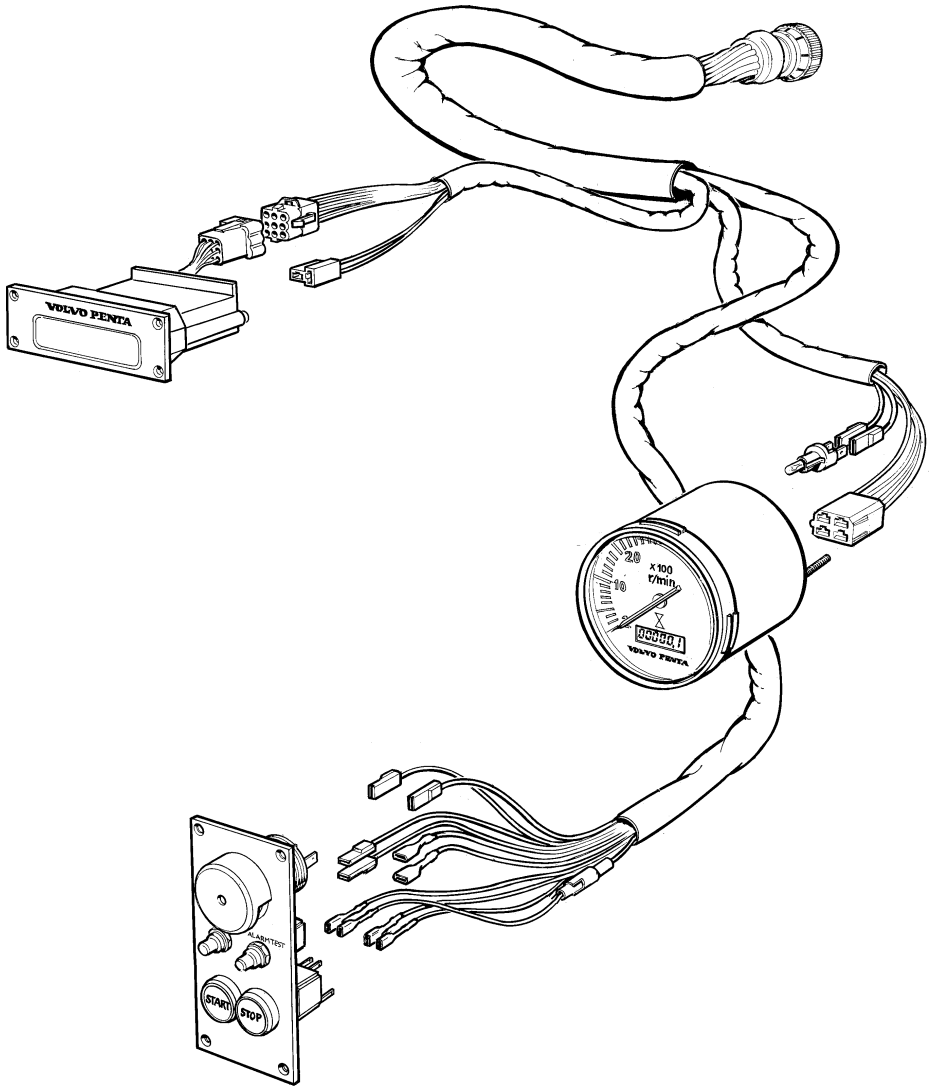
Cable colour

BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

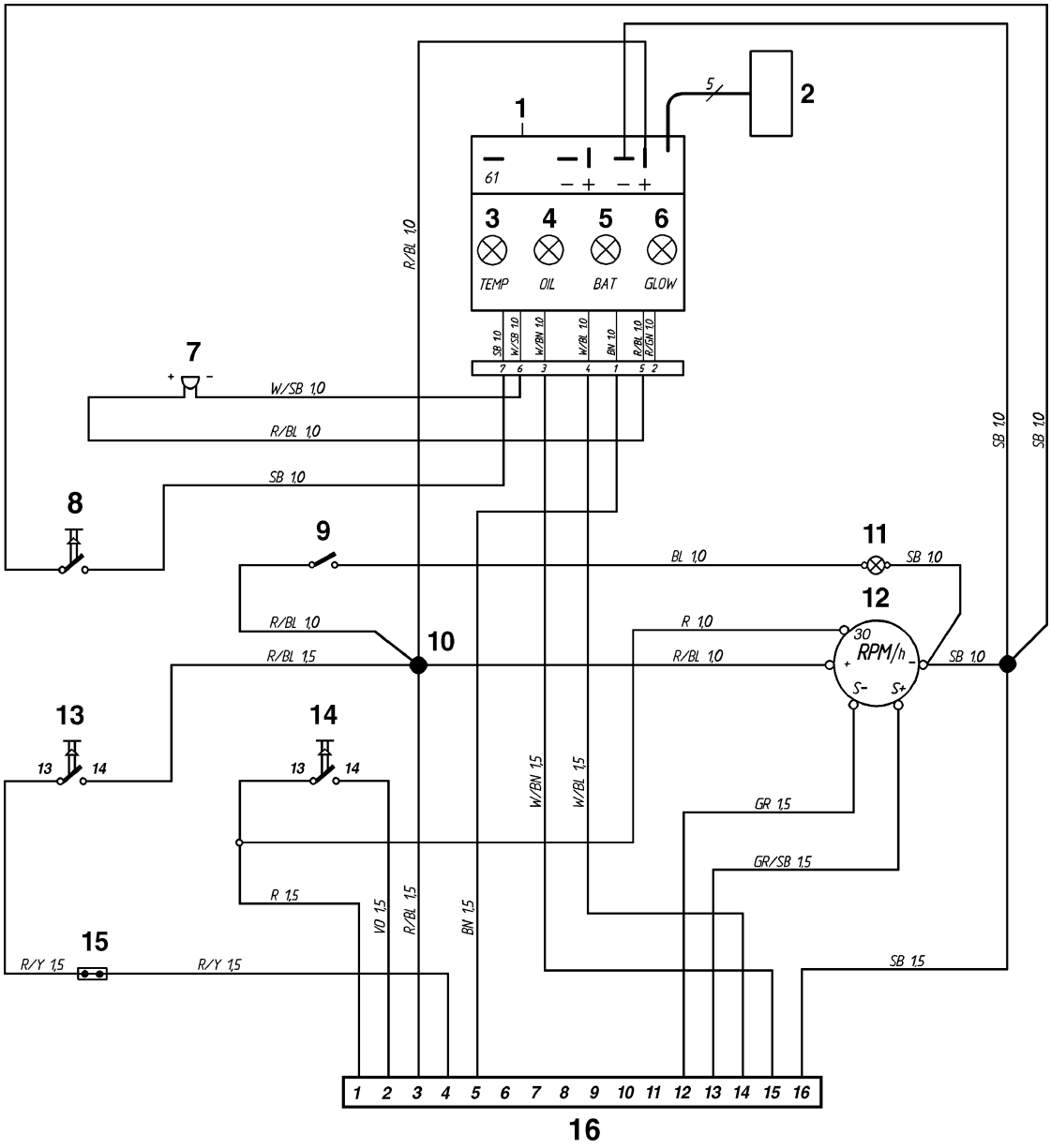
Cable areas (mm²) are specified after the colour code in wiring diagrams. Unspecified areas = 1.0 mm².

A broken line indicates a non Volvo Penta cable.

Wiring diagram – instrument kit alternative control position (flying bridge)



Instrument kit, alternative control position (flying bridge): TAMD61A, TAMD62A, TAMD63L-A, TAMD63P-A, TAMD71A, TAMD71B, TAMD72A, TAMD72WJ-A, TAMD72P-A, TAMD73P-A, TAMD73WJ-A, TAMD74A-A, TAMD74A-B, TAMD74C-A/B, TAMD74L-A/B, TAMD74P-A/B



1. Electronic unit (alarm)
2. Connector for connection of extra warning display (optional)
3. Warning lamp, coolant temperature
4. Warning lamp, oil pressure
5. Warning lamp, charge
6. Indication lamp, pre-heating (TAMD71B)
7. Alarm
8. Switch–Alarm test/Acknowledge
9. Switch, Instrument lighting
10. Connection point (not dismountable)
11. Instrument lighting
12. Tachometer with built-in hours counter
13. Start button
14. Stop button
15. Connector for connection of possible neutral position switch (optional)
16. 16-pin connection

Cable colour

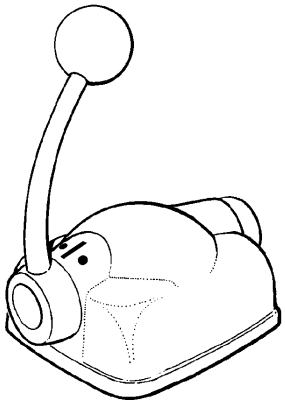
BL	=	Blue	P	=	Pink
LBL	=	Light blue	PU	=	Purple
BN	=	Brown	R	=	Red
LBN	=	Light brown	SB	=	Black
GN	=	Green	VO	=	Violet
GR	=	Grey	W	=	White
OR	=	Orange	Y	=	Yellow

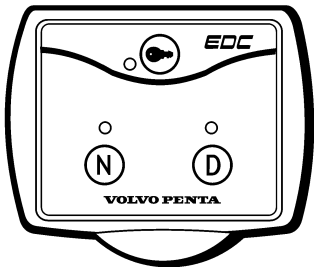
Cable areas in mm² are specified after the colour code in the wiring diagrams.

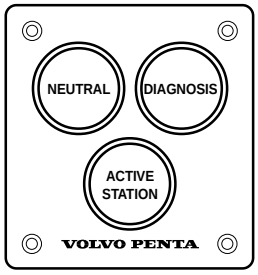
When no area is specified, 1.0 mm² is applicable.

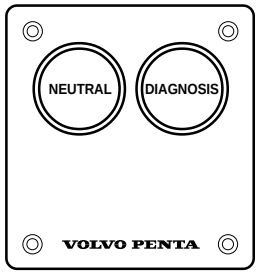
A broken line indicates a non Volvo Penta cable.

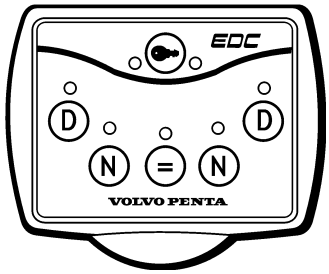
Wiring diagrams – control system (EDC)

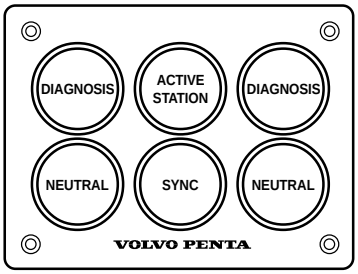






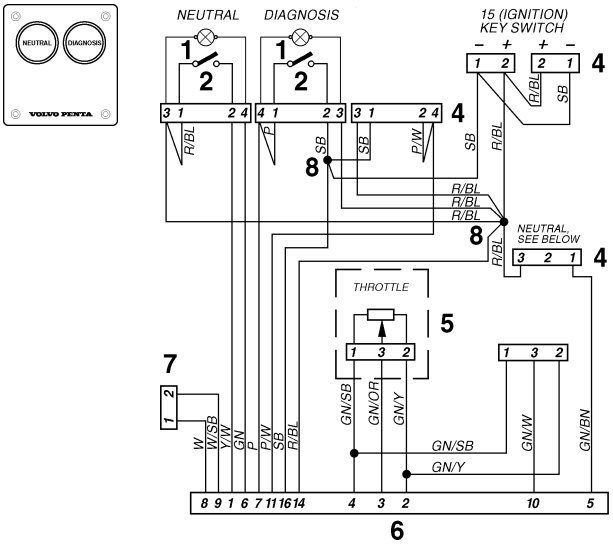




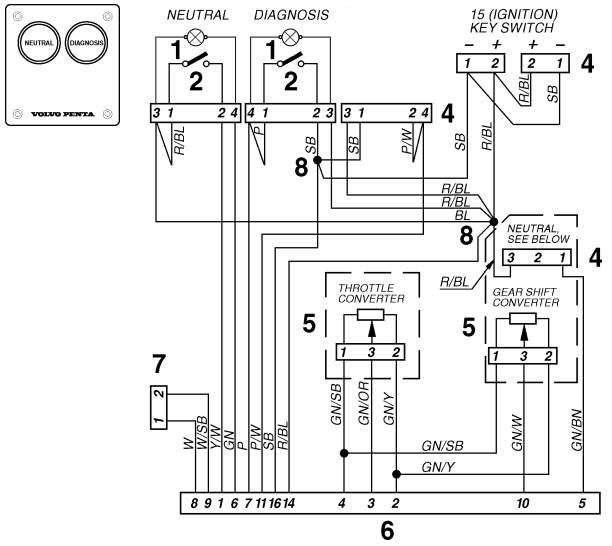


Control system, EDC: TAMD72P-A, TAMD73P-A

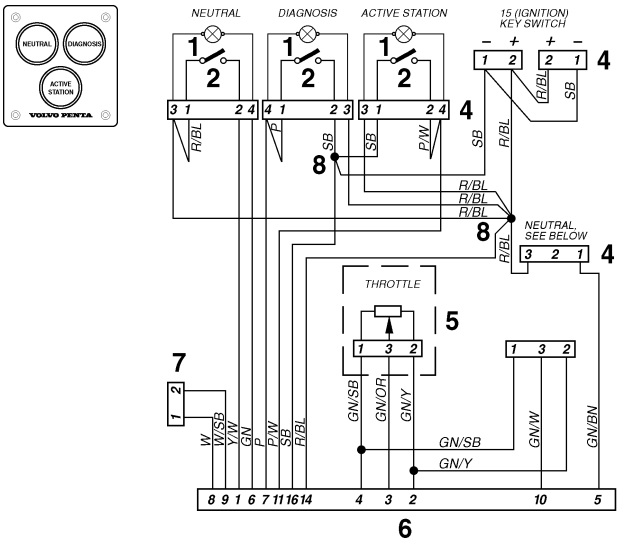
Single control position – single lever controls (single engine installation)



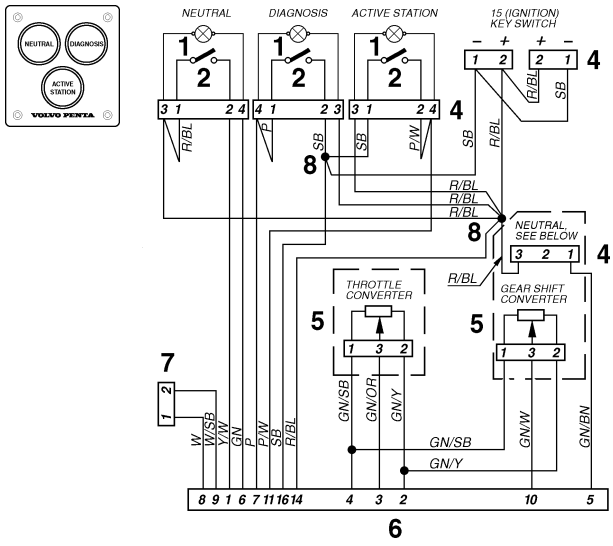
Single control position – twin lever controls (single engine installation)



Multiple control positions – single lever controls (single engine installation)



Multiple control positions – twin lever controls (single engine installation)



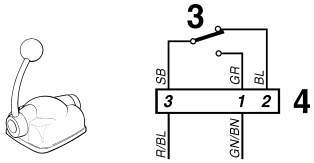
Cable colour

BL	=	Blue
BN	=	Brown
GN	=	Green
OR	=	Orange
P	=	Pink
R	=	Red
SB	=	Black
W	=	White
Y	=	Yellow

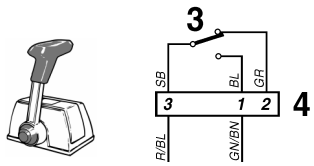
Cable areas = 0.75 mm²

VP controls:

Late model NEUTRAL



Old model NEUTRAL



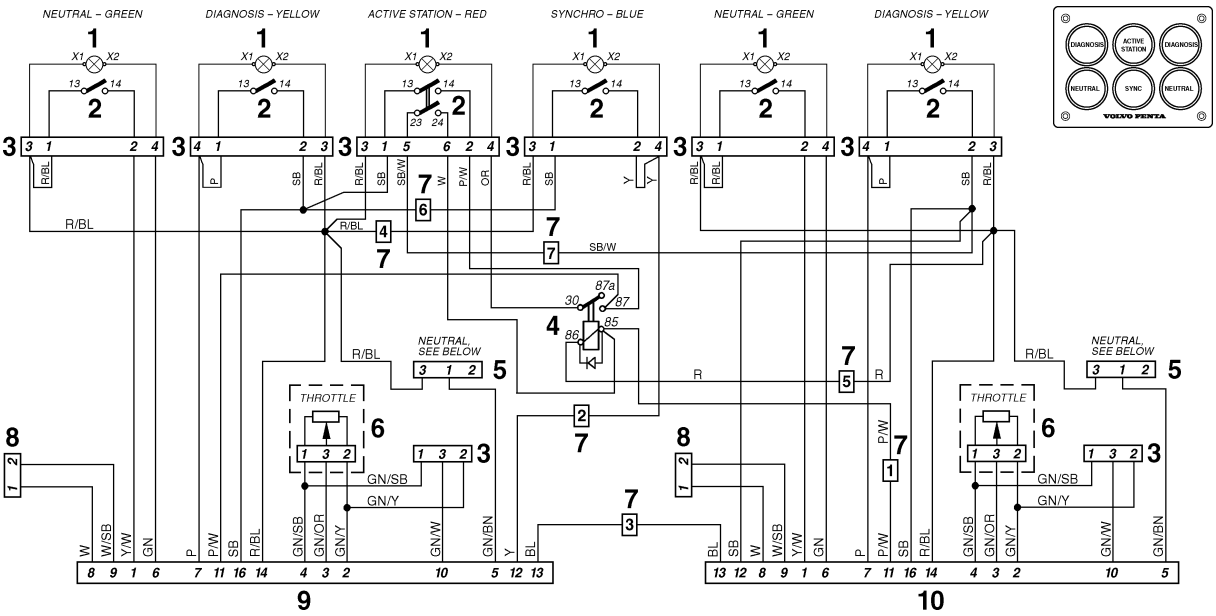
Position schedule

(all wiring diagrams)

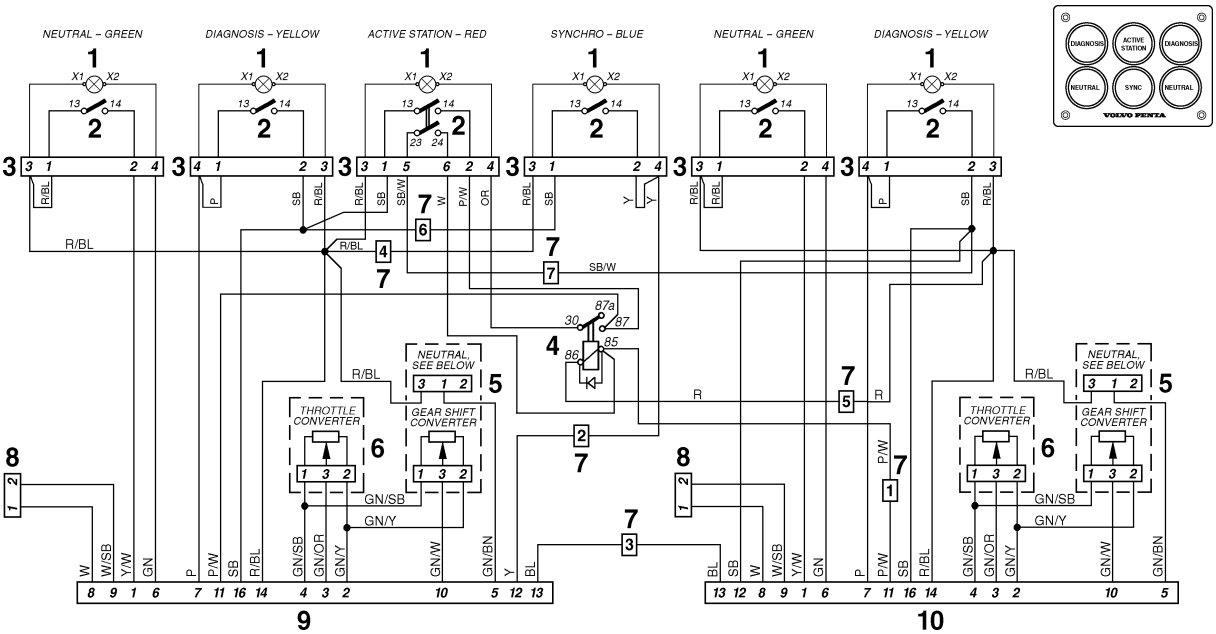
1. Indication lamp
2. 1-pin switch
3. Neutral position switch
4. Connector
5. Potentiometer
6. 16-pin connection
7. 2-pin connection (diagnostic connector)
8. Joint

Control system, EDC: TAMD72P-A, TAMD73P-A

Single lever controls (twin engine installation)



Twin lever controls (twin engine installation)



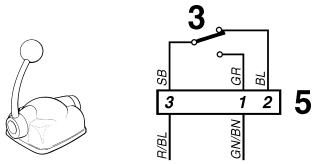
Cable colour

BL = Blue
BN = Brown
GN = Green
OR = Orange
P = Pink
R = Red
SB = Black
W = White
Y = Yellow

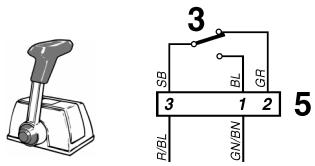
Cable areas = 0.75 mm²

VP controls:

Late model NEUTRAL



Old model NEUTRAL



Position schedule

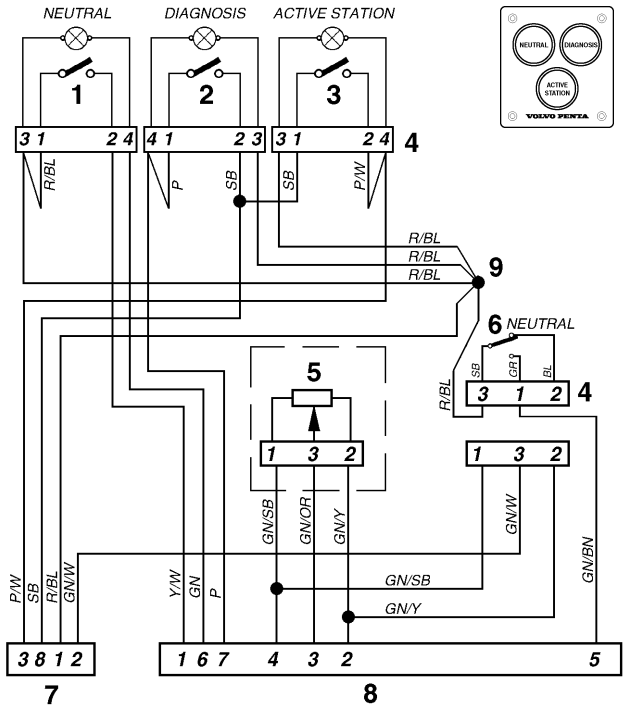
(both wiring diagrams)

1. Indication lamp
2. Switch
3. Connector
4. Relay
5. Neutral position switch
6. Potentiometer
7. Connector, Port – Starboard cable kit
8. 2-pin connection (diagnostic connector)
9. 16-pin connection, Port engine
10. 16-pin connection, Starboard engine

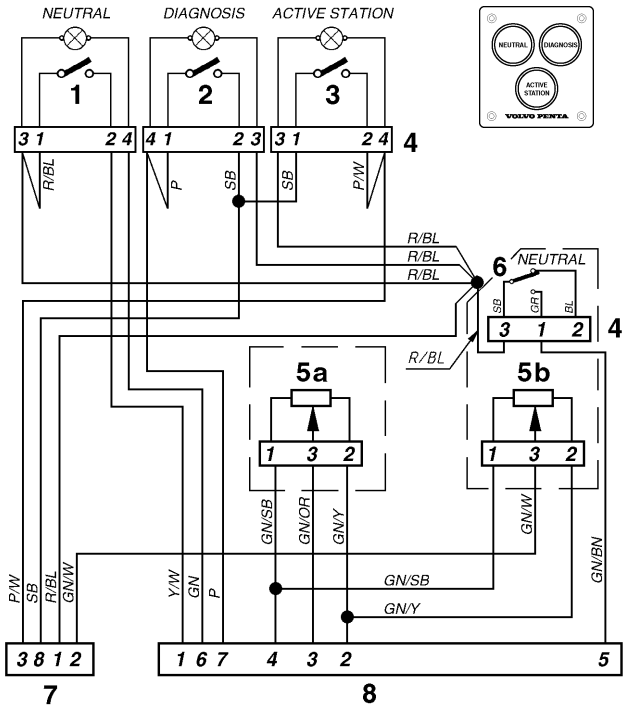
Control system, EDC: TAMD73P-A*, TAMD74

*** Late model**

Single engine installation. Single lever controls.



Single engine installation. Twin lever controls.



Cable colour

BL = Blue
BN = Brown
GN = Green
OR = Orange
P = Pink
R = Red
SB = Black
W = White
Y = Yellow

Cable areas = 0.75 mm²

Position schedule (both wiring diagrams)

1. Press switch with Indication lamp, ”Neutral” – green
2. Press switch with Indication lamp, ”Diagnosis” – yellow
3. Press switch with Indication lamp, ”Active station” – red
4. Connector
5. Potentiometer, throttle opening/gear shift

5a. Potentiometer, throttle opening

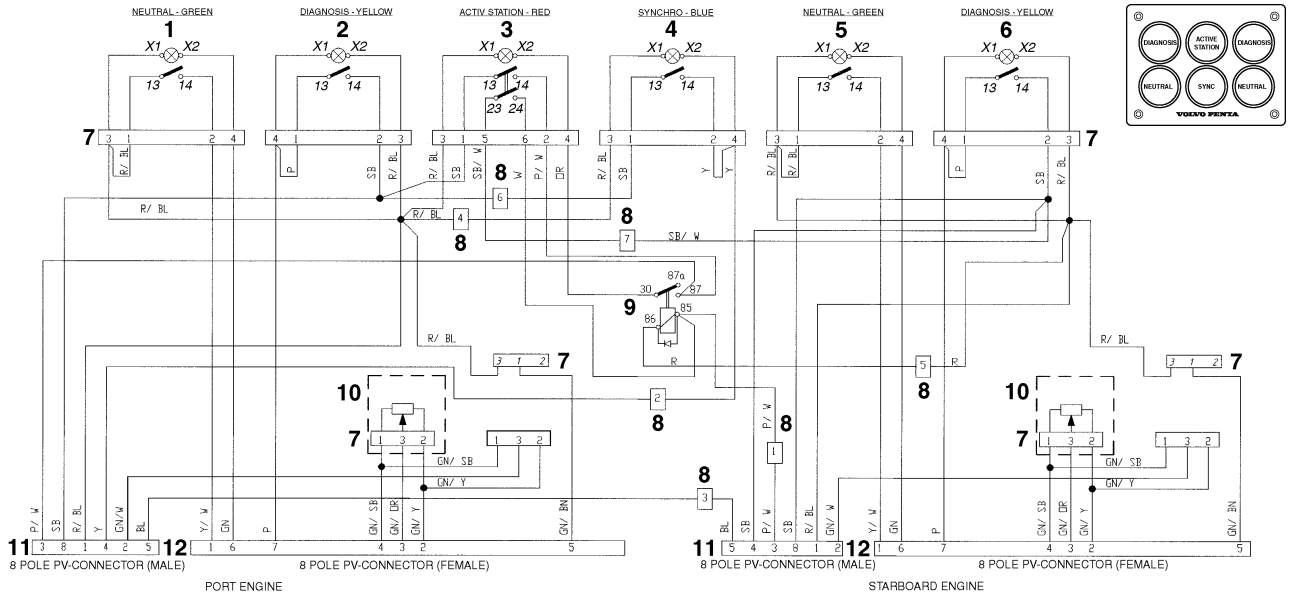
5b. Potentiometer, gear shift

6. Neutral position switch (only mechanically operated reverse gear)
7. 8-pin connection (male)
8. 8-pin connection (female)
9. Joint

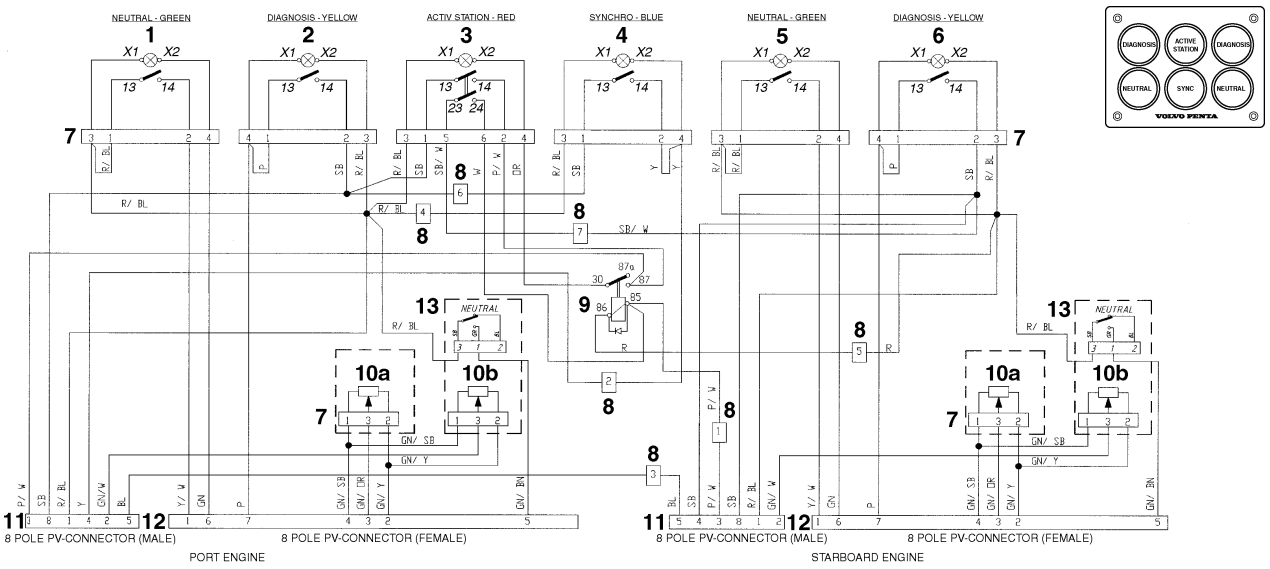
Control system, EDC: TAMD73P-A*, TAMD74

*** Late model**

Twin engine installation. Single lever controls.



Twin engine installation. Twin lever controls.



Cable colour

BL = Blue
BN = Brown
GN = Green
OR = Orange
P = Pink
R = Red
SB = Black
W = White
Y = Yellow

Cable areas = 0.75 mm²

Position schedule

(both wiring diagrams)

1. Press switch with Indication lamp, ”Neutral” – green
2. Press switch with Indication lamp, ”Diagnosis” – yellow
3. Press switch with Indication lamp, ”Active station” – red
4. Press switch with Indication lamp, ”Sync” – blue
5. Press switch with Indication lamp, ”Neutral” – green
6. Press switch with Indication lamp, ”Diagnosis” – yellow
7. Connector
8. Connector, Port – Starboard cable kit
9. Relay
10. Potentiometer, throttle opening/gear shift

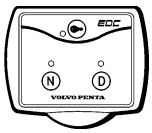
10a. Potentiometer, throttle opening

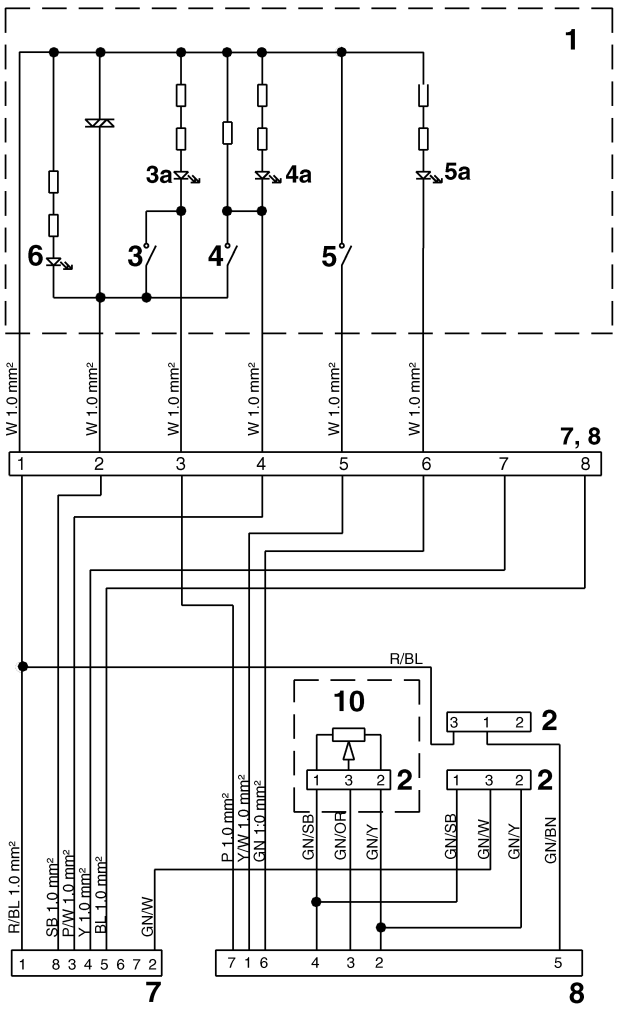
10b. Potentiometer, gear shift

11. 8-pin connection (male) – Port engine
12. 8-pin connection (female) – Starboard engine
13. Neutral position switch (only mechanically operated reverse gear)

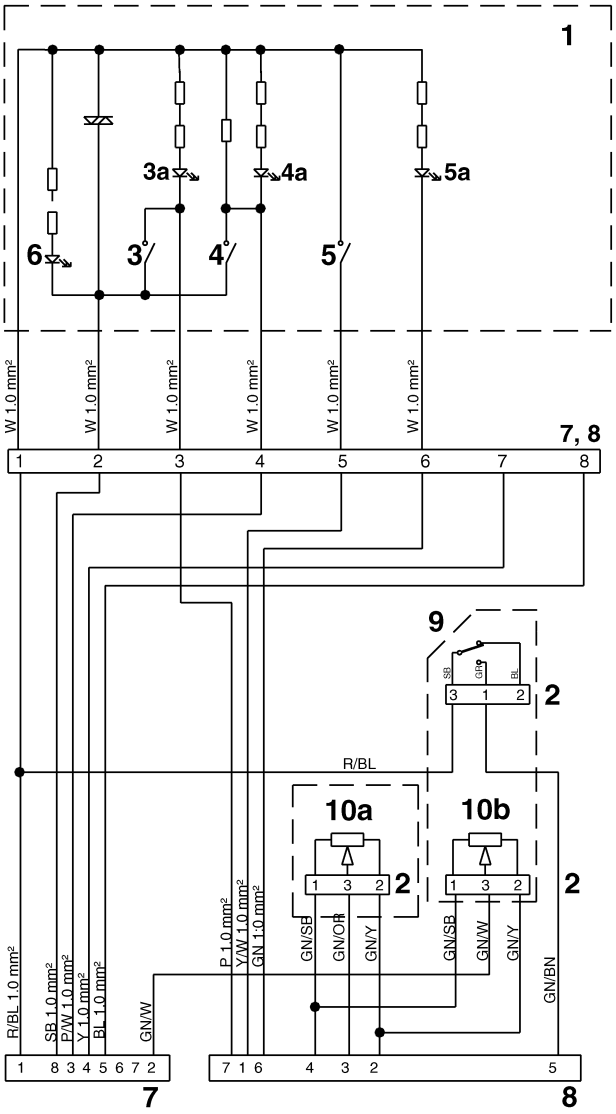
Control system, EDC: TAMD74

Single engine installation. Single lever controls.





Single engine installation. Twin lever controls.



Cable colour

BL = Blue
BN = Brown
GN = Green
OR = Orange
P = Pink
R = Red
SB = Black
W = White
Y = Yellow

Cable areas = 0.75 mm² unless otherwise specified.

Position schedule (both wiring diagrams)

1. Control panel
2. Connector
3. Diagnostic button
3a. LED (yellow)
4. Operating button
4a. LED (red)
5. Neutral button
5a. LED (green)
6. LED for background illumination
7. 8-pin moisture-proof connector (male)
8. 8-pin moisture-proof connector (female)
9. Neutral position switch (only mechanically operated reverse gear)
10. Potentiometer, throttle opening/gear shift
10a. Control adapter, throttle opening
10b. Control adapter, gear shift

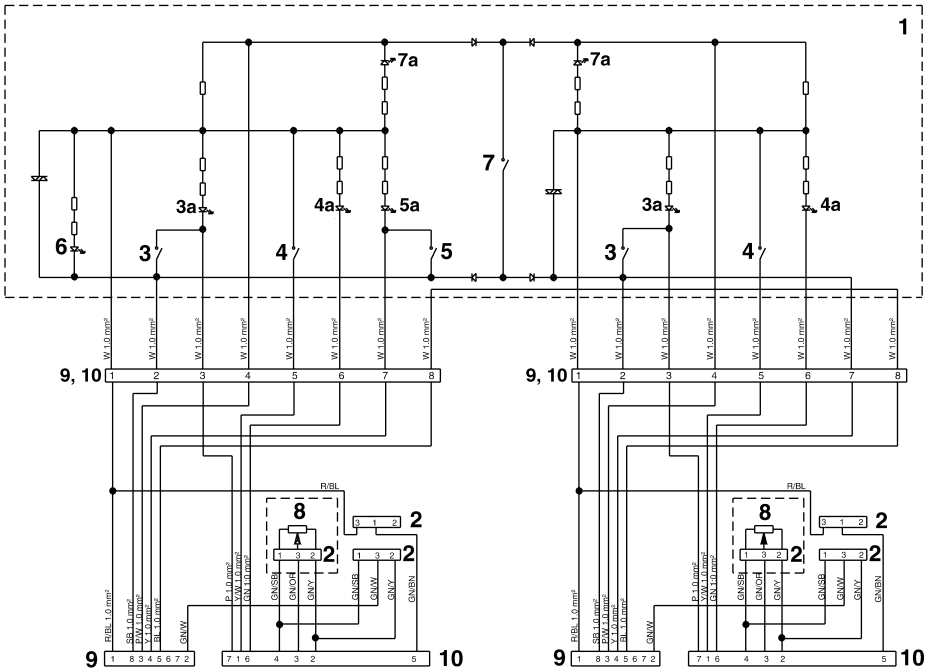
Control system, EDC: TAMD74

Twin engine installation. Single lever controls.

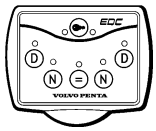
Cable colour

BL = Blue
BN = Brown
GN = Green
OR = Orange
P = Pink
R = Red
SB = Black
W = White
Y = Yellow

Cable areas = 0.75 mm² unless otherwise specified.



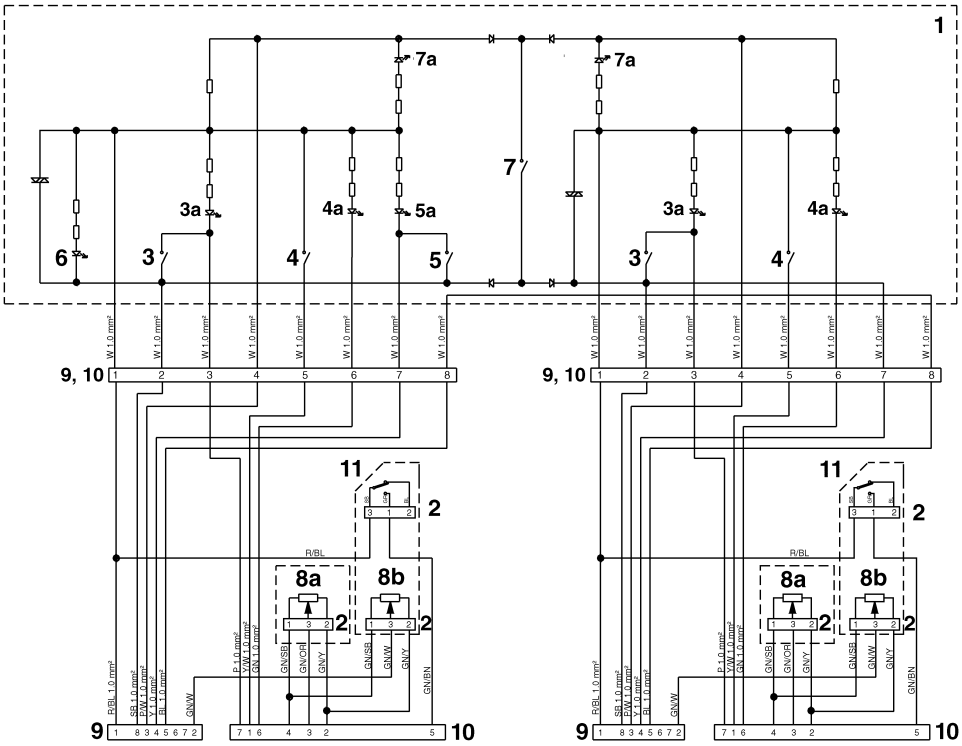
Twin engine installation. Twin lever controls.



Cable colour

BL = Blue
BN = Brown
GN = Green
OR = Orange
P = Pink
R = Red
SB = Black
W = White
Y = Yellow

Cable areas = 0.75 mm² unless otherwise specified.

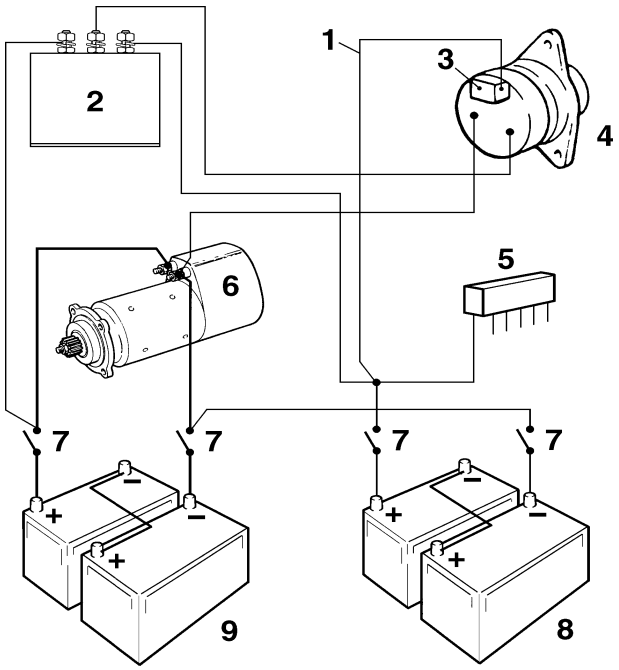


Position schedule (both wiring diagrams)

1. Control panel
2. Connector
3. Diagnostic button
3a. LED (yellow)
4. Neutral button
4a. LED (green)
5. Synchronisation button
5a. LED (blue)
6. LED for background illumination
7. Operating button
7a. LED ,2 pcs(red), starboard and port
8. Potentiometer, throttle opening/gear shift
8a. Control adapter, throttle opening
8b. Control adapter, gear shift
9. 8-pin moisture-proof connector (male)
10. 8-pin moisture-proof connector (female)
11. Neutral position switch (only mechanically operated reverse gear)

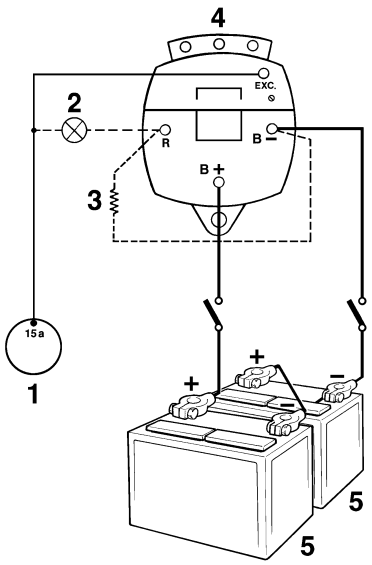
Wiring diagrams – general

Connection of Charge splitter to standard Alternator



1. Sensor cable (yellow, 1,5 mm²)
2. Charge splitter (optional)
3. Voltage regulator
4. Alternator
5. Fuse panel (optional)
6. Starter motor
7. Main switch
8. Accessory batteries (for optional equipment)
9. Start batteries (engine)

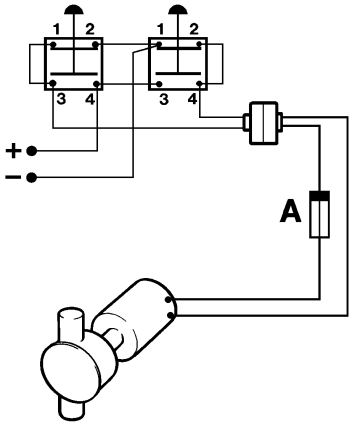
Extra Alternator 28V/100A



Extra Alternator 28 V/100 A

1. Key switch
2. Charge indication lamp
3. Resistor (47 Ω/25 W)
4. Alternator
5. Battery (12 V)

Oil scavenging pump



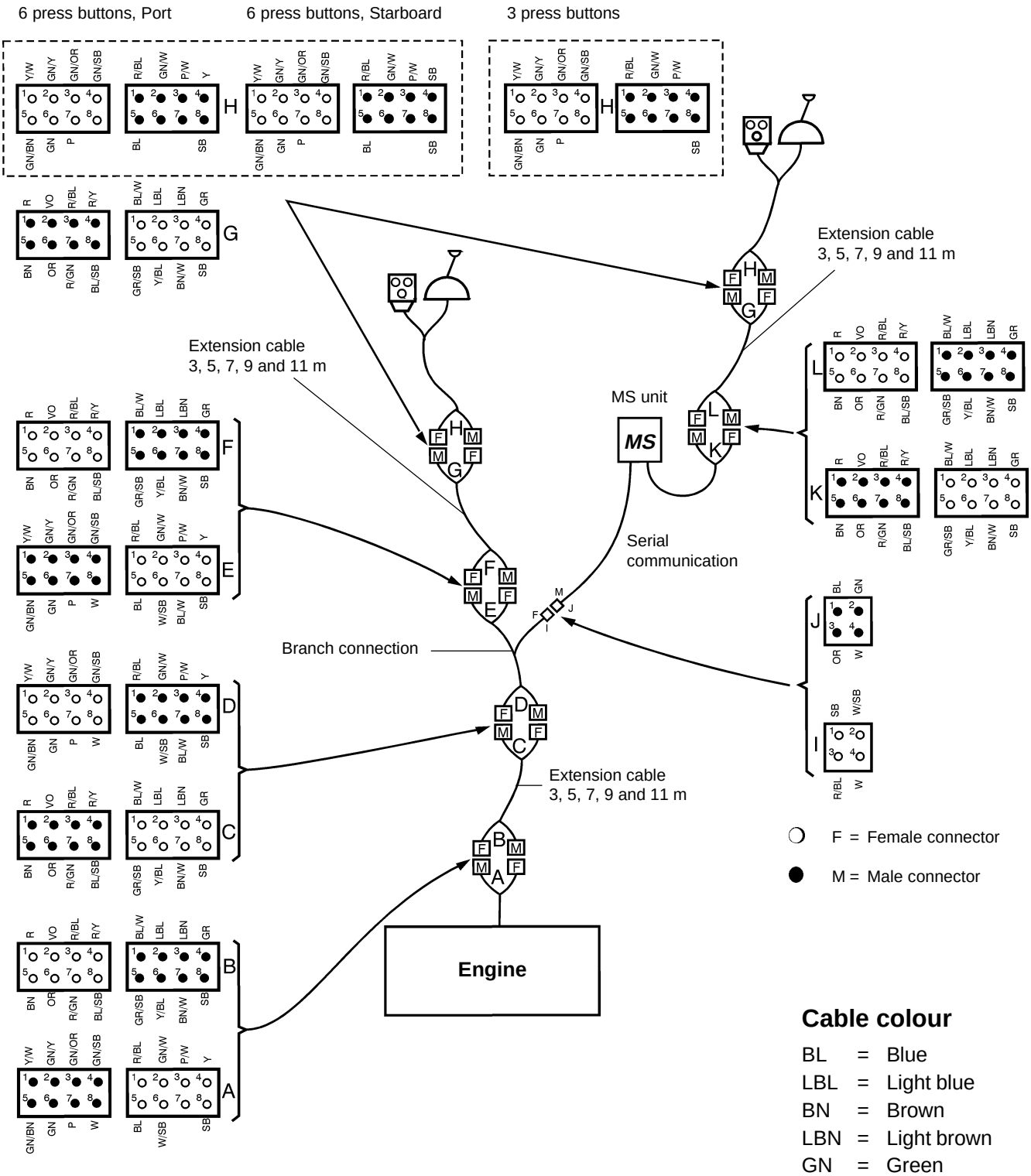
Proposed connection of oil scavenging pump (emptying and filling)

A. Fuse (8 A)

Cable area: 1,5 mm²

Wiring diagram – EDC colour coding

Twin engine installation



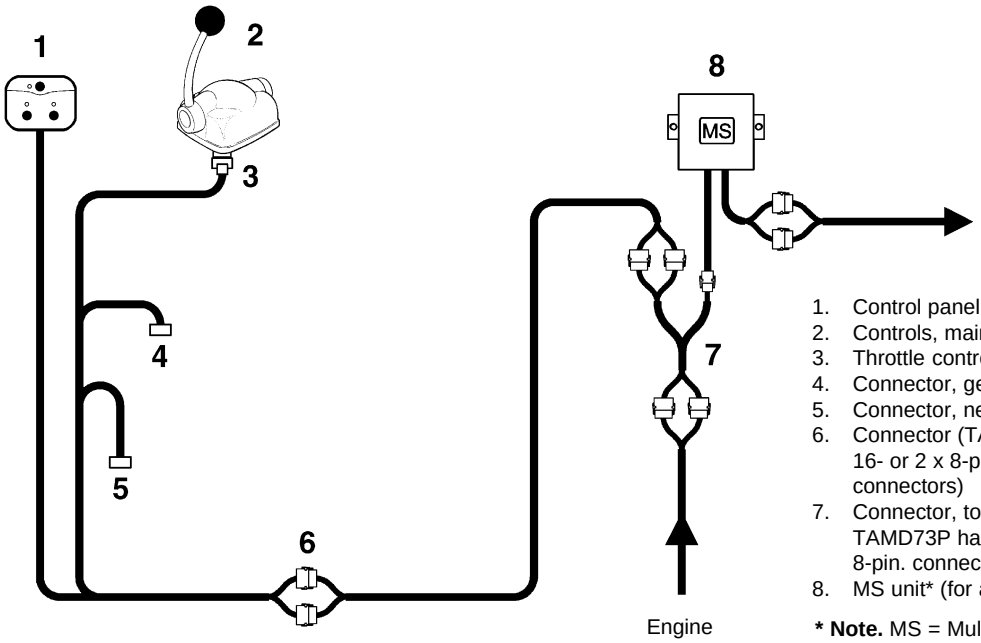
Cable colour

BL	=	Blue
LBL	=	Light blue
BN	=	Brown
LBN	=	Light brown
GN	=	Green
GR	=	Grey
OR	=	Orange
R	=	Red
SB	=	Black
VO	=	Violet
W	=	White
Y	=	Yellow
P	=	Pink

Wiring diagrams – alternative control system for EDC-controls

Single engine installation:

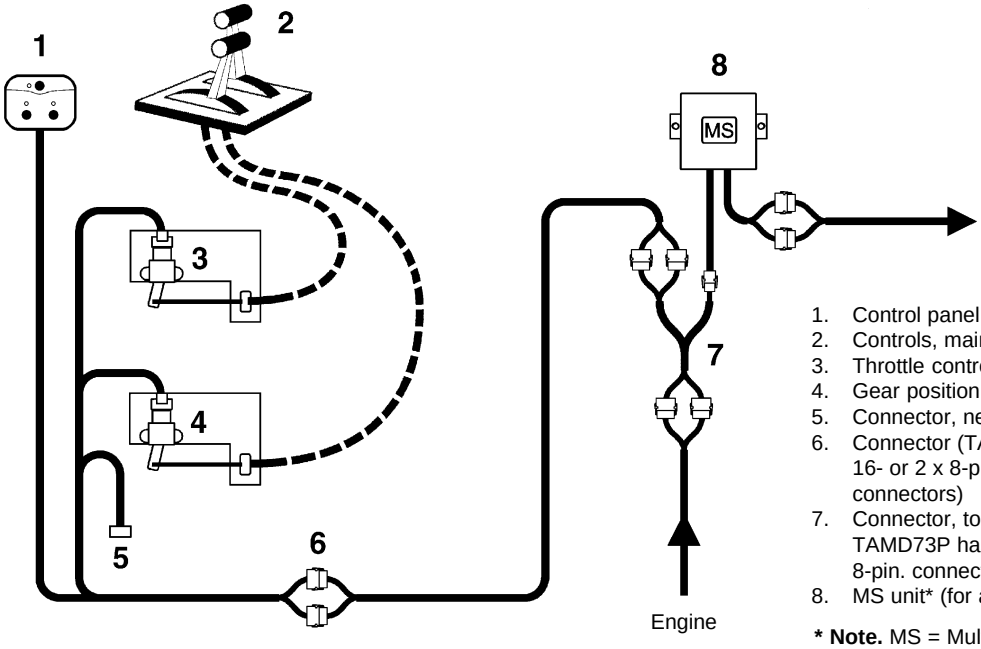
Electrically controls and electrically operated reverse gear



1. Control panel EDC, main control position
2. Controls, main control position
3. Throttle control potentiometer
4. Connector, gear position potentiometer (not used)
5. Connector, neutral position switch (not used)
6. Connector (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
7. Connector, to engine (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
8. MS unit* (for alternative control position)

*** Note.** MS = Multi Station.

Mechanical controls and electrically operated reverse gear



1. Control panel, main control position
2. Controls, main control position
3. Throttle control potentiometer
4. Gear position potentiometer
5. Connector, neutral position switch (not used)
6. Connector (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
7. Connector, to engine (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
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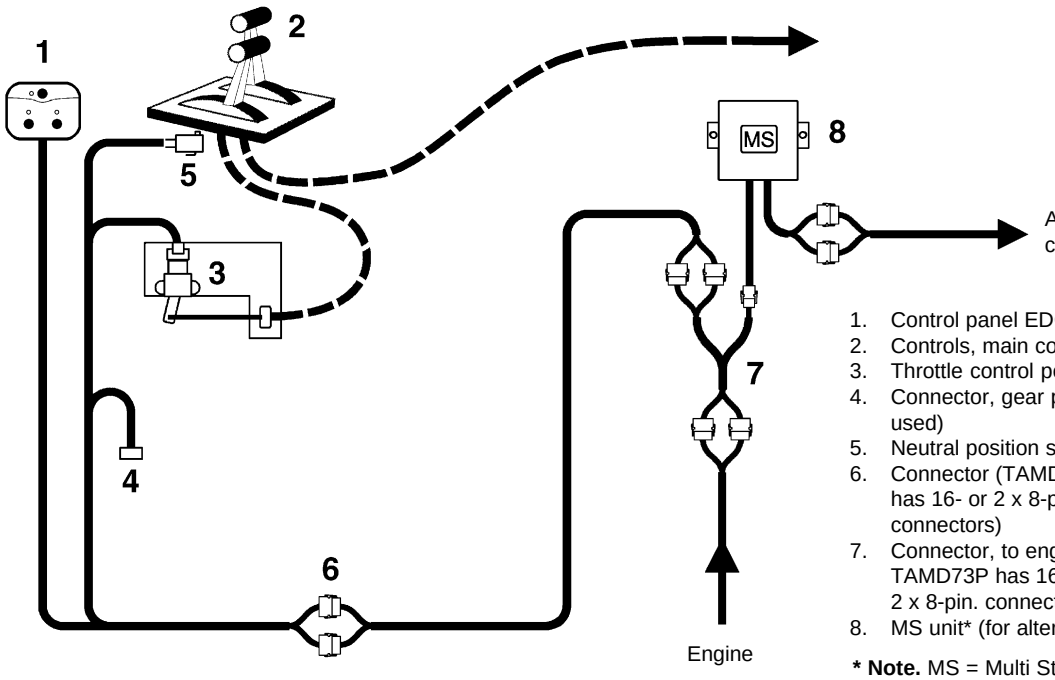
*** Note.** MS = Multi Station.

Mechanical controls and mechanically operated reverse gear

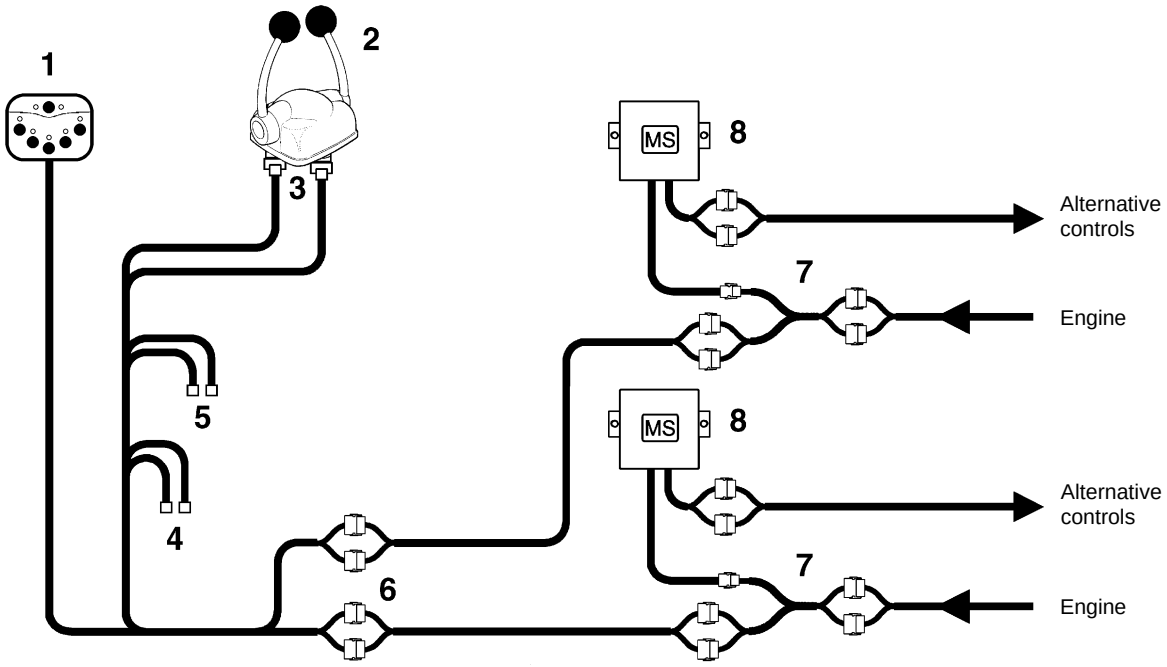


1. Control panel EDC, main control position
2. Controls, main control position
3. Throttle control potentiometer
4. Connector, gear position potentiometer (not used)
5. Neutral position switch
6. Connector (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
7. Connector, to engine (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
8. MS unit* (for alternative control position)

*** Note.** MS = Multi Station.

Twin engine installation:

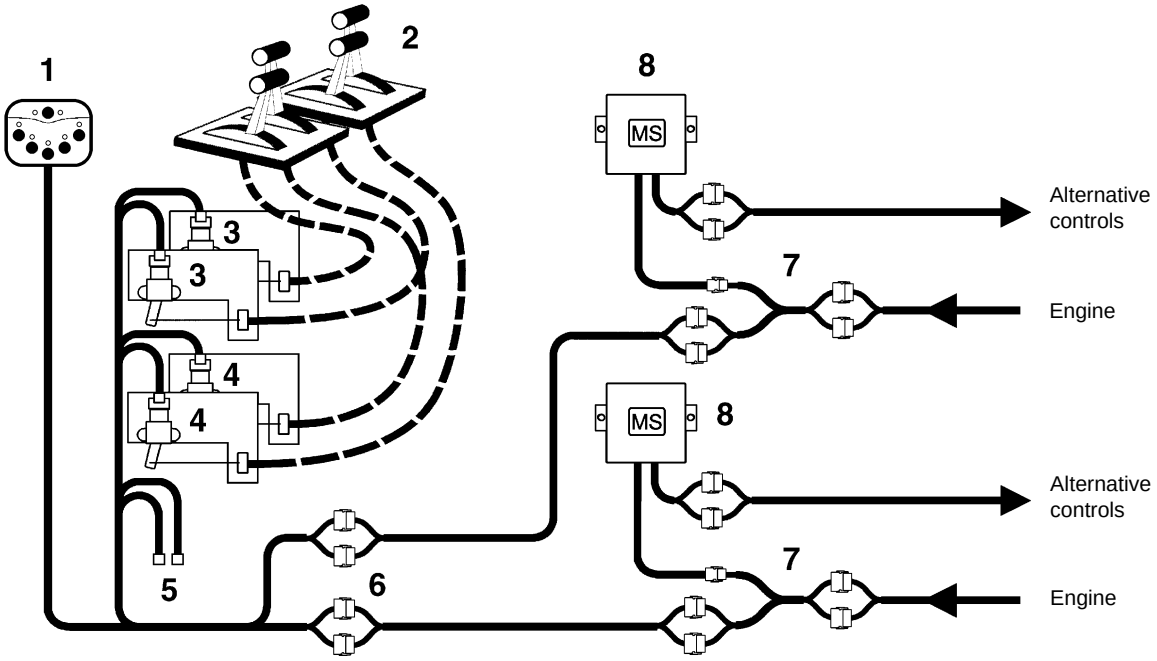
Electrical controls and electrically operated reverse gear



1. Control panel EDC, main control position
2. Controls, main control position
3. Throttle control potentiometer
4. Connector, gear position potentiometer (not used)
5. Connector, neutral position switch (not used)
6. Connector, (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
7. Connector, to engine (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
8. MS unit* (for alternative control position)

*** Note.** MS = Multi Station.

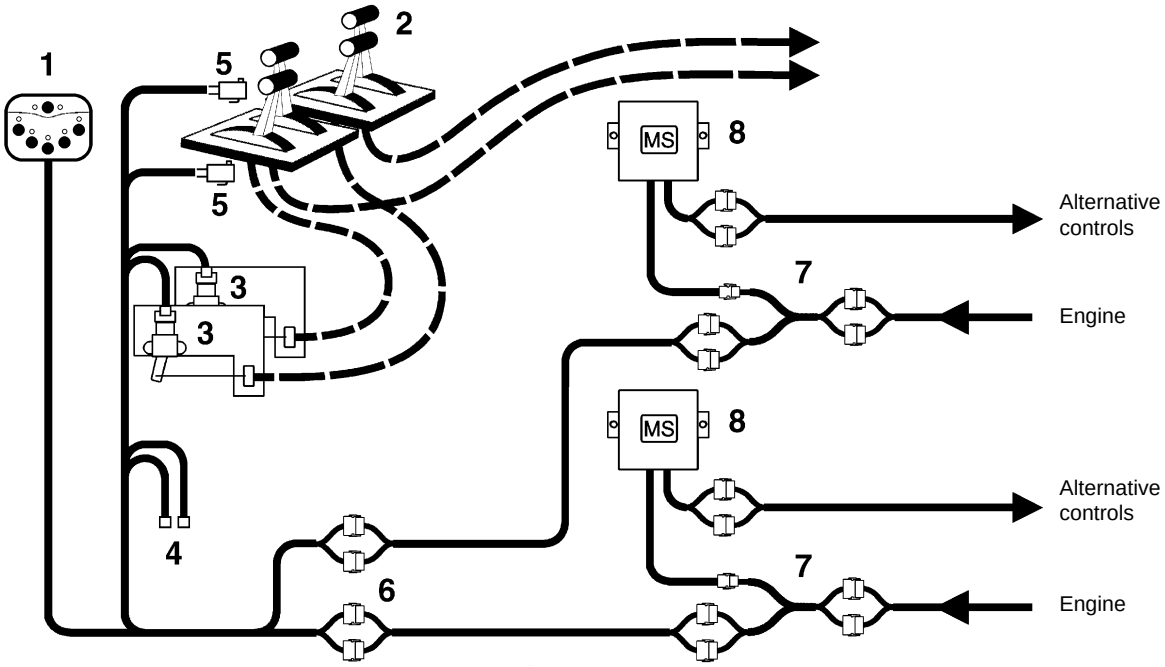
Mechanical controls and electrically operated reverse gear



1. Control panel EDC, main controls
2. Controls, main control position
3. Throttle control potentiometer
4. Gear position potentiometer
5. Connector, neutral position switch (not used)
6. Connector (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
7. Connector, to engine (TAMD72P has 16-pin., TAMD73P has 16-or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
8. MS unit* (for alternative control position)

*** Note.** MS = Multi Station.

Mechanical controls and mechanically operated reverse gear

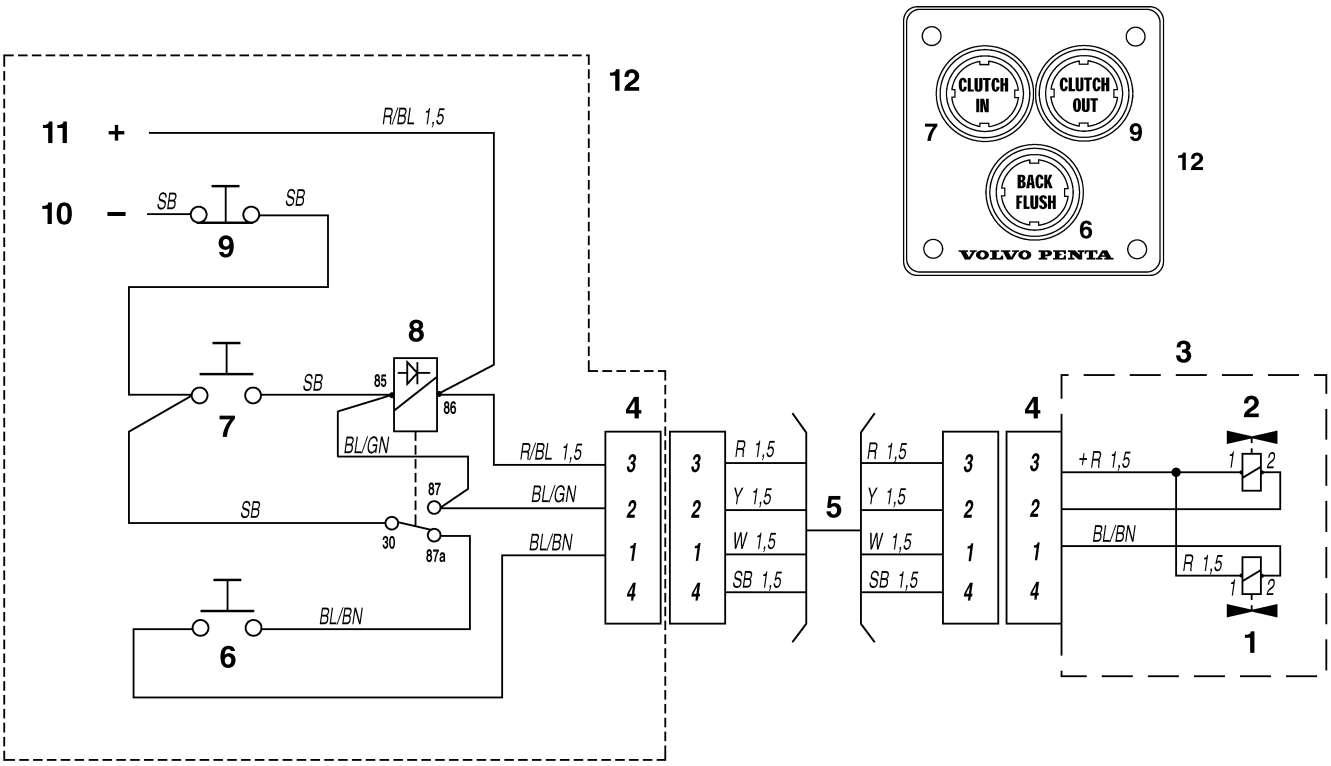


1. Control panel EDC, main control position
2. Controls, main control position
3. Throttle control potentiometer
4. Connector, gear position potentiometer (not used)
5. Neutral position switch
6. Connector (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
7. Connector, to engine (TAMD72P has 16-pin., TAMD73P has 16- or 2 x 8-pin., TAMD74 has 2 x 8-pin. connectors)
8. MS unit* (for alternative control position)

*** Note.** MS = Multi Station.

Wiring diagram – control panel water jet

Control panel, water jet: TAMD73WJ-A, TAMD74C-A, TAMD74C-B K28/K32



1. Solenoid valve, back flush
2. Solenoid valve, clutch in
3. Cables to reverse gear
4. Connector, 4-pin
5. Extension cable (available in various lengths from 3 –13 m)
6. Pushbutton, flushing
7. Pushbutton, clutch in
8. Relay, clutch in
9. Pushbutton, clutch out
10. Battery (–)
11. Battery (+)
12. Control panel

Cable colour

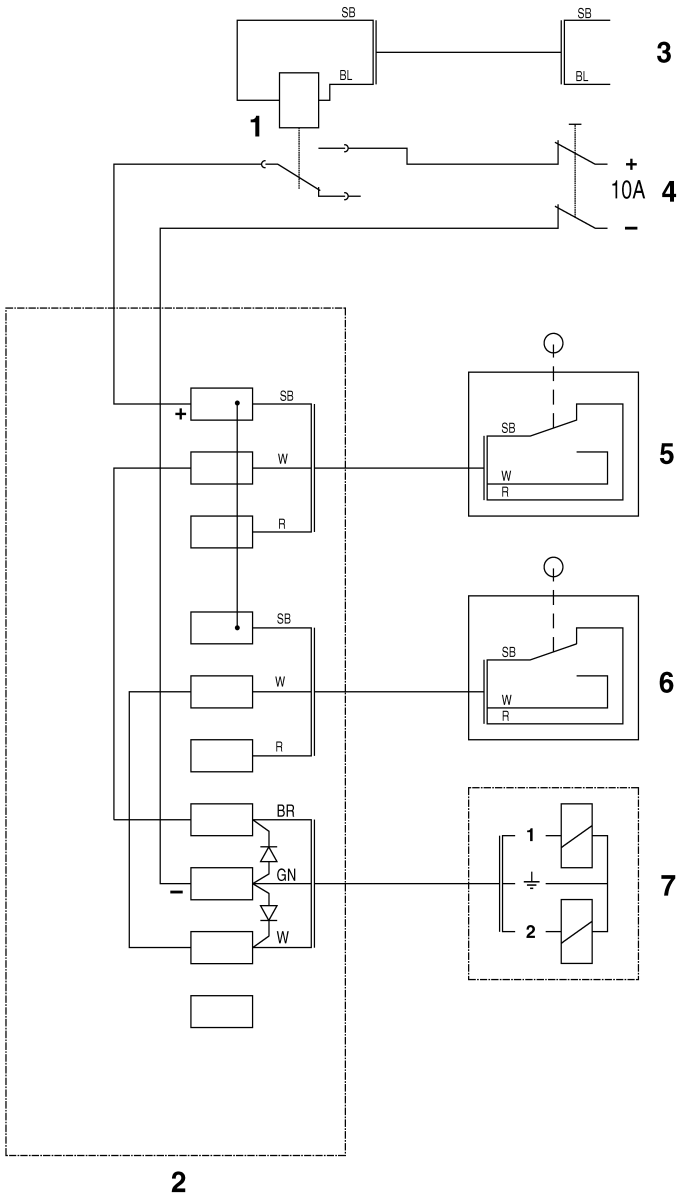
BL	=	Blue	SB	=	Black
BN	=	Brown	W	=	White
GN	=	Green	Y	=	Yellow
R	=	Red			

Cable areas in mm² are specified after the colour code in the wiring diagrams.

When no area is specified, 1.0 mm² is applicable.

Reversing bucket operation – water jet

Reversing bucket, water jet: TAMD74C-A, TAMD74C-B K28/K32



Cable colour

BL = Blue
BN = Brown
GN = Green
R = Red
SB = Black
W = White

1. Relay (not supplied by Volvo Penta)
2. Junction box
3. Connections to key switch on instrument panel
4. Supply 12/24 V DC (5 –10 A)
5. Microswitch (Reversing bucket down)
6. Microswitch (Reversing bucket up)
7. Control solenoid for hydraulic valve for reversing bucket
   1 = Port A – Reversing bucket down
   2 = Port B – Reversing bucket up

Cable areas in mm² are specified after the colour code in the wiring diagrams.

When no area is specified, 1.0 mm² is applicable.

References to Service Bulletins

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