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› Technical Manual for Mini II Phase 2 (R56)

ETAI Mini II Phase 2 (R56)

Technical Manual for Mini II Phase 2 (R56)

Published by ETAI



This image displays the cover of the technical manual, featuring a silver Mini Cooper and the title 'Revue Technique Automobile' along with model details 'MINI Mini II Phase 2 (R56)' and engine specifications '1.6D 90 et 112ch' for years '2010-2013'.

1. INTRODUCTION

This technical manual, published by ETAI, provides comprehensive information for the maintenance, repair, and diagnosis of the Mini II Phase 2 (R56) models, specifically those equipped with 1.6D 90 and 112ch engines manufactured between 2010 and 2013. It is designed for both professional technicians and informed enthusiasts.



This image shows a page from the manual detailing the content structure, explaining what each major section (Vehicle Presentation, Maintenance, Repair Methods, Diagnostics, Bodywork, Technical Data) covers.

1.1. Important Notices and Precautions

Before undertaking any work on your vehicle, it is crucial to read and understand all safety warnings and operational guidelines provided in this manual. Always use appropriate tools and personal protective equipment. Disconnect the battery before working on electrical components.

1.2. Scope of This Manual (RTA vs MTA)

This RTA (Revue Technique Automobile) provides detailed, practical information for common maintenance and

repair operations. It is distinct from an MTA (Méthode Technique Automobile), which offers more in-depth, specialized procedures often requiring advanced diagnostic tools and specific manufacturer data. The RTA focuses on common tasks that can be performed by a wide range of users.



Qu'est-ce qui différencie une
Revue technique RTA d'une
Méthode technique MTA ?

Pour réparer les voitures, les garagistes utilisent l'ordinateur

Quand les premières revues techniques ont été lancées en 1946, aucun garage n'était équipé d'ordinateur. A l'époque, une documentation papier était donc nécessaire.

Aujourd'hui, tous les garages utilisent des méthodes en ligne. E-T-A-I équipe des milliers de garages avec Atelio doc. Les RTA s'adressent dorénavant essentiellement aux particuliers qui veulent effectuer les petites ou les grosses réparations de leur voiture.



Multiplication des modèles, des motorisations et des équipements

Nos 400 RTA ne couvrent qu'une petite partie du parc automobile : environ 8 500 modèles motorisations sont traitées par les RTA, soit 7% des modèles - motorisations existant depuis 1975.

A côté des RTA, les méthodes en ligne MTA permettent de couvrir un spectre plus large de modèles (un peu plus de 50 000 modèles-motorisations).



Couvrant tous types de réparation, elles s'adressent à tout public (particulier ou professionnel). C'est la revue indispensable de tout possesseur pour comprendre le fonctionnement technique de son auto et/ou effectuer des petites ou grosses réparations.



Issues d'Atelio doc, les méthodes techniques en ligne ont été rédigées à destination des clients pro d'E-T-A-I. Elles s'adressent donc à des utilisateurs familiarisés avec la mécanique. Elles couvrent des véhicules ou motorisations non traitées par les RTA. Quand une RTA existe, elles proposent des informations complémentaires comme les pannes types.

This image illustrates the distinction between RTA (Revue Technique Automobile) and MTA (Méthode Technique Automobile) manuals, highlighting their respective levels of detail and target audiences.

1.3. Evolution of RTA Manuals

Since 1946, ETAI has published various versions of its technical manuals. This particular RTA represents the modern, full-color version introduced since 2015, designed for clarity and ease of use. Earlier versions included 'L'original' and 'Le classique', each with different presentation styles and content organization.

Les Revues techniques existent depuis 1946 !

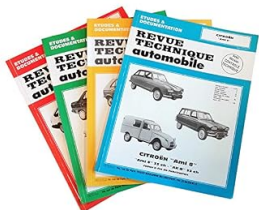
Quelles que soient les générations de RTA, un code couleur permet de reconnaître le constructeur concerné :

Bleu pour CITROËN et DS

Jaune pour PEUGEOT

Vert pour RENAULT et DACIA

Rouge pour les autres constructeurs.



L'original

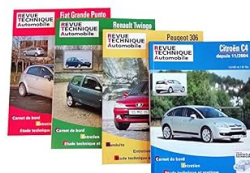
La première partie de l'ouvrage est consacrée à "la conduite et l'entretien" du véhicule. S'ensuit une "fiche descriptive" ainsi que les "caractéristiques détaillées" du modèle.

La seconde partie, intitulée "conseils pratiques" donne les indications précises concernant les démontages et remontages ainsi que les réglages et mises au point.

Le classique

La première partie est consacrée à "la conduite et l'entretien"; seules les dernières parutions de cette version classique ont cette partie en couleur.

La seconde partie est organisée autour de quinze chapitres techniques classés par organes et présentant d'abord les "caractéristiques détaillées" puis les "conseils pratiques".



La nouvelle (depuis 2015)

Version entièrement en couleur, avec indication de difficulté pour chaque opération et six chapitres : Présentation du véhicule, Dépannage et entretien courant, Méthodes de réparation, Diagnostic et électricité, Carrosserie, Données techniques.

This image displays the evolution of RTA manuals, showing examples of 'L'original', 'Le classique', and 'La nouvelle (depuis 2015)' versions.

2. VEHICLE PRESENTATION

This section provides essential information for identifying your Mini II Phase 2 (R56) and understanding the layout of its main components.

2.1. Vehicle Identification

Learn how to locate and interpret your vehicle's identification number (VIN) and other key identifiers necessary for parts ordering and service records.

2.2. Component Identification

Detailed diagrams and descriptions help you identify major components and systems within the vehicle, including engine bay layout, interior controls, and undercarriage elements.

3. CURRENT MAINTENANCE AND TROUBLESHOOTING

This section covers routine maintenance procedures and initial troubleshooting steps for common issues.

3.1. Access and Lifting

Instructions for safely accessing various parts of the vehicle and proper lifting points for jacking and stands.

3.2. General Troubleshooting

Guidance on diagnosing common problems before resorting to complex repairs, including checks for fluid leaks, unusual noises, and warning lights.

3.3. Checks and Fluid Levels

Procedures for checking and topping up essential fluids such as engine oil, coolant, brake fluid, power steering fluid, and windshield washer fluid.

3.4. Battery and Disassembly

Instructions for battery inspection, testing, removal, and reinstallation, including safety precautions.

3.5. Exterior Lighting

Maintenance and replacement procedures for headlights, taillights, turn signals, and other exterior lighting components.

3.6. Maintenance Schedule

Recommended service intervals for various components and systems to ensure optimal vehicle performance and longevity.

3.7. Visibility and Comfort Systems

Maintenance for windshield wipers, washers, and interior comfort features.

3.8. Engine Protection

Tips and procedures for protecting the engine from wear and tear, including air filter replacement and general cleanliness.

3.9. Brake Maintenance

Basic inspection and maintenance procedures for the braking system, including pad wear checks and fluid level monitoring.

4. DETAILED REPAIR METHODS

This section provides step-by-step instructions for more complex repair procedures.

4.1. Draining, Filling, and Bleeding

Procedures for draining and refilling various fluids, including engine oil, transmission fluid, and coolant, along with bleeding air from hydraulic systems.

4.2. Charging and Starting Systems

Detailed repair and testing procedures for the alternator, starter motor, and associated wiring.

4.3. Engine

Comprehensive repair guides for engine components, including cylinder head, block, and internal parts.

4.4. Engine Lubrication and Cooling

Repair and maintenance of the oil pump, oil cooler, radiator, water pump, and thermostat.

4.5. Fuel Systems and Emissions Control

Procedures for fuel injectors, fuel pump, fuel lines, and emission control components like the DPF and EGR system.

4.6. Gearbox and Clutch

Removal, inspection, repair, and reinstallation of manual and automatic gearboxes, as well as clutch components.

4.7. Transmission

Maintenance and repair of drive shafts, universal joints, and differential components.

4.8. Steering, Suspension, and Wheel Alignment

Procedures for steering rack, power steering pump, shock absorbers, springs, control arms, and basic wheel alignment checks.

4.9. Braking System

Detailed repair of brake calipers, discs, drums, master cylinder, and brake lines, including bleeding procedures.

4.10. Heating and Air Conditioning

Repair and maintenance of HVAC components, including the blower motor, evaporator, condenser, and refrigerant system.

5. DIAGNOSTICS AND ELECTRICAL SYSTEMS

This section focuses on electrical troubleshooting and diagnostic procedures.

5.1. General Diagnostics

Methods for using diagnostic tools and interpreting fault codes to identify electrical and electronic system issues.

5.2. Electrical Protection

Information on fuses, relays, and circuit breakers, including their location and replacement procedures.

5.3. Engine Management (N47C16A)

Specific diagnostic and repair information for the N47C16A engine management system, including sensors and actuators.

5.4. Anti-Theft System

Overview and troubleshooting for the vehicle's anti-theft and immobilizer systems.

5.5. Anti-lock Braking System (ABS) and Stability Control

Diagnostic and repair procedures for ABS and DSC (Dynamic Stability Control) systems, including sensors and control units.

5.6. Power Steering

Troubleshooting and repair of the electric power steering system.

5.7. Airbags and Pretensioners

Safety guidelines and diagnostic procedures for the Supplemental Restraint System (SRS), including airbags and seatbelt pretensioners.

5.8. Automatic Climate Control

Diagnostic and repair information for the automatic climate control system, including sensors, actuators, and control modules.

6. BODYWORK

This section provides information on the repair and maintenance of the vehicle's body structure and exterior components.

6.1. Underbody Protection

Inspection and repair of underbody panels and protective coatings.

6.2. Bumpers

Removal, installation, and repair of front and rear bumper assemblies.

6.3. Optics (Lights)

Detailed procedures for removing and installing exterior light assemblies, including headlights and taillights.

6.4. Trims

Removal and installation of interior and exterior trim pieces.

6.5. Airbags (Bodywork related)

Information on airbag module locations within the body structure and safe handling procedures.

6.6. Removable Parts

Procedures for removing and installing various removable body components.

6.7. Glazing, Mechanisms, and Locks

Repair and replacement of windows, window regulators, door locks, and central locking systems.

6.8. Bonded Elements

Information on body components that are bonded rather than bolted or welded, and their specific repair considerations.

6.9. Welded Elements

Guidance on structural body components that are welded, and considerations for their repair or replacement.

6.10. Bodywork Checks

Procedures for inspecting the body for damage, alignment issues, and corrosion.

7. TECHNICAL DATA AND SPECIFICATIONS

This section provides detailed technical specifications and data for the Mini II Phase 2 (R56).

RTA N° 819
OCTOBRE 2017



REVIEW TECHNICAL
AUTOMOBILE

MINI II phase 2

Avant-propos2
Notice d'utilisation2
Avertissements et précautions3

PRÉSENTATION DU VÉHICULE

Identification du véhicule4
Identification des organes5

DÉPANNAGE ET ENTRETIEN COURANT

Accès et levage8
Dépannage10
Contrôles et niveaux14
Télécommande et batterie18
Éclairage extérieur19
Périodicité d'entretien23
Visibilité et confort25
Entretien du moteur26
Maintenance des freins30

MÉTHODES DE RÉPARATION

Vidanges - Remplissages - Purges38
Charge - Démarrage39
Moteur41
Lubrification - Refroidissement moteur52
Alimentations - Dépollution57
Boîte de vitesses - Embrayage68
Transmission71
Géométrie - Trains roulants - Direction72
Freinage78
Chauffage - Climatisation80

DIAGNOSTIC ET ÉLECTRICITÉ

Diagnostic84
Protection électrique85
Gestion moteur N47C16A90
Multiplexage109
Antiblocage des roues - Contrôle de stabilité111
Direction assistée114
Airbags et prétensionneurs115
Climatisation automatique117

CARROSSERIE

Protections inférieures124
Boucliers125
Optiques127
Garnitures129
Airbags131
Amovibles132
Vitrages - Mécanismes - Verrouillages136
Éléments collés138
Éléments soudés141
Contrôles de la carrosserie146

DONNÉES TECHNIQUES

Préconisations et capacités152
Équipements électriques152
Moteur153
Lubrification - Refroidissement moteur157
Alimentations - Dépollution157
Embrayage - Boîte de vitesses157
Transmission157
Géométrie - Trains roulants - Direction158
Freinage160
Carrosserie160

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1

This image displays the internal table of contents of the manual, outlining all major sections and their respective sub-sections, providing a detailed overview of the manual's content organization.

7.1. Precautions and Capacities

Important precautions related to fluid handling and specified capacities for various systems (e.g., oil, coolant, fuel tank).

7.2. Electrical Equipment Specifications

Detailed specifications for electrical components, including fuse ratings, bulb types, and battery specifications.

7.3. Engine Specifications

Technical data for the 1.6D 90 and 112ch engines, including bore, stroke, compression ratio, and power output.

7.4. Engine Lubrication and Cooling Specifications

Specifications for engine oil types, coolant types, and system pressures.

7.5. Fuel Systems and Emissions Control Specifications

Data related to fuel pressure, injector specifications, and emission standards compliance.

7.6. Gearbox and Clutch Specifications

Specifications for transmission fluid types, gear ratios, and clutch dimensions.

7.7. Transmission Specifications

Technical data for drive shafts and differential components.

7.8. Steering, Suspension, and Wheel Alignment Specifications

Alignment angles, torque specifications for suspension components, and steering system data.

7.9. Braking System Specifications

Brake disc and pad dimensions, fluid specifications, and torque values for brake components.

7.10. Bodywork Specifications

Dimensions, panel gaps, and material specifications for body components.

7.11. Covered Engine Models

This RTA specifically covers the following diesel engine models:

Cette RTA couvre entièrement les motorisations suivantes :

Diesel

1.6D112 16V TURBO (82KW) - N47C16A - M 6
1.6D90 TURBO (66KW) - N47C16A - M 6

This image displays a page from the manual that explicitly lists the diesel engine models covered by this specific RTA, including their power output and engine codes.

- 1.6D112 16V TURBO (82KW) - N47C16A - M 6
- 1.6D90 TURBO (66KW) - N47C16A - M 6

7.12. General Product Specifications

Specification	Value
ASIN	B01LX3IFN3
Publisher	ETAI
Publication Date	October 1, 2017
Language	French
ISBN-13	979-1028306144
Item Weight	12.7 ounces
Dimensions	8.27 x 0.39 x 10.63 inches

8. WARRANTY AND SUPPORT

For information regarding product warranty or technical support, please refer to the publisher's official website or contact their customer service directly. This manual does not include specific warranty details for the vehicle itself, only for the publication.

For further assistance or inquiries, please visit the ETAI official website or consult an authorized Mini service center.