ll download: http://manualplace.com/download/perkins-4-108m-workshop-manual/

Perkins engines

WORKSHOP MANUAL FOR DIESEL ENGINES

4.108M

4.107M

4.99M

	•
	•
	1
	1
	•
	i
	ı
	1
	1
	1

workshop manual for 4.108 4.107 and 4.99 marine engines



Perkins Engines, Inc.

32500 Van Born Road Wayne, Michigan 48184 Phone: (313)493-8500

Perkins Engines, Inc.

24175 Research Drive Farmington, Michigan 48024 Phone: (313)477-3900

Perkins Engines Canada Limited

7 Meridian Road Rexdale, Ontario M9W 4Z6 Phone: (416)675-3540

Publication No. 601 SER 0478 1088

"1978"

PERKINS COMPANIES

AUSTRALIA

Perkins Engines Australia Pty. Ltd.

P.O. Box 156, Dandenong, Victoria 3175, Australia. Telephone: 792-0431. Telex: AA 30816. Cables: 'Perkoil', Melbourne.

BRAZIL

Motores Perkins S.A.

Caixa Postal 30.028, 01000 Sao Paulo, SP-Brazil. Telephone: 448-1499. Telex: 0114013. Cables: 'Perkoil' Sao Paulo.

CANADA

Perkins Engines Canada Ltd., 7 Meridian Road, Rexdale, Ontario, Canada. Telephone: 416-675-3540. Telex: 06-968534. Cables: 'Perkoil' Toronto.

FRANCE

Moteurs Perkins S.A.

55 Boulevard Ornano, Boîte Postale 93, 93203 Saint-Denis, Cedex 1, France. Telephone: 243-04:40. Telex: 620 251 Saint-Denis. Cables: 'Perkoil' Paris.

GERMANY

Perkins Motoren G.m.b.H. 8752 Kleinostheim, Postfach 12, Germany. Telephone: 06027/8081. Telex: 4188869.

GREAT BRITAIN

Perkins Engines Limited

Peterborough, England, PE1 5NA.

Telephone: Peterborough 67411. Telex: 32501. Cables: 'Perkoil' Peterborough.

ITALY

Motori Perkins S.p.A.

22100 Como-Camerlata, Via Pasquale Paoli 9/A, Italy.

Telephone: 504885. Telex: 38063. Cables: 'Perkoil' Camerlata.

JAPAN

Perkins Engines (North Pacific) Ltd.

6th Floor, Reinanzaka Building, 14-2 Akasaka 1-Chome, Minato-Ku, Tokyo 107, Japan.

Telephone: (03) 586-7377. Telex: 24292 Tokyo.

SOUTH AFRICA

Perkins Engines (Pty.) Ltd. P.O. Box 31285, 6th Floor, Noswal Hall, Braamfontein 2017, Johannesburg, South Africa.

Telephone: Johannesburg 39 28 21. Telex: 8-0037 SA. Cables: 'Perkoil'.

U.S.A.

Perkins Engines Inc. P.O. Box 283, 24175, Research Drive, Farmington, Michigan 48024, U.S.A. Telephone: 313-477-3900. Telex: 023-5300. Cables: 'Perkoil' Farmington.

Perkins Engines Latin America Inc. 2600 Douglas Road, Suite 600, Coral Gables, Florida 33134, U.S.A. Telephone: (305) 4484884. Telex: 515680. Cables: 'Perklac'.

ASSOCIATE COMPANIES & MANUFACTURING LICENSEES

ARGENTINA

Perkins Argentina S.I.A.C. Bolivar 368, Buenos Aires, Argentina. Telephone: 33-8231/36. Telex: 121162. Cables: 'Perkinsa'.

KORFA

Hyundai Motor Co. Ltd., Hyundai Building, 178 Sejong-Ro, Jongro-Ku, Seoul, Korea. Telephone: 74-8311, 75-6511. Telex: Hdmoco K2391

MEXICO

Motores Perkins S.A., Antiguo Camina San Lorenzo S/N., (Apartado Postal 194) Toluca, Mexico. Telephone: Toluca 4-44-55. Telex: 0-17-84-93 Mopesa Tol.

PERU

Motores Diesel Andinos S.A.,

Antero Aspillaga No. 585, Apartado 111 79, Lima 14, Peru. Telephone : 406882. Telex : 21076.

SINGAPORE

Perkins Engines Eastern Ltd.,

549 Upper Thomson Road, Singapore 20. Telephone: 4524471/4521841. Telex: Perkoil R23360

SPAIN

Motor Iberica S.A. (Division Zona 2),

Carretera del Aero-Club, Carabachhel Alto, Madrid, Spain.
Telephone: 208 52-40, 208 96-40, 208 98-40. Telex: 27324. Cables: 'Perki-e' Madrid.

URUGUAY

Perkins Rio de la Plata S.A.

Av. Juan Carlos Gomez 1492, Montevideo, Uruguay. Telephone: 290-726. Telex: 278

YUGOSLAVIA

Industrija Motora Rakovica

Patrijarha Dimitrija 7-13

Rakovica, Belgrade, Yugoslavia. Telephone: 562-043/562-322/562-992. Telex: 11341 YU IMR.

Cables: 'Indmotor' Belgrade.

In addition to the above, there are Perkins Distributors in the majority of countries throughout the world. For further details, apply to Perkins Engines Ltd., Peterborough. or to one of the above companies.

CONTENTS

	SECTION
ENGINE PHOTOGRAPHS	А
TECHNICAL DATA	В
OPERATING AND MAINTENANCE	С
FAULT DIAGNOSIS	D
CYLINDER HEAD MAINTENANCE	E
PISTONS AND CONNECTING RODS	F
CYLINDER BLOCK AND LINERS	G
CRANKSHAFT AND MAIN BEARINGS	Н
TIMING CASE AND DRIVE	J
TIMING	К
LUBRICATING SYSTEM	L
COOLING SYSTEM	Μ
AIR FILTER AND FUEL SYSTEM	N
FLYWHEEL AND FLYWHEEL HOUSING	P
ELECTRICAL SYSTEM	Q
APPROVED LUBRICATING OILS	APPENDI)
SERVICE FACILITIES	,,
APPROVED SERVICE TOOLS	,,
INDEX	

UNIFIED THREADS AND ENGINE No. LOCATION

Unified Threads

All threads used on 4.99, 4,.107 and 4.108 Marine engines, except on proprietary equipment are Unified Series and American Pipe Series.

Engine Number

The engine number is stamped on the top edge of the facing on the cylinder block to which the fuel injection pump is secured as shown in the accompanying diagram. The number should be quoted when requesting information or ordering Parts.

Three systems of engine numbering have been used.

On early engines, the serial number consisted of seven digits i.e.: -

Engine Type	Typical Engine No.		
4.108	7300269		
4.107	7100399		
4.99	7000251		

On later engines, the number consisted of figures and letters i.e.: -

Engine Type	Typical Engine No.
4.108	108U251
4.107	107U251
4.99	99U251

The first three figures represent the capacity of the engine in cubic inches, the letter "U" signifies the engine was built in the United Kingdom and the last group of figures comprises the engine number.

With current engines, up to fifteen figures and letters are used, a typical number being ED13541U510256D. For further details, see Page 5.

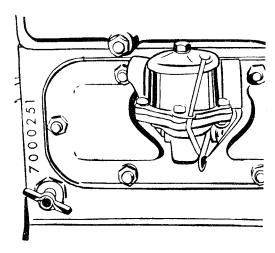
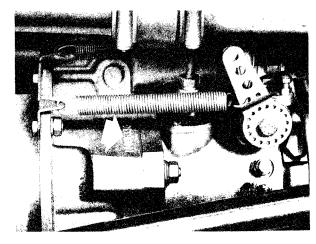


Diagram showing location of Engine No. on earlier 4.99 Engines.



Engine Number Location on Current Engines.

Engine Identification — New Series

A new system of Engine Identification is being introduced into various Manufacturing Operations throughout the world, within the Perkins Group of Companies.

This new number consists of up to fifteen letters and numbers which represent:

Engine Family
Engine Type and Phase
Parts List
Country of Origin
Production Serial Number
Year of Manufacture

and PHASE					
FAMILY	TYPE		FAMILY	TYPE	
D2,101		_ <u>Ą</u> _	6.305		Р
	D2:101	AA		P6	P
3.152				6.288	PI
3.132	P3	CA		6.305 PF6.305	P(
	3.144	CB		FF0.305	71
	P3.144	CC	6.247		R
	3.152	ČĎ	9.2.17	6.247	R,
	D3.152	CE			
	G3.152	CF	6.354		Т
	P3.152	CG		6.306	T
				6.335	T E
4.108		<u> </u>		6.354	T (
	4.99 4.107	EA EB		H6.354	Ţ
	4.107 14.107	EC		16.354 H16.354	T E
	4.108	ED		6.3541	TC
	4.100			T6.3541	Ti
4.154		_G_		6.3542	Ť.
***************************************	4.154	GA		C6.3542	TH
				6.3543	Γŧ
4.165		H		C6 3543	Tr
	4.165	HA		H6.3543	Τ'n
4.000				16.3543	IF
4 203	PA	JA.		H16.3543 6.372	TO
	4.192	78		6.3723	15
	P4. 192	JC		TC6.3541	11
	4.203	άĽ		T6 3544	TU
	D4.203	JE		6.3724	T۱
	G4.203	JF		6 3544	- 17
	4.2032	JG		C6.3544	1)
4.236		L	6.357		V
	4.212	LA		6.357	V
	G4.212	LB		6.3572	VE
	4.224	LC		C6.3572	V
	4.236	LD		6.358	V
	G4.236 4.248	LE	V8.510		х
	4.248	LF	VO.310	V8.510	-
4.270		N		TV8 510	X
7.4/4	4.270	NA NA		V8.540	X
	4 300	NB		V8.605	X
	4.318	NC			
			V8.640		Z
				V8 640	24
				TV8.640	ZE

COUNTRY OF ORIGIN CODE A code, as below, indicates the country in which the basic engine was manufactured $% \left(1\right) =\left(1\right) \left(1\right$ ARGENTINE U.S.A. BRAZIL AUSTRALIA GERMANY POLAND R INDIA SPAIN FRANCE UNITED KINGDOM U V GREECE G H J K w IRAN JAPAN PERU KOREA YUGOSLAVIA ITALY MEXICO L M YEAR OF MANUFACTURE CODE The last character indicates the calendar year of manufacture: -≈ 1975 ≈ 1976 = 1977 = 1978 Etc. The letters I, O and Q, will not be used. **EXAMPLE OF MAIN ENGINE NUMBER** Example :ED13541U510256D **THUS** 4.108 Family E 4.108 Type 13541 Parts List Number == ΰ **Built in United Kingdom** 510256 = Serial Number D Built in 1977

This publication is produced by the Service Publications Department, Perkins Engines Ltd., and every endeavour is made to ensure that the information contained in this Manual is correct at the time of publication, but due to continuous developments the Manufacturers reserve the right to make alterations without notice.

PERKINS PARTS for PERKINS PRODUCTS

TO ENSURE YOU OBTAIN THE BEST RESULTS FROM YOUR ENGINE AND TO SAFEGUARD YOUR OWN GUARANTEE, FIT ONLY GENUINE PERKINS PARTS. THESE ARE READILY OBTAINABLE THROUGHOUT THE WORLD.

FOREWORD

This Workshop Manual has been compiled for use in conjunction with normal workshop practice. Therefore, certain accepted practices have been purposely omitted in order to avoid repetition.

Reference to renewing joints and cleaning off joint faces, has to a great extent been omitted from the text, it being understood that this will be carried out where applicable.

Similarly, it is understood that in reassembly and inspection, all parts are to be thoroughly cleaned, and where present, burrs and scale are to be removed.

It follows that any open ports of high precision components, e.g. fuel injection equipment, exposed by dismantling, will be blanked off until reassembled, to prevent the ingress of foreign matter.

Where left hand or right hand is referred to in this manual, it is that side when viewed from the flywheel end.

This engine manual is to guide you in dismantling and re-assembly. For information regarding the application of the engine, the reader should refer to the Perkins "MARINE INSTALLATION KNOW-HOW" Publication No. 235.

Perkins 4 108m Workshop Manual Full download: http://manualplace.com/download/perkins-4-108m-workshop-manual/				
This is the cut pages sample. Download all 134 page(s) at: ManualPlace.com				