





EXPANDING KNOWLEDGE TO EXCEL BETTER

BUILT FOR IT.

**2018 CUSTOMER TRAINING SCHEDULE
TRAINING CENTER PT TRAKINDO UTAMA**

info@trakindo.co.id
Call Center 1500 228

 @trakindoutama
  PT Trakindo Utama

Trakindo 

2018 CUSTOMER TRAINING SCHEDULE

No.	TRAINING TITLE	MONTH	DATE	REMARKS	LOCATION
1.	Applied Failure Analysis 1	March	19-23 March 2018	Regular	TC Cileungsi
2.	Applied Failure Analysis 1	July	2-6 July 2018	Regular	TC Cileungsi
3.	Applied Failure Analysis 1	September	3-7 September 2018	Regular	TC Cileungsi
4.	Applied Failure Analysis 1	October	15-19 October 2018	Regular	STC Balikpapan
5.	Applied Failure Analysis 1	November	12-16 November 2018	Regular	TC Cileungsi
6.	Applied Failure Analysis 2	April	2-6 April 2018	Regular	TC Cileungsi
7.	Applied Failure Analysis 2	June	25-29 June 2018	Regular	TC Cileungsi
8.	Applied Failure Analysis 2	August	27-31 August 2018	Regular	TC Cileungsi
9.	Applied Failure Analysis 2	October	1-5 October 2018	Regular	TC Cileungsi
10.	Applied Failure Analysis 2	November	12-16 November 2018	Regular	STC Balikpapan
11.	Diesel Engine Electric Set Operation & Maintenance	May	21-25 May 2018	Regular	TC Cileungsi
12.	Diesel Engine Electric Set Operation & Maintenance	July	16-20 July 2018	Regular	TC Cileungsi
13.	Diesel Engine Electric Set Operation & Maintenance	September	3-7 September 2018	Regular	TC Cileungsi
14.	Diesel Engine Electric Set Operation & Maintenance	November	5-9 November 2018	Regular	TC Cileungsi
15.	Diesel Engine Maintenance	May	14-18 May 2018	Regular	TC Cileungsi
16.	Diesel Engine Maintenance	September	24-28 September 2018	Regular	TC Cileungsi
17.	ET Introduction	April	9-10 April 2018	Regular	TC Cileungsi
18.	ET Introduction	August	20-21 August 2018	Regular	TC Cileungsi
19.	Gas Engine Electric Set Operation & Maintenance	April	2-6 April 2018	Regular	TC Cileungsi
20.	Gas Engine Electric Set Operation & Maintenance	October	22-26 October 2018	Regular	TC Cileungsi
21.	Gas Engine Electric Set Operation & Maintenance	July	2-6 July 2018	Regular	TC Cileungsi
22.	Heavy Equipment Maintenance	April	23-27 April 2018	Regular	TC Cileungsi
23.	Heavy Equipment Maintenance	August	6-10 August 2018	Regular	TC Cileungsi
24.	Heavy Equipment Maintenance Management	March	12-16 March 2018	Regular	STC Pekanbaru
25.	Heavy Equipment Maintenance Management	April	16-20 April 2018	Regular	TC Cileungsi
26.	Heavy Equipment Maintenance Management	August	27-31 August 2018	Regular	TC Cileungsi
27.	Heavy Equipment Maintenance Management	September	24-28 September 2018	Regular	STC Pekanbaru
28.	Heavy Equipment Maintenance Management	October	1-5 October 2018	Regular	TC Cileungsi
29.	320D HEX Product Training	February	19-23 February 2018	Regular	STC Pekanbaru
30.	320D HEX Product Training	August	27-31 August 2018	Regular	STC Pekanbaru
31.	320D HEX Product Training	December	3-7 December 2018	Regular	STC Pekanbaru

Subject:
DIESEL ENGINE MAINTENANCE

Objective:

This course provides an in-depth study and hands-on activity in operating, maintaining and simply troubleshooting Caterpillar Diesel Engine and Generator Set (CAT – Diesel Genset).

Target Audience:

Person who maintain Caterpillar Diesel Engine, such as: maintenance mechanic, generator set operator, foreman and supervisor.

Topic:

1. Basic Diesel Engine
 - a. Principle of 4 - Stroke Diesel Engine
 - b. Diesel Engine Classification
 - c. Caterpillar Engine Product Line
 - d. Diesel Engine Component
2. Diesel Engine System
 - a. Fuel System & Governor
 - b. Air Induction & Exhaust System
 - c. Lubrication System
 - d. Cooling System
 - e. Starting System
 - f. Charging system
3. Safety Procedure
4. Maintenance Practices
5. Caterpillar Literature:
 - a. Using Operation & Maintenance Manual
 - b. Using Partsbook
6. Basic Engine Troubleshooting

Subject:
**DIESEL ENGINE ELECTRIC SET
OPERATION & MAINTENANCE**

Objective:

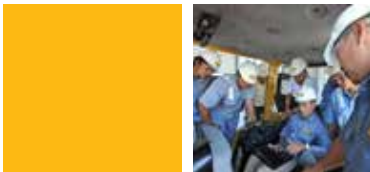
This course provides an in-depth study and hands-on activity in operating, maintaining and simply troubleshooting Caterpillar Diesel Engine and Generator Set (CAT – Diesel Genset).

Target Audience:

Person who has an access to daily diesel electric set maintenance and operation activity, such as: generator set operator, foreman and supervisor

Topic:

1. Basic Diesel Engine
 - a. Principle of 4 - Stroke Diesel Engine
 - b. Diesel Engine Classification
2. Diesel Engine System
 - a. Fuel System & Governor
 - b. Air Induction & Exhaust System
 - c. Lubrication System
 - d. Cooling System
3. Basic Power Generation
 - a. CAT Generator Principle
 - b. Main components of Generator
 - c. Excitation Concept
 - d. Automatic Voltage Regulator
 - e. Electronic Modular Control Panel
4. Safety Procedure
5. Maintenance and Operating Practice
6. Single and Parallel Operating Procedure
7. Caterpillar Literature:
 - a. Using Operation & Maintenance Manual
 - b. Using Parts book



Subject:
HEAVY EQUIPMENT MAINTENANCE

Objective:

This course provides an in-depth study in understanding of basic knowledge to properly maintain and perform minor repair on Caterpillar Heavy Equipment.

Target Audience:

Person who has direct access to daily heavy equipment maintenance activity, such as: maintenance mechanic, maintenance foreman and maintenance supervisor.

Topic:

1. Caterpillar Product Line
 - a. Serial/Product Identification Plate
 - b. Caterpillar Machine
 - c. Caterpillar Engine
2. Basic Preventive Maintenance
 - a. Repair Before Failure Strategy
 - b. Preventive Maintenance
 - c. Safety
 - d. ISO Symbols
 - e. OMM - Maintenance Interval Schedule (MIS)
 - f. PM Hour Interval Schedule
 - g. Contamination Control
 - h. Schedule Oil Sampling
 - i. General Oil Tip
 - j. Parts Book
3. Diesel Engine Maintenance
4. Hydraulic Maintenance
5. Powertrain Preventive Maintenance
6. Machine Preventive Maintenance



Subject:
**HEAVY EQUIPMENT
MAINTENANCE MANAGEMENT**

Objective:

This course provides an identifies the competency required to understand maintenance management concept & able to perform maintenance planning & scheduling on Caterpillar Heavy Equipment.

Target Audience:

Person who has authority to design, manage, supervise or evaluate maintenance aspect of heavy equipment, such as: maintenance planner, maintenance supervisor and maintenance manager.

Topic:

1. Heavy Equipment Management
 - a. Basic Concept & Implementation
 - b. The 5 Stages of Equipment Management
 - c. 8 Element of Equipment Management
2. Heavy Equipment Maintenance Management
 - a. Preventive Maintenance
 - b. Contamination Control
 - c. SOS Service
 - d. Condition Monitoring
 - e. Training
 - f. Scheduling
 - g. Repair Management
 - h. Recording
3. Evaluating Maintenance Effectiveness
 - a. Mechanical Availability (MA)
 - b. Mean Time Between Shutdown (MTBS)
 - c. Mean Time To Repair (MTTR)
4. Case Study:
Maintenance Planning & Scheduling

Subject:

GAS ENGINE ELECTRIC SET OPERATION & MAINTENANCE

Objective:

This course provides an in-depth study and hands-on activity in operating, maintaining and simply troubleshooting Caterpillar Gas Engine and Generator Set (CAT – Gas Genset).

Target Audience:

Person who has an access to daily gas engine maintenance and operating activity, such as: mechanic, foreman and supervisor.

Topic:

1. CAT Gas Engine Classification
2. Operating Principles & Terminology of CAT gas engine.
3. Fuel Gas Properties Consideration Related with Application in The Gas Engine.
 - a. Calculating LHV
 - b. Calculating HHV
 - c. Using Methane Number Software
4. Major Components & Operation Air Intake & Exhaust System.
 - a. Regulator Adjustment
 - b. Wastegate Adjustment
5. Major Components & Operation Fuel System.
 - a. Using Fuel Usage Guide
 - b. Carburetor Adjustment
 - c. Using Emission Tester
6. Major Components & Operation Ignition System.
 - a. Ignition Timing Adjustment
 - b. Magneto test
7. Basic Operation of Safety Device
8. CAT Generator Introduction
 - a. Generator Concept
 - b. Generator Main Components
 - c. Automatic Voltage Regulator
 - d. Electronic Modular Control Panel
9. Operation & Maintenance
 - a. Start Gas Engine G333.
 - b. Genset Single Operation.
 - c. Using Related CAT Service Literature



Subject:
**ELECTRONIC TECHNICIAN
INTRODUCTION**

Objective:

This course provides an in-depth study in how to use the Electronic Technician software to access information available in the electronic control module equipped on Caterpillar machine and or engine.

Target Audience:

Person who has responsible to utilize Electronic Technician Software, such as: mechanic, foreman and supervisor.

Topic:

1. Basic PC Operation
2. Getting Started With ET
3. Using ET Screen
4. Engine Diagnostic With ET
5. Printing and File Management

Subject:
**320D HYDRAULIC EXCAVATOR
PRODUCT TRAINING**

Objective:

This course provides the underpinning knowledge required to identify component, explain system operation and perform testing & adjusting on engine, hydraulic, electronic control & monitoring system on Caterpillar 320D HEX.

Target Audience:

Person who know the principles of machine system operation, simple diagnostic equipment and procedure for testing & adjusting and has an access to daily maintenance, operation and service activity on 320 HEX, such as: Mechanic/Technician, Electrician, Service Foreman

Topic:

1. Operator's Station
2. Monitoring System
3. Engine System
 - a. Air intake & Exhaust System
 - b. Fuel System
 - c. Cooling System
 - d. Lubrication System
4. Hydraulic System
 - a. Pilot System
 - b. Main Hydraulic Pump System
 - c. Main Control Valve System
 - d. Implement System
 - e. Swing System
 - f. Travel System



Subject:
APPLIED FAILURE ANALYSIS I
(ENGINE COMPONENT)

Objective:

This course provides an in-depth study and hands-on activity to have underpinning knowledge to perform failure analysis procedure to engine component.

Target Audience:

Person who has responsibility to analyze engine Components Failure, such as: Technical (Machine, Engine), electrician (Machine Electrical, Generator Set), Service Analyst, Service Foreman, Customer Service Analyst.

Topic:

1. Introduction to Failure Analysis
2. Failure Analyst Management
3. Metallurgy
4. Principle of Fractures
5. Principle of Wear
6. Visual Examination
7. Application of Basic Principle to Engine Component (Engine Bearing, Crankshaft, Connecting Rod, Piston, Ring and Liner, Valves, Turbocharger, Threaded Fastener)

Subject:
APPLIED FAILURE ANALYSIS II
(POWER TRAIN & HYDRAULIC COMPONENT)

Objective:

This course provides an in-depth study and hands-on activity to have underpinning knowledge to perform failure analysis procedure to powertrain and hydraulic component.

Target Audience:

Person who has responsibility to analyze Power Train & Hydraulic Components Failure such as: Technical (Machine), Service Analyst, Service Foreman, Customer Service Analyst.

Topic:

1. Introduction to Failure Analysis
2. Failure Analysis Management
3. Metallurgy
4. Principle of Fractures
5. Principle of Wear
6. Visual Examination
7. Application of Basic Principle to Power Train & Hydraulic Component (Gear Failure Analysis, Anti Friction Bearing, Hydraulic Pump and Motor, Shaft Failure Analysis)



CUSTOMIZED TRAINING - SAMPLE 1

16 M MOTOR GRADER PRODUCT TRAINING

Objective:

This course provides an in-depth study and hands-on activity to identify component, explain system operation and able to perform testing & adjusting on engine, hydraulic, electronic control & monitoring system at Caterpillar 16M Motor Grader.

Target Audience:

Person who has an access for maintaining, operating and servicing of Caterpillar 16M Motor Grader, such as: mechanic and technician.

Topic:

1. Operator's Station
2. Messenger
3. C13 ACERT™ Engine
 - a. Air intake & Exhaust System
 - b. Fuel System
 - c. Cooling System
 - d. Lubrication System
4. Power Train
 - a. Transmission/Chassis Electrical System
 - b. Power Train Hydraulic System
5. Implement And Steering System
 - a. Implement Electrical System
 - b. Implement Hydraulic System
6. Brake And Fan System
 - a. Service Brake System
 - b. Parking Brake System
 - c. Fan System
7. Practical on Machine



CUSTOMIZED TRAINING - SAMPLE 2

C32 ACERT MARINE ELECTRONIC ENGINE

Objective:

This course provides an in-depth study and hands-on activity to have underpinning knowledge system operation, service task and diagnostic procedures on C32 Caterpillar Marine Diesel Engine.

Target Audience:

Person who has an access for maintaining, operating and servicing of Caterpillar C32 ACERT Marine Engine, such as: mechanic, chief engineer, port engineer and technical advisor.

Topic:

1. Identify major engine components.
2. Explain diesel engine four stroke concept.
3. Explain fuel system, air intake & exhaust system, lubrication system and cooling system.
4. Explain basic concept of electronic engine.
5. Explain Electronic Unit Injector (EUI) Fuel System.
6. Explain diagnostic tools needed and diagnostic procedure on Caterpillar electronic engine.
7. Perform diagnostic and calibration test on Caterpillar electronic engine.



CUSTOMIZED TRAINING - SAMPLE 3

GAS ENGINE ADVANCE

Objective:

This course provides an in-depth study and hands-on activity to have the underpinning knowledge required to perform service and repair on electronic gas engine in term of doing service and perform testing and adjusting

Target Audience:

Person who has an access for maintaining, operating and servicing of Caterpillar Gas Engine, such as: mechanic and technician.

Topic:

1. Explain system operation & technical consideration of electronic gas engines
2. Explain factors affect to HP in the gas engine.
3. Explain E.I.S system operation, diagnostic, harness wire identification, electrical connection description identification, electronic system logic diagram, and E.I.S component identification and location.
4. Explain ADEM 3 system operation, diagnostic, electronic system troubleshooting, and component identification and location.
5. Explain procedure using DDT or ET for accessing E.I.S and ADEM 3 module due to access and parameters programming.
6. Identify Caterpillar literature required to find performance data
7. Perform using DDT or ET for accessing E.I.S and ADEM 3 module due to access and parameters programming.
8. Perform programming E.I.S and ADEM 3 parameters.
9. Perform Interpreting electronic code due to solve the problem.
10. Perform electronic system functional test.
11. Perform accessing Caterpillar literatures to find performance data.
12. Perform witness test and performance analyzing data.



Training Registration Form

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info@trakindo.co.id

Call Center 1500 228



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PT Trakindo Utama

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TRAINING REGISTRATION FORM

FAX / EMAIL

To:
PT Trakindo Utama - Cileungsi Training Center
Jl. Narogong Raya Km.19 Cileungsi
Bogor 16820

Fax : 021 823 3380
Phone : 021 823 3361
Email : wahid.abdurakhman@trakindo.co.id
ridwan.undru@trakindo.co.id

Here with I would like to register:

Name (s)		Use Accommodation*
1.	.....	Yes / No (circle one)
2.	.....	Yes / No (circle one)
3.	.....	Yes / No (circle one)
4.	.....	Yes / No (circle one)
5.	.....	Yes / No (circle one)
6.	.....	Yes / No (circle one)
7.	.....	Yes / No (circle one)
8.	.....	Yes / No (circle one)
9.	.....	Yes / No (circle one)
10.	.....	Yes / No (circle one)
11.	.....	Yes / No (circle one)
12.	.....	Yes / No (circle one)

To attend the training

Training Title :
Date :
Venue : Pekanbaru / Cileungsi / Balikpapan (circle one)

Customer Information (Important)

Please send the invoice to (must be filled with accurate data)

Company Name	:
Address	:
	:
Accounting Contact	:
Phone	:
Email	:

.....
Name & Company Stamp

*) Accommodation will be provided (if available) when training conducted at Cileungsi Training Center



TERMS & CONDITION

1. The participants for each class session are 4 (minimum) and 10 (maximum).
2. Course Fees:
 - a. Conducted at PT. Trakindo Utama:
 - 1 Days Training Duration: IDR 2.900.000,- per participant per session
 - 2 Days Training Duration: IDR 3.800.000,- per participant per session
 - 3 Days Training Duration: IDR 4.700.000,- per participant per session
 - 5 Days Training Duration: IDR 6.500.000,- per participant per session
 - 20 Days Training Duration: IDR 26.000.000,- per participant per sessionThe prices above are including full colour handout, stationary, 2x coffee breaks, lunch and certificate of attendancy. The prices above are excluding transportation & accommodation of participant.
 - b. Conducted at Customer's Site (In House):
 - 1 Days Training Duration: IDR 1.900.000,- per participant per session
 - 2 Days Training Duration: IDR 2.800.000,- per participant per session
 - 3 Days Training Duration: IDR 3.700.000,- per participant per session
 - 5 Days Training Duration: IDR 5.500.000,- per participant per session
 - 20 Days Training Duration: IDR 22.000.000,- per participant per sessionThe prices above are including full colour handout, stationary and certificate of attendancy. The prices above are excluding transportation, accommodation and meal of Instructors during training.
3. Cileungsi Training Center has own dormitory with the amount of IDR 400.000,- per day per participant (shared room, including breakfast, dinner, laundry and cleaning service) for participant's accommodation
4. The prices above are excluding 10% VAT
5. Training Registration should be submitted at least 1 month before training commencement
6. Payment term 30 days after invoice is received
7. Payment should be made to:

PT TRAKINDO UTAMA

Bank Account (IDR) No. : 0 – 105472 – 048

Bank Account (USD) No. : 0 – 105472 – 528

BANK CITIBANK N.A – CITIBANK TOWER

Jl. Jendral Sudirman Kav. 54 – 55 Jakarta – Indonesia

or

PT TRAKINDO UTAMA

BANK MANDIRI

Jl. Cilandak KKO, Jakarta Selatan - INDONESIA

Bank Account (IDR) No.: 127-00010216-31

Contact Person:

Wahid Abdurrahman

Email : wahid.abdurakhman@trakindo.co.id

Phone : +62 21 8233361 Ext: 3786,

Fax : +62 21 8233360

Ridwan Undru

Email : ridwan.undru@trakindo.co.id

Phone : +62 21 8233361 Ext: 3677,

Fax : +62 21 8233360

Customized Training

Customer request training that is not mentioned on this brochure can be customized as required, where subject, schedule, pre-requisite and location are subject to prior discussion.

SATELLITE TRAINING CENTER (PEKANBARU)

Jln. Soekarno Hatta No. 36
Labuh Baru Barat, Pekanbaru, Riau 28291
Phone: (62 - 761) 789 1149, 789 1150 - ext.3029
Fax: (62 - 761) 789 3151
Contact Person: Trinova
Email: trinova@trakindo.co.id
Phone: (62 - 761) 7891149, 7891150
Fax: (62 - 761) 7893151
Cell phone: +62 811 646 265

SATELLITE TRAINING CENTER (BALIKPAPAN)

Jl. Jend. Sudirman No. 848
Balikpapan 76114 - Kalimantan Timur
Phone: (62 - 542) 762 810
Fax: (62 - 542) 762 806
Contact Person: Agus Hermanto
Email: agus.hermanto@trakindo.co.id
Phone : (62 - 542) 762 810
Fax: (62 - 542) 762 806
Cell phone: +62 811 5933 256

CILEUNGI TRAINING CENTER

Jl. Raya Narogong Km 19 Cileungsi,
Bogor 16820
Phone: (62 - 21) 823 3361 (Hunting)
Fax: (62 - 21) 823 3360
Contact Person: Wahid Abdurakhman
Email: wahid.abdurakhman@trakindo.co.id
Phone : (62 - 21) 8233 361
Fax: (62 - 21) 8233 360
Cell phone: +62 811 804 0131

Contact Person: Ridwan Undru
Email: ridwan.undru@trakindo.co.id
Phone : (62 - 21) 8233 361
Fax: (62 - 21) 8233 360
Cell phone: +62 811 804 0129

PT TRAKINDO UTAMA (Head Office)

Gedung TMT 1, 11-17th Floor
Jl. Cilandak KKO No.1
Jakarta 12560 - Indonesia
Phone : (62 - 21) 782 2373
Fax : (62 - 21) 782 2357, 782 2379
