



Training Program

FOR OUR  
CUSTOMERS



A Rolls-Royce  
solution



Training is the best way for operators and maintenance technicians to become proficient with **mtu** engines and systems so they can get maximum efficiency from the equipment. It is essential for the reliable functioning of the systems, maintaining the value of the investment and preventing breakdowns. Whether you need operators to learn how to use the equipment effectively or are developing your own on-site maintenance capabilities, count on our experience and expertise to set you up for success.

## Mechanical

# SERIES 1600

This cluster contains all trainings qualifying for mechanical service jobs.

### The courses are clustered in two levels.

- “Operator Basic” (Level A) covers regular maintenance and basic trouble-shooting.
- “Service Professional” (Level B) covers the content of Level A and repair-jobs as well as trouble-shooting competence.

| Product         | Application      | Level A           | Level B           | Engine controller |
|-----------------|------------------|-------------------|-------------------|-------------------|
| Series 1600 Rx0 | <b>Rail</b>      | A2C - 1600 Rx0    | B1C - 1600 Rx0    | ECU-9             |
| Series 1600 Gx0 | <b>Power Gen</b> | A2C - 1600Gx0-Gx1 | B1C - 1600Gx0-Gx1 | ECU-8             |
| Series 1600 Gx1 |                  | A2C - 1600Gx0-Gx1 | B1C - 1600Gx0-Gx1 | ECU-9             |
| Series 1600 Rx0 | <b>Rail</b>      | A2C - 1600 Rx0    | B1C - 1600 Rx0    | ECU-9             |
| Series 1600 Cx0 | <b>Mining</b>    | A2C - 1600 Cx0    | B1C - 1600 Cx0    | ECU-9             |

## Mechanical

# SERIES 2000

This cluster contains all trainings qualifying for mechanical service jobs.

The courses are clustered in two levels.

- “Operator Basic” (Level A) covers regular maintenance and basic trouble-shooting.
- “Service Professional” (Level B) covers the content of Level A and repair-jobs as well as trouble-shooting competence.

| Product         | Application | Level A            | Level B            | Engine controller |
|-----------------|-------------|--------------------|--------------------|-------------------|
| Series 2000 Mx0 | Marine      | A2C - 2000 Mx0-Mx1 | B1C - 2000 Mx0-Mx1 | ECU-4             |
| Series 2000 Mx1 |             | A2C - 2000 Mx0-Mx2 | B1C - 2000 Mx0-Mx2 | ECU-4             |
| Series 2000 Mx2 |             | A2C - 2000 Mx2-Mx4 | B1C - 2000 Mx2-Mx4 | ECU-7             |
| Series 2000 Mx3 |             | A2C - 2000 Mx2-Mx4 | B1C - 2000 Mx2-Mx4 | ECU-7             |
| Series 2000 Mx4 |             | A2C - 2000 Mx2-Mx4 | B1C - 2000 Mx2-Mx4 | ECU-7             |
| Series 2000 Mx6 |             | A2C - 2000 Mx6-Mx7 | B1C - 2000 Mx6-Mx7 | ECU-9             |
| Series 2000 Mx7 |             | A2C - 2000 Mx6-Mx7 | B1C - 2000 Mx6-Mx7 | ECU-9             |
| Series 2000 Gx0 | Power Gen   | A2C - 2000 Gx0-Gx5 | B1C - 2000 Gx0-Gx5 | DDEC              |
| Series 2000 Gx1 |             | A2C - 2000 Gx0-Gx5 | B1C - 2000 Gx0-Gx5 | ECU-4             |
| Series 2000 Gx2 |             | A2C - 2000 Gx0-Gx5 | B1C - 2000 Gx0-Gx5 | ECU-4             |
| Series 2000 Gx3 |             | A2C - 2000 Gx0-Gx5 | B1C - 2000 Gx0-Gx5 | ECU-4             |
| Series 2000 Gx5 |             | A2C - 2000 Gx0-Gx5 | B1C - 2000 Gx0-Gx5 | ECU-7             |
| Series 2000 Gx6 |             | A2C - 2000 Gx6     | B1C - 2000 Gx6     | ECU-9             |
| Series 2000 Cx0 | Mining      | A2C - 2000 Cx0-Cx2 | B1C - 2000 Cx0-Cx2 | DDEC              |
| Series 2000 Cx1 |             | A2C - 2000 Cx0-Cx2 | B1C - 2000 Cx0-Cx2 | DDEC              |
| Series 2000 Cx2 |             | A2C - 2000 Cx0-Cx2 | B1C - 2000 Cx0-Cx2 | DDEC              |
| Series 2000 Cx6 |             | —                  | B1C - 2000 Cx6/Sx6 | ECU-9             |
| Series 2000 Px2 | Oil & Gas   | A2C - 2000 Px2     | B1C - 2000 Px2     | DDEC              |
| Series 2000 Sx6 |             | —                  | B1C - 2000 Cx6/Sx6 | ECU-9             |

# SERIES 4000

This cluster contains all trainings qualifying for mechanical service jobs.

The courses are clustered in two levels.

- “Operator Basic” (Level A) covers regular maintenance and basic trouble-shooting.
- “Service Professional” (Level B) covers the content of Level A and repair-jobs as well as trouble-shooting competence.

| Product                         | Application | Level A                | Level B                | Engine controller |
|---------------------------------|-------------|------------------------|------------------------|-------------------|
| Series 4000 Mx0                 | Marine      | A2C - 4000 Mx0-Mx1     | B1C - 4000 Mx0-Mx1     | ECU-4 *           |
| Series 4000 Mx1                 |             | A2C - 4000 Mx0-Mx1     | B1C - 4000 Mx0-Mx1     | ECU-4 *           |
| Series 4000 Mx3                 |             | A2C - 4000 Mx3         | B1C - 4000 Mx3         | ECU-7 **          |
| Series 4000 Mx4                 |             | A2C - 4000 Mx4         | —                      | ECU-9             |
| Series 4000 Mx5                 |             | A2C - 4000 Mx5         | B1C - 4000 Mx5         | ECU-9             |
| Series 4000 Mx5<br>(Gas Mobile) |             | A2C - 4000 Mx5RN       | B1C - 4000 Mx5RN       | ECU-9             |
| Series 4000 Gx0                 | PowerGen    | A2C - 4000 Gx0-Gx2     | B1C - 4000 Gx0-Gx2     | ECU-4             |
| Series 4000 Gx1                 |             | A2C - 4000 Gx0-Gx2     | B1C - 4000 Gx0-Gx2     | ECU-4             |
| Series 4000 Gx2                 |             | A2C - 4000 Gx0-Gx2     | B1C - 4000 Gx0-Gx2     | ECU-4             |
| Series 4000 Gx3                 |             | A2C - 4000 Gx3         | B1C - 4000 Gx3         | ECU-7             |
| Series 4000 Gx4                 |             | A2C - 4000 Gx4         | B1C - 4000 Gx4         | ECU-9             |
| Series 4000 Rx0                 | Rail        | A2C - 4000 Rx0-Rx1     | B1C - 4000 Rx0-Rx1     | ECU-4             |
| Series 4000 Rx1                 |             | A2C - 4000 Rx0-Rx1     | B1C - 4000 Rx0-Rx1     | ECU-4             |
| Series 4000 Rx3                 |             | A2C - 4000 Rx3         | B1C - 4000 Rx3         | ECU-7             |
| Series 4000 Rx4                 |             | A2C - 4000 Rx4         | B1C - 4000 Rx4         | ECU-9             |
| Series 4000 Cx0                 | Mining      | A2C - 4000 Cx0-Cx2/Sx1 | B1C - 4000 Cx0-Cx2/Sx1 | ECU-4             |
| Series 4000 Cx1                 |             | A2C - 4000 Cx0-Cx2/Sx1 | B1C - 4000 Cx0-Cx2/Sx1 | ECU-4             |
| Series 4000 Cx2                 |             | A2C - 4000 Cx0-Cx2/Sx1 | B1C - 4000 Cx0-Cx2/Sx1 | ECU-4             |
| Series 4000 Cx3                 |             | A2C - 4000 Cx3/Sx3     | B1C - 4000 Cx3/Sx3     | ECU-7             |
| Series 4000 Cx5                 |             | A2C - 4000Cx5          | B1C - 4000 Cx5         | ECU-9             |
| Series 4000 Sx1                 | Oil&Gas     | A2C - 4000 Cx0-Cx2/Sx1 | B1C - 4000 Cx0-Cx2/Sx1 | DDEC              |
| Series 4000 Sx3                 |             | A2C - 4000 Cx3/Sx3     | B1C - 4000 Cx3/Sx3     | ECU-7             |
| Series 4000 Px1                 |             | A2C - 4000 Px1         | B1C - 4000 Px1         | ECU-4             |
| Series 4000 Px3                 |             | A2C - 4000 Px3         | B1C - 4000 Px3         | ECU-7             |
| Series 4000 Tx4                 |             | A2C - 4000 Tx4-Tx5     | B1C - 4000 Tx4-Tx5     | ECU-9             |
| Series 4000 Tx5                 |             | A2C - 4000 Tx4-Tx5     | B1C - 4000 Tx4-Tx5     | ECU-9             |

\* Engines since 2024 equipped with ECU-9 retrofit

\*\* Engines with **mtu** SCR system equipped with ECU-9

# CLASSIC AND LARGE ENGINES

This cluster contains all trainings qualifying for mechanical service jobs.

The courses are clustered in two levels.

- “Operator Basic” (Level A) covers regular maintenance and basic trouble-shooting.
- “Service Professional” (Level B) covers the content of Level A and repair-jobs as well as trouble-shooting competence.

| Product          | Application | Level A                  | Level B                  | Engine controller |
|------------------|-------------|--------------------------|--------------------------|-------------------|
| Series 396 TBx3  | Marine      | A2C - 396 TBx3           | B1C - 396 TBx3           | ECS/ADEC-UNI      |
| Series 396 TBx4  |             | A2C - 396 TBx4/TCx4/TEx4 | B1C - 396 TBx4/TCx4/TEx4 | ECS/ADEC-UNI      |
| Series 396 TCx4  |             | A2C - 396 TBx4/TCx4/TEx4 | B1C - 396 TBx4/TCx4/TEx4 | ECS/ADEC-UNI      |
| Series 396 TEx4  |             | A2C - 396 TBx4/TCx4/TEx4 | B1C - 396 TBx4/TCx4/TEx4 | ECS/ADEC-UNI      |
| Series 396 TDx4  |             | A2C - 396 TDx4           | B1C - 396 TDx4           | ECS/ADEC-UNI      |
| Series 538 TBx3  |             | A2C - 538 TBx3           | B1C - 538 TBx3           | ECS/ADEC-UNI      |
| Series 595       |             | A2C - 595                | B1C - 595                | ECS/ADEC-UNI      |
| Series 1163 TBx3 |             | A2C - 1163 TBx3          | B1C - 1163 TBx3          | ECS/ADEC-UNI      |
| Series 1163 Mx4  |             | A2C - 1163 Mx4           | B1C - 1163 Mx4           | ECU-9             |
| Series 8000 Mx0  |             | A2C - 8000 Mx0-Mx1       | B1C - 8000 Mx0-Mx1       | ECU-4             |
| Series 8000 Mx1  |             | A2C - 8000 Mx0-Mx1       | B1C - 8000 Mx0-Mx1       | ECU-4 *           |
| Series 956 TBx2  | PowerGen    | A2C - 956 TBx2           | B1C - 956 TBx2           | —                 |
| Series 956 TBx3  |             | A2C - 956 TBx3-TBx4      | B1C - 956 TBx3-TBx4      | ECS/ADEC-UNI      |
| Series 956 TBx4  |             | A2C - 956 TBx3-TBx4      | B1C - 956 TBx3-TBx4      | ECS/ADEC-UNI      |

\* Engines equipped with ECU-9 for specific projects

# RAIL POWERPACK

This cluster contains all trainings qualifying for Rail PowerPacks. On Series 1600 the training covers the engine & powerpack mechanics – electronics (ECU) is in the cluster “electronics”. On Series 1800 the training covers the entire system: Engine, powerpack & electronics.

The courses are clustered in two levels.

- “Operator Basic” (Level A) covers regular maintenance and basic trouble-shooting.
- “Service Professional” (Level B) covers the content of Level A and repair-jobs as well as trouble-shooting competence.

| Product                       | Application | Level A                                           | Level B                                           | Engine controller |
|-------------------------------|-------------|---------------------------------------------------|---------------------------------------------------|-------------------|
| RPP Series 1600<br>(Stage 3b) | Rail        | A2C - Rail PowerPack 1600<br>(Stage 3B)           | B1C - Rail PowerPack 1600<br>(Stage 3B)           | ECU-9             |
| RPP Series 1600<br>(Stage 5)  |             | A2C - Rail PowerPack 1600<br>(Stage 5)            | B1C - Rail PowerPack 1600<br>(Stage 5)            | ECU-9             |
| RPP Series 1800<br>(Stage 3b) |             | A2C - Rail PowerPack 1800<br>(Stage 3B)           | B1C - Rail PowerPack 1800<br>(Stage 3B)           | MR2               |
| RPP Series 1800<br>(Stage 5)  |             | A2C - Rail PowerPack 1800<br>(Stage 5 non-hybrid) | B1C - Rail PowerPack 1800<br>(Stage 5 non-hybrid) | MR2               |

# ENGINE MANAGEMENT SYSTEM

This cluster contains all trainings qualifying for service jobs on the engine management system.

The first column shows you the product – in the other column you find the engine controller course type. There is only one level in this

cluster which permits to order the diagnostic software incl. the dongle level 0.

| Product      | Level B               |
|--------------|-----------------------|
| SafeDec      | B1C - SafeDEC G (NPP) |
| DDEC         | B1C - DDEC            |
| ECS-UNI      | B1C - ECS-UNI         |
| ADEC-UNI     | B1C - ADEC-UNI        |
| ECU-4        | B1C - ECU-4           |
| ECU-7        | B1C - ECU-7           |
| ECU-8        | B1C - ECU-8           |
| ECU-9        | B1C - ECU-9           |
| ECS (PP1800) | B1C - ECS 1800R       |

# AUTOMATION

This cluster contains all trainings qualifying for service jobs on a automation system.

The courses are clustered in two levels.

- “Operator Basic” (Level A) covers operation of the system as well as basic trouble-shooting.
- “Service Professional” (Level B) covers the content of Level A and repair-jobs as well as trouble-shooting competence on the automation system.

| Product              | Application | Level A                    | Level B                    |
|----------------------|-------------|----------------------------|----------------------------|
| Smartline            | Marine      | A2C - Smartline            | B1C - Smartline            |
| Blueline             |             | A2C - Blueline             | B1C - Blueline             |
| BlueVision           |             | A2C - BlueVision           | B1C - BlueVision           |
| Genoline             |             | —                          | B1C - Genoline             |
| Ship Automation      |             | A2C - Ship Automation      | B1C - Ship Automation      |
| NautIQ BlueVision NG |             | A2C - NautIQ BlueVision NG | B1C - NautIQ BlueVision NG |
| NautIQ Genoline NG   |             | —                          | B1C - NautIQ Genoline NG   |
| Powerline ECU-7      | Rail        | —                          | B1C - Powerline ECU-7      |
| Powerline ECU-9      |             | —                          | B1C - Powerline ECU-9      |
| PowerControl ECU-9   |             | A2C - PowerControl ECU-9   | —                          |

# EXHAUST GAS AFTERTREATMENT

This cluster contains all training courses that qualify for mechanical/ electronical service jobs and troubleshooting on the respective exhaust gas aftertreatment systems.

| Product | Level B    |
|---------|------------|
| EGAT    | B1C - EGAT |

# LAND DEFENSE & SUBMARINE

This cluster contains all trainings qualifying for mechanical service jobs.

Land Defense training covers four different levels according to the trainee target groups.

- Level A: Operator MES 1
- Level B: On-Site maintainer MES 1 - 2
- Level C1: Base maintainer MES 1 - 3
- Level C2: Expert maintainer MES 1 - 4

Land Defense training will be held preferably on-site (beside Series 106 & 199) - the relevant circumstances (product, tools, etc.) must be ensured to conduct training in your facility.

Submarine training is conducted in the Training Center.

- Level A: Operator QL 1
- Level B: On-Site maintainer QL 1 - 2
- Level C1: Base maintainer QL 1 - 3
- Level C2: Expert maintainer QL 1 - 4

Please be aware that an export license might be required to conduct military training. Get in touch with us for individual planning.

| Product         | Application | Level A   | Level B        | Level C1       | Level C2       | Engine Controller |
|-----------------|-------------|-----------|----------------|----------------|----------------|-------------------|
| Series 106      | Defense     | A2C - 106 | B1C - 106      | —              | —              | —                 |
| Series 199      |             | A2C - 199 | B1C - 199      | C1C - 199      | C2C - 199      | MR2               |
| Series 833      |             | —         | B1C - 833      | C1C - 833      | C2C - 833      | —                 |
| Series 838      |             | —         | B1C - 838      | C1C - 838      | C2C - 838      | —                 |
| Series 871      |             | —         | B1C - 871      | C1C - 871      | C2C - 871      | CDS-C             |
| Series 873      |             | —         | B1C - 873      | C1C - 873      | C2C - 873      | CDS-C             |
| Series 881      |             | —         | B1C - 881      | C1C - 881      | C2C - 881      | CDS-C             |
| Series 883      |             | —         | B1C - 883      | C1C - 883      | C2C - 883      | CDS-C             |
| Series 883 CR   |             | —         | B1C - 883 CR   | C1C - 883 CR   | C2C - 883 CR   | CDS-CR            |
| Series 892      |             | —         | B1C - 892      | C1C - 892      | C2C - 892      | CDS-CR            |
| Series 4000 Ux3 | Submarine   | —         | B1C - 4000 Ux3 | C1C - 4000 Ux3 | C2C - 4000 Ux3 | ECU-7             |
| Series 396 SE   |             | —         | B1C - 396 SEx4 | C1C - 396 SEx4 | C2C - 396 SEx4 | ADEC-/ECS-UNI     |
| Series 493      |             | —         | B1C - 493      | —              | —              | —                 |

RRS Training Center  
On-site

# LAND DEFENSE & SUBMARINE

This cluster contains all trainings qualifying for service jobs on the engine management system.

The first column shows you the product – in the other column you find the engine controller course type. There are two levels in this cluster.

- Following qualifications are possible:
- Level B: Diasys Dongle 0
  - Level C: Diasys Dongle 1A

| Product        | Application | Level B                   | Level C                   |
|----------------|-------------|---------------------------|---------------------------|
| 87x & 88x      | Defense     | –                         | C1C - CDS/C               |
| 88x (CR) & 89x |             | –                         | C1C - CDS/CR              |
| ECU-7          | Submarine   | B1C - ECU-7 M (Submarine) | C1C - ECU-7 M (Submarine) |

# ENERGYPACK/BESS

For the EnergyPack solutions, we offer training at all levels as web based training. National HV\* training is required for work on the products. This qualification is not part of the **mtu** training.

There are two different levels:

- Level A: Operator QL 1
- Level B: On-Site maintainer QL 1 - 2

| Product       | Level A             | Level B             |
|---------------|---------------------|---------------------|
| EnergyPack QL | A2C - EnergyPack QL | B1C - EnergyPack QL |

Online course

# Q-GRID OPERATOR & SERVICE TRAINING

For Q-Grid we provide a matrix which shows which individual trainings at our supplier can be conducted. The booking has to be done independed - this is the most cost-effective & fastest approach. If trainings on all 3 components can be proved then a certificated will be handed out by the RRS-TrainingCenter.

# KINETIC POWERPACK

This cluster includes all training programs for the Kinetic PowerPack system, with a focus on qualifications for operation and maintenance. The programs are divided into two separate parts.

Part one covers the mechanics of “Basic Maintenance” (Level A) for regular maintenance and basic troubleshooting.

| Product | Application | Level A                      |
|---------|-------------|------------------------------|
| KPP 5   | Power Gen   | A2C - Kinetic PowerPack KPPx |
| KPP 7   |             | A2C - Kinetic PowerPack KPPx |

Part two contains the “Basic operation” (Level A) for system control.

| Product                           | Application | Level A                             |
|-----------------------------------|-------------|-------------------------------------|
| KPP 5 - System without HMI screen | Power Gen   | A2C - Kinetic PowerPack HMI Classic |
| KPP 5 - System with HMI screen    |             | A2C - Kinetic PowerPack HMI Vision  |
| KPP 7 - System with HMI screen    |             | A2C - Kinetic PowerPack HMI Vision  |

# DIESEL SYSTEMS

This cluster contains all trainings qualifying for service jobs on the power generation system.

This trainings are not focused on the engine side but on the other specifics part from the system.

- Level A covering basic information about generator and controllers On-Site
- Level B is for service engineers

| Product                              | Application | Level A         | Level B         |
|--------------------------------------|-------------|-----------------|-----------------|
| PowerGeneration Diesel System (50Hz) | Power Gen   | A2C - PG Basler | B1C - PG Basler |
| PowerGeneration Diesel System (60Hz) |             | A2C - PG Deif   | B1C - PG Deif   |
| PowerGeneration Diesel System        | Oil & Gas   | A2C - PG Basler | B1C - PG Basler |

RRS Training Center  
on-site

# GAS-SYSTEMS

This cluster contains all courses for the gas CHP systems, with a focus on qualifications for operation and maintenance. The programs includes three separate parts.

**System & engine courses** – this cluster contains all trainings related to general engine and peripheral topics. Following qualifications are possible:

- “Operator Basic” (Level A) covers operation of the system as well as basic trouble-shooting.

| Product    | Product   | Level A          |                        |
|------------|-----------|------------------|------------------------|
| CHP 400    | Power Gen | A2C - 400 L CHP  | A2C- SCR L (S400/4000) |
| CHP 4000 L |           | A2C - 4000 L CHP | A2C- SCR L (S400/4000) |
| CHP 4000 L | Oil & Gas | A2C - 4000 L CHP | —                      |

**Electronics courses** – this cluster contains all trainings qualifying for electrical service work. Following qualifications are possible:

- “Operator” Level B: Diasys Dongle 0

| Product | Product   | Level B          |
|---------|-----------|------------------|
| ECU-7 L | Power Gen | B1C - ECU-7 L *  |
| ECU-9 L |           | B1C - ECU-9 L ** |
| ECU-9 L | Oil & Gas | B1C - ECU-9 L    |

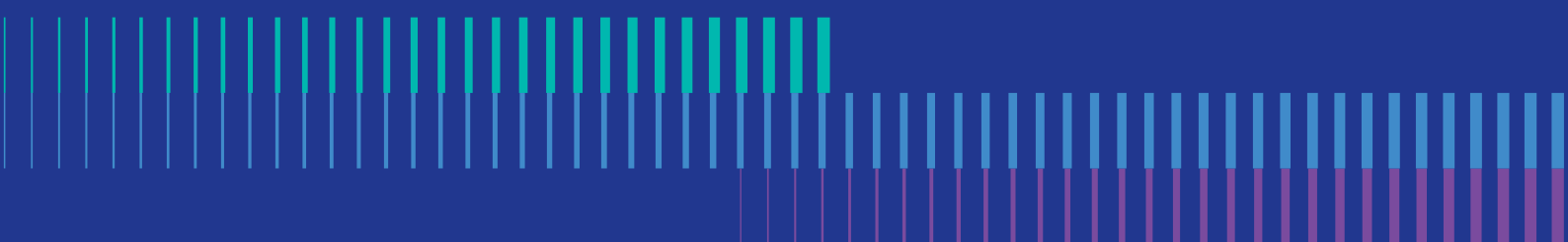
\* Engines 4000L62/L63 equipped with ECU-7

\*\* Engines 4000L32/L33/L64 equipped with ECU-9

**Automation courses** – this cluster contains all trainings qualifying for operating the CHP automation system. Following qualifications are possible:

- “Operator & on-site specialist” Level B: MIP/MMC Dongle 5

| Product    | Product   | Level B                |
|------------|-----------|------------------------|
| CHP 400    | Power Gen | B1C - MIP/MMC (S400L)  |
| CHP 4000 L |           | B1C - MIP/MMC (S4000L) |
| CHP 4000 L | Oil & Gas | B1C - MIP/MMC (S4000L) |



Stay posted with more powerful information  
and follow **mtusolutions** under:



Rolls-Royce Group  
[www.mtu-solutions.com](http://www.mtu-solutions.com)