



TWO STROKE OUTBOARD PETROL ENGINE HOMOLOGATION FILE

International Homologation File Number: 00463		
Homologation Valid from	2019 April 30	Expiry: 2022 Dec 31
Valid for the following classes:	CIRCUIT: P750	OFFSHORE:
Manufacturer:	Tohatsu Corporation	
Engine Model:	M50D2	
Number Manufactured:	1000+	
At the date:		
Certified by the National Authority of:		
At the date:		
UIM Homologation Group Inspector		
At the date:		
UIM Certification Approval:	Mikael Lundblad	
At the date:	2019 April 13	
Running Production Changes		
Change Detail	Prolongation of 00463	Page No. -
Date Approved for Use		Approved by
Change Detail		Page No.
Date Approved for Use		Approved by

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ENGINE HOMOLOGATIONS

EXTENSION

The following UIM engine homologations have been extended :

Number	Manufacturer	Model/Type	Old date Expire	Prolonged Homologation date
309	Tohatsu	M40C	2009	2012
396	Tohatsu	M25c/M25c2 M25c3	2009	2012
397	Tohatsu	30A2/A3/A4	2009	2012
407	Tohatsu	M90A	2009	2012
463	Tohatsu	M50D1/D2	2009	2022
482	Yamaha	50H	2008	2012*

*Per Cominsport Decision

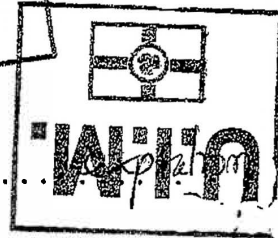
RUNNING PRODUCTION CHANGES

Number	Manufacturer	Model/Type
491 B	Mercury	2.5 EFI ROS (model used in offshore classes 3) Valid from 2010, with expiry on 2020
501 B	Mercury	200 XS (basic engine for circuit and offshore classes 3)
501 C	Mercury	200 XS (version for outboard F2, SL.250, S2000)

ORIGINAL



Union Internationale Motonautique



Monte Carlo, March 29, 1993..

Outboard Engine Homologation Sheet No. 00463

International homologation effective from

Homologation valid for the following classes

Manufacturer TOHATSU CORPORATION

Engine model M 50 D

Number manufactured 1109 At the date '92.10.-1

Certified by the National Authority of JAPAN

At the date October 26, 1992 Signature Teruo Kaneo

Certified by the U I M At the date 18/2/93

Responsible U I M Homologation Group: Signature

Running production changes:

ORIGINAL

Change specified on page No. Approved at the date. Sionature..

Spreadout sketch amend. page 5... November 11, 1996

APPENDIX 1 EXHAUST PIPE 26.7.99

APPENDIX 2 CYLINDER HEAD 26.7.99



U.I.M. logo

ORIGINAL



Union Internationale Motonautique

Monte Carlo, .March 29, 1993..

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Running production changes:

Change specified on page No. Approved at the date. Signature.

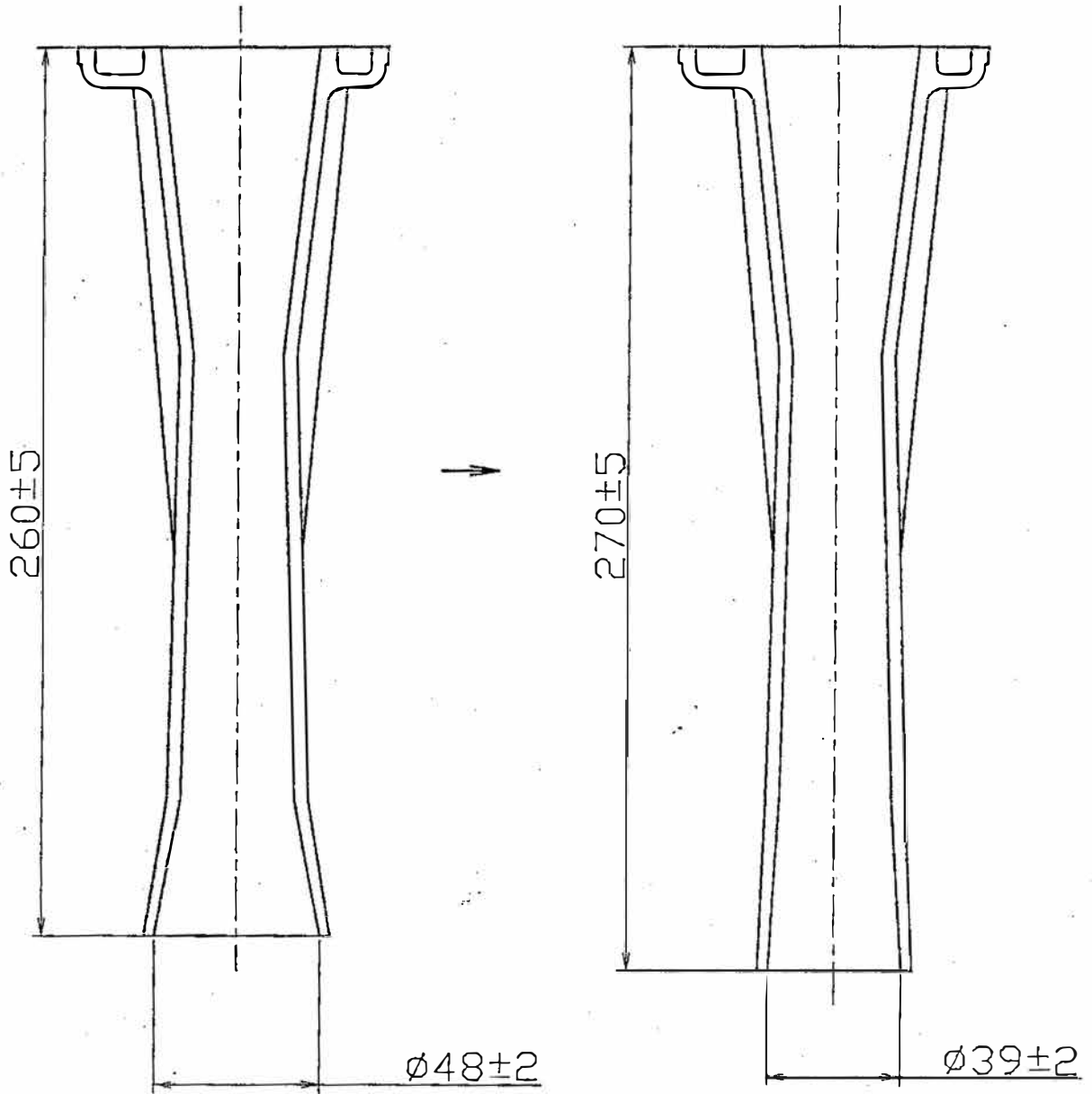
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M50D₂ Exhaust Pipe

Size of Exhaust pipe
(DIMENSION mm)

Original Model
M50D

New Model
M50D₂



U.I.M.



4 4 7 7 8

DIFFERENCE OF THE SPECIFICATIONS BETWEEN ORIGINAL AND NEW MODELS

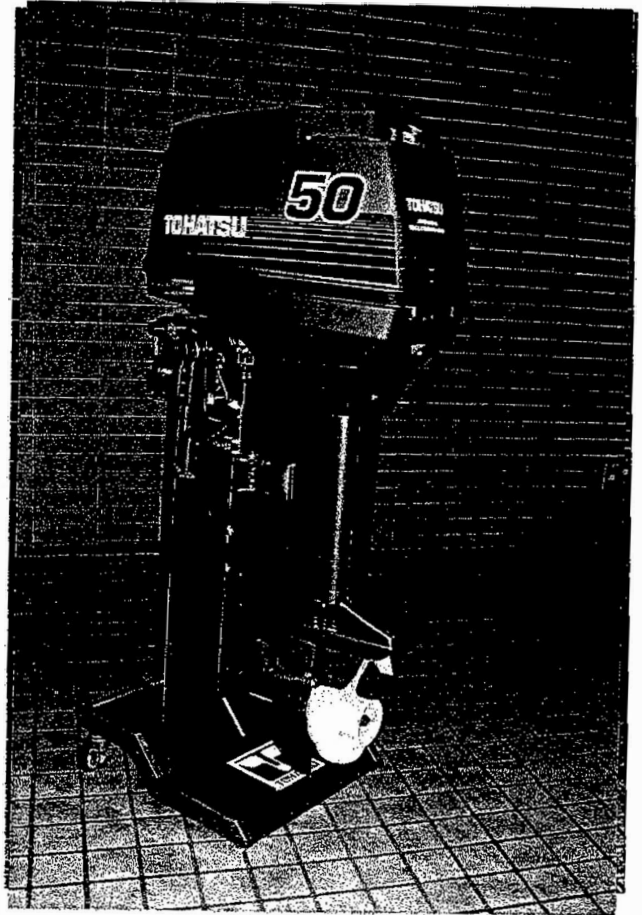
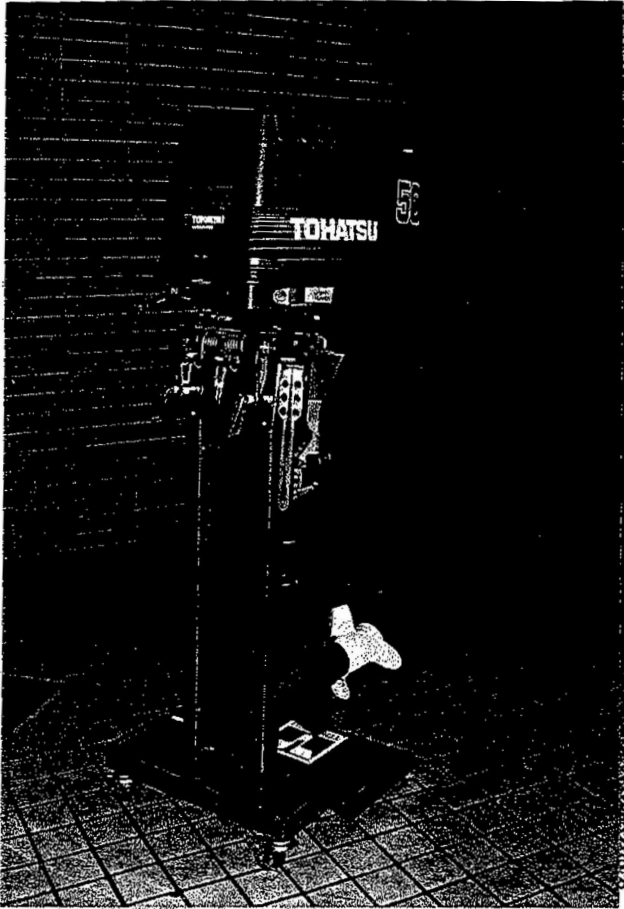
TOHATSU CORPORATION 1999-06-15

DIFFERENCE IN DATA					
ORIGINAL ENGINE MODEL	NEW ENGINE MODEL	TRANSOM HEIGHT	SIZE of Exhaust Pipe		VOLUME of Combustion Chamber
			Length	Diameter of tailend	
M50D	M50D ₂	S L UL	260 mm → 270 mm	ø48mm → ø39 mm	#1 25.0 cm ³ → 25.0 cm ³ (same sa original) #2 25.0 cm ³ → 26.7 cm ³ #3 25.0 cm ³ → 25.0 cm ³ (same sa original)

Appendix 2
 U.I.M.

ORIGINAL

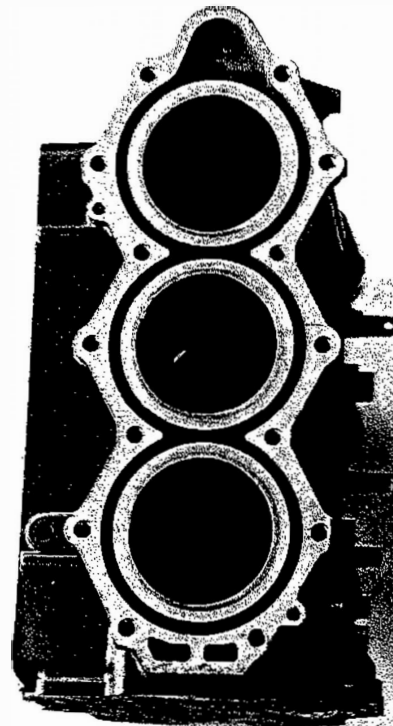
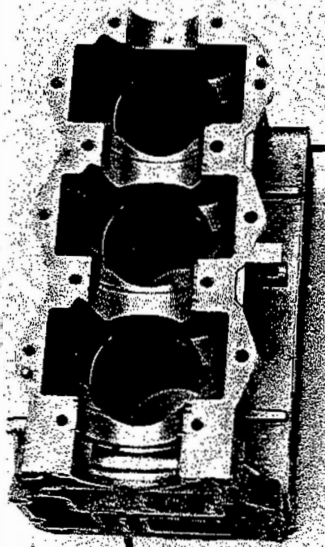
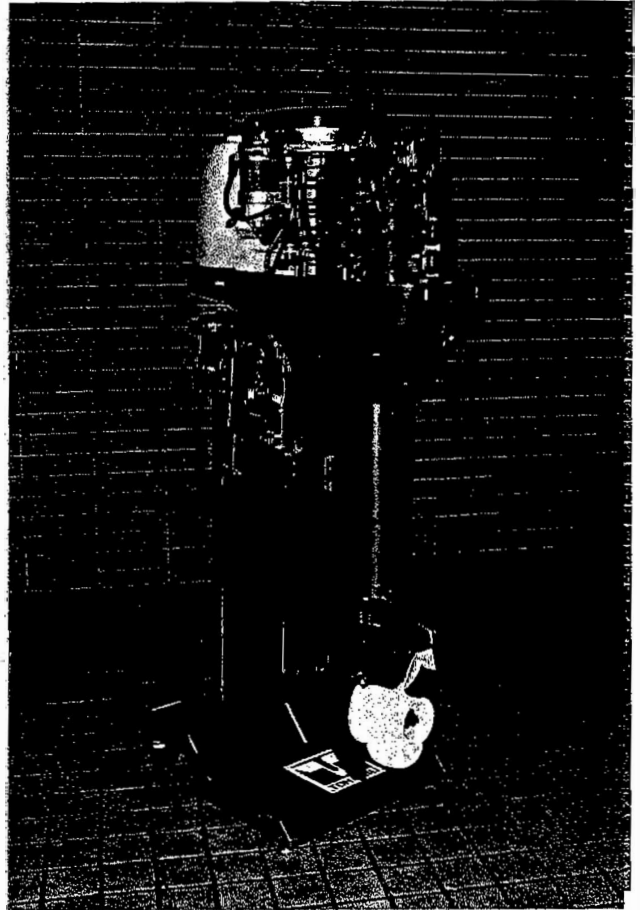
Homologation No. 00463 $\frac{1}{2}$ Engine model ...M-50D... 1.(-12)



ORIGINAL

Homologation No. 00463^g Engine model M50D

2.(-12)



ORIGINAL

Homologation No. 00463 Engine model M50D 3.(-12)

Photo of the cylinder block, showing the exhaust manifold.

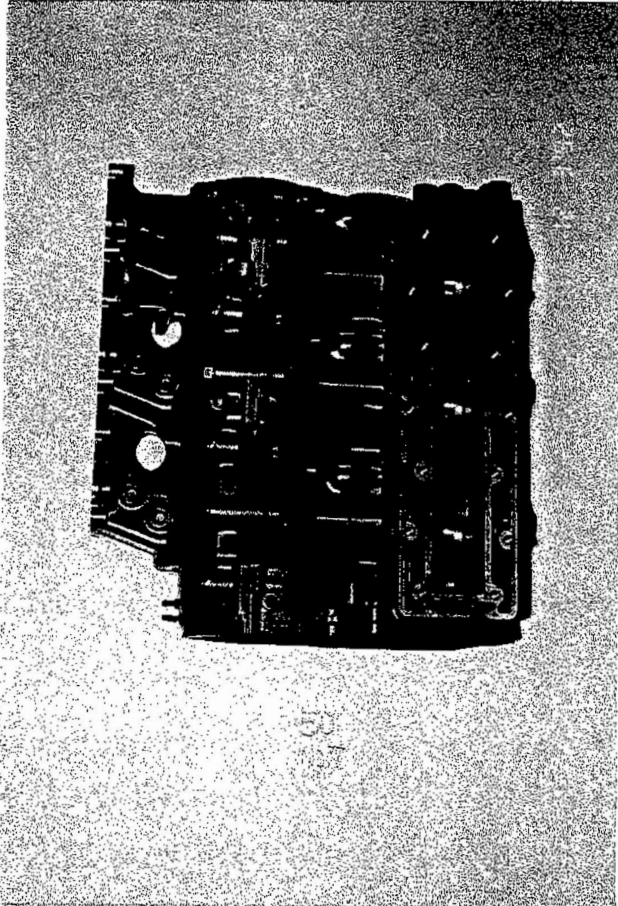
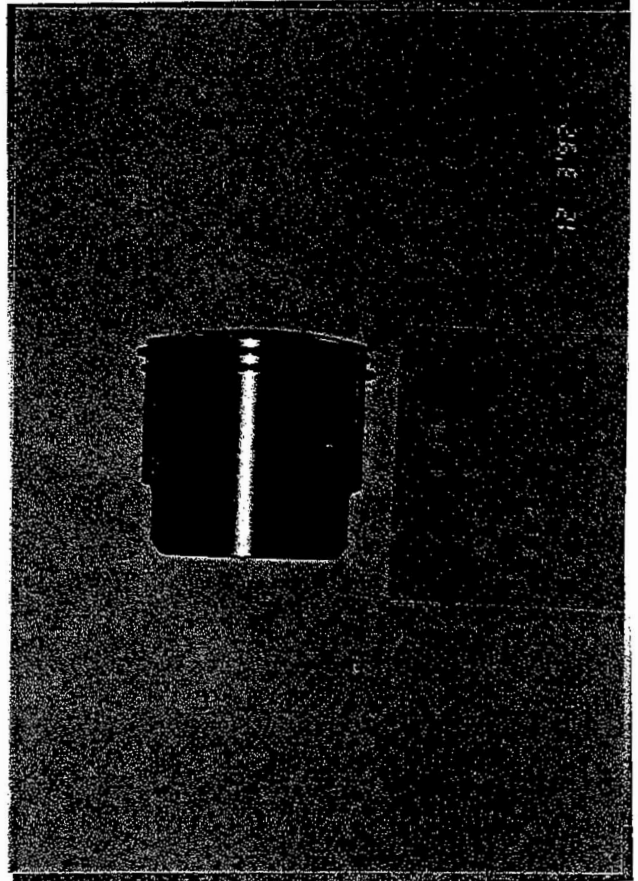
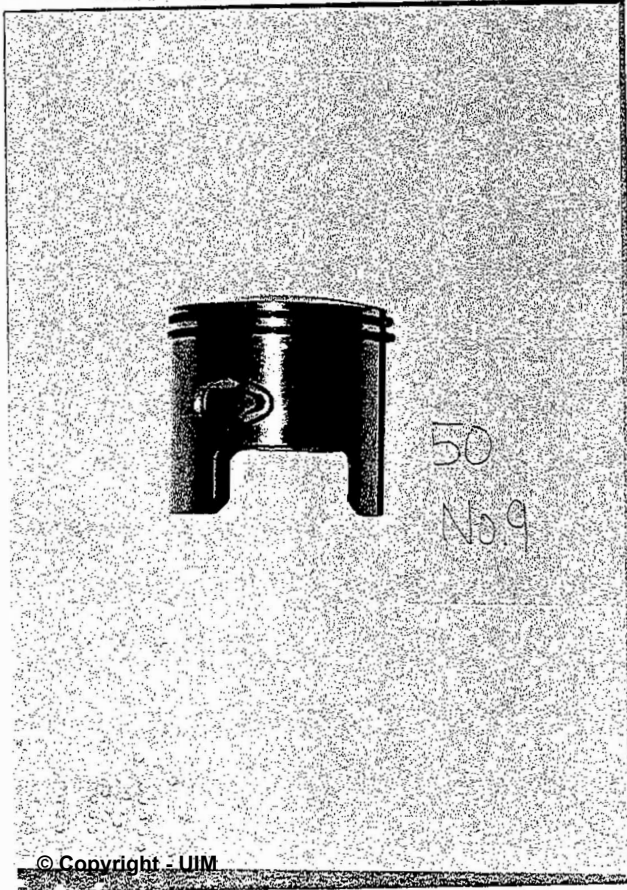
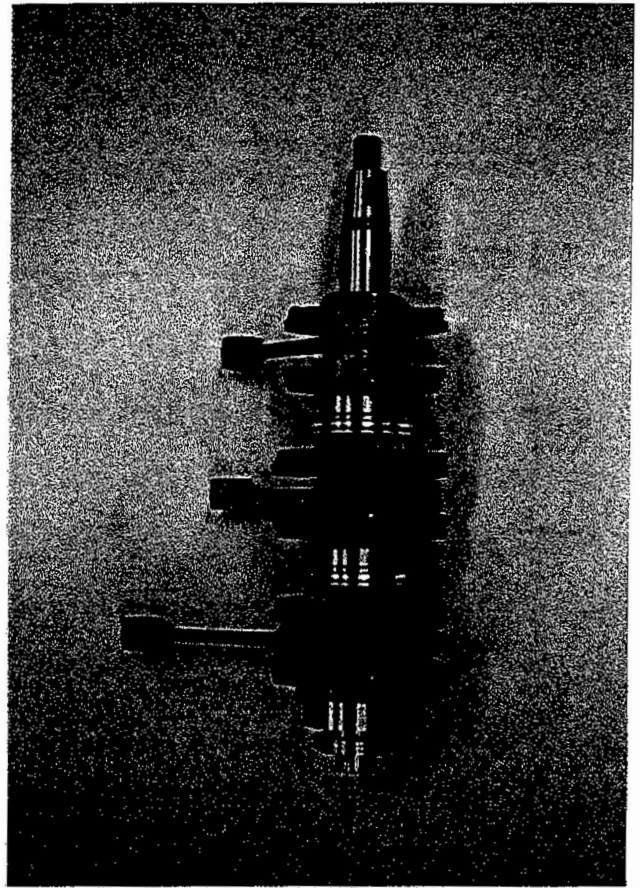


Photo of the crank shaft with connecting rods.



ORIGINAL

00463

M50D

4.(-12)

Homologation No. Engine model

Photo of the piston from the inside.

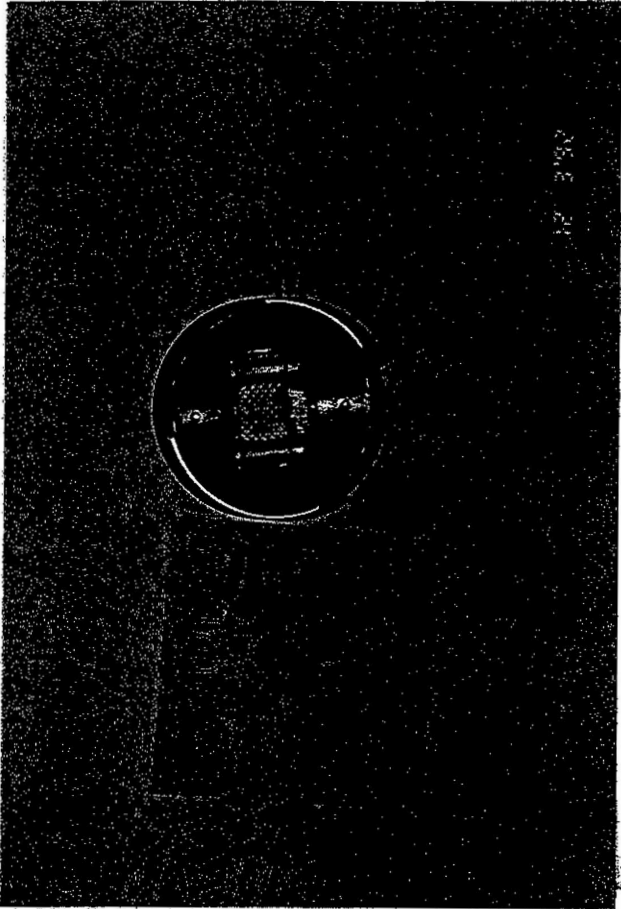
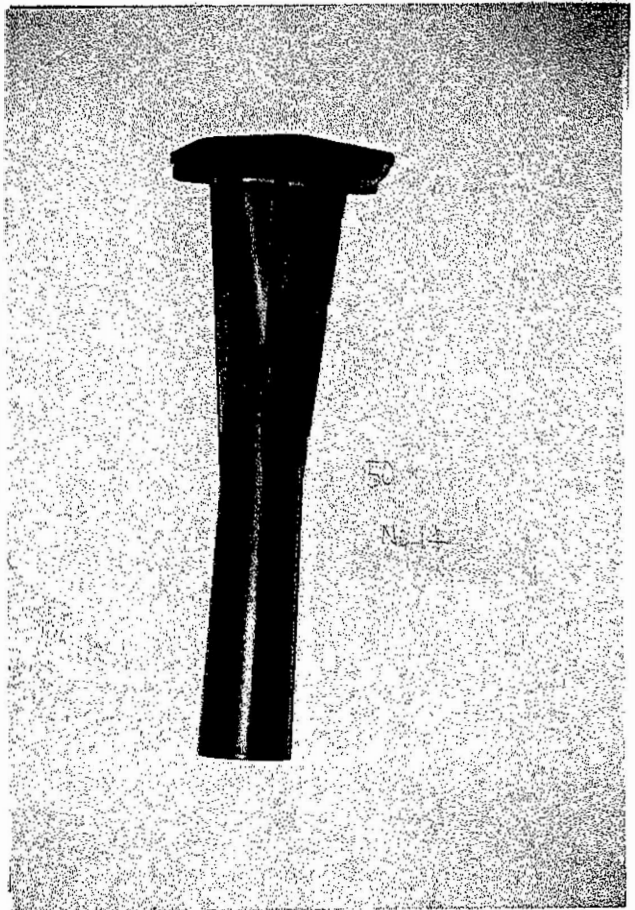
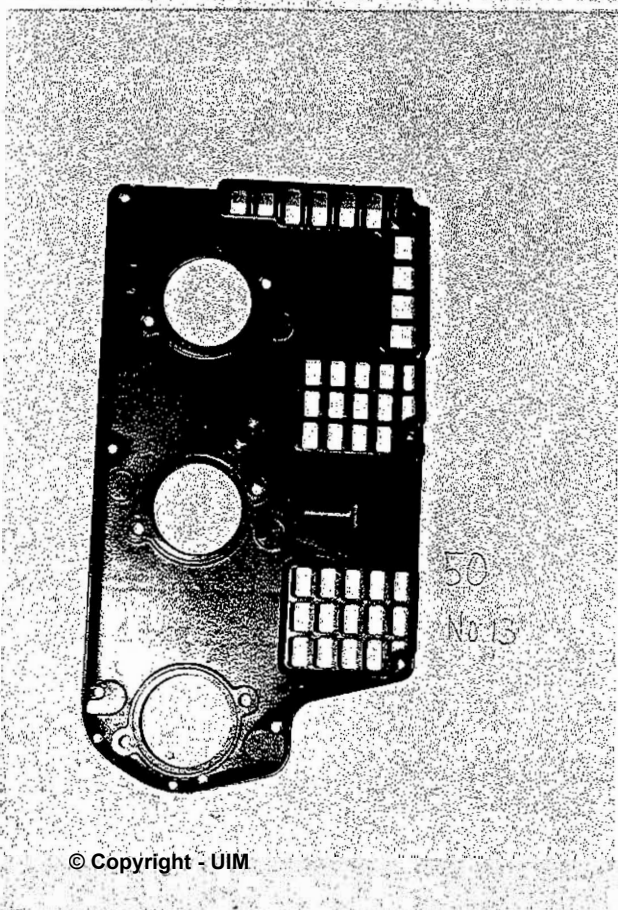
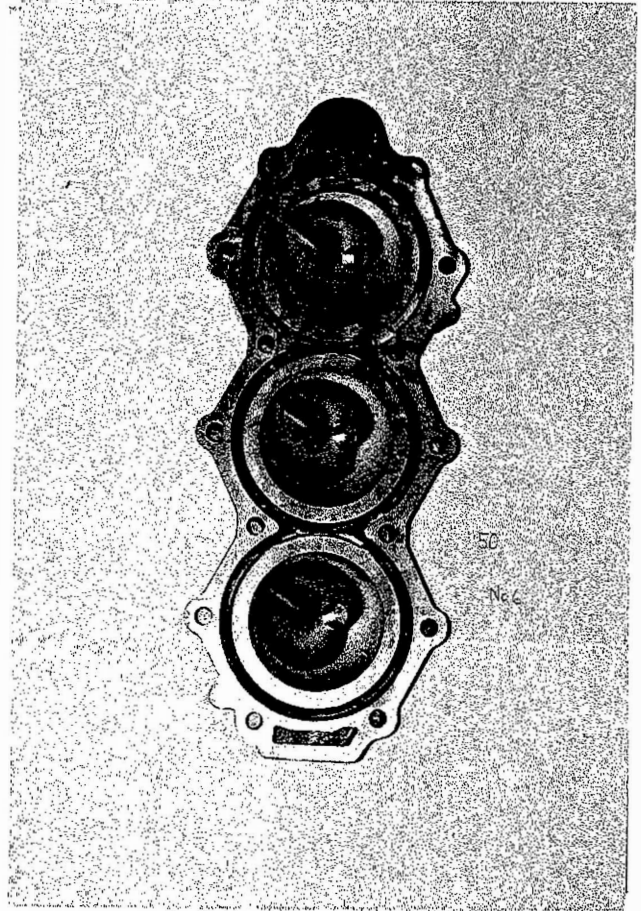


Photo of the combustion chamber.

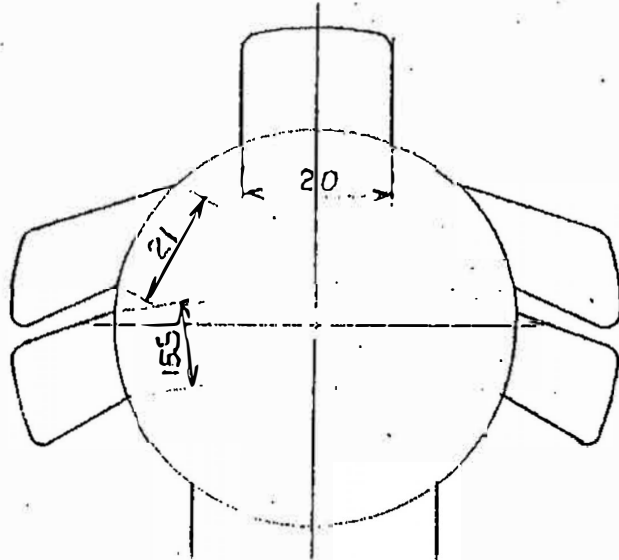
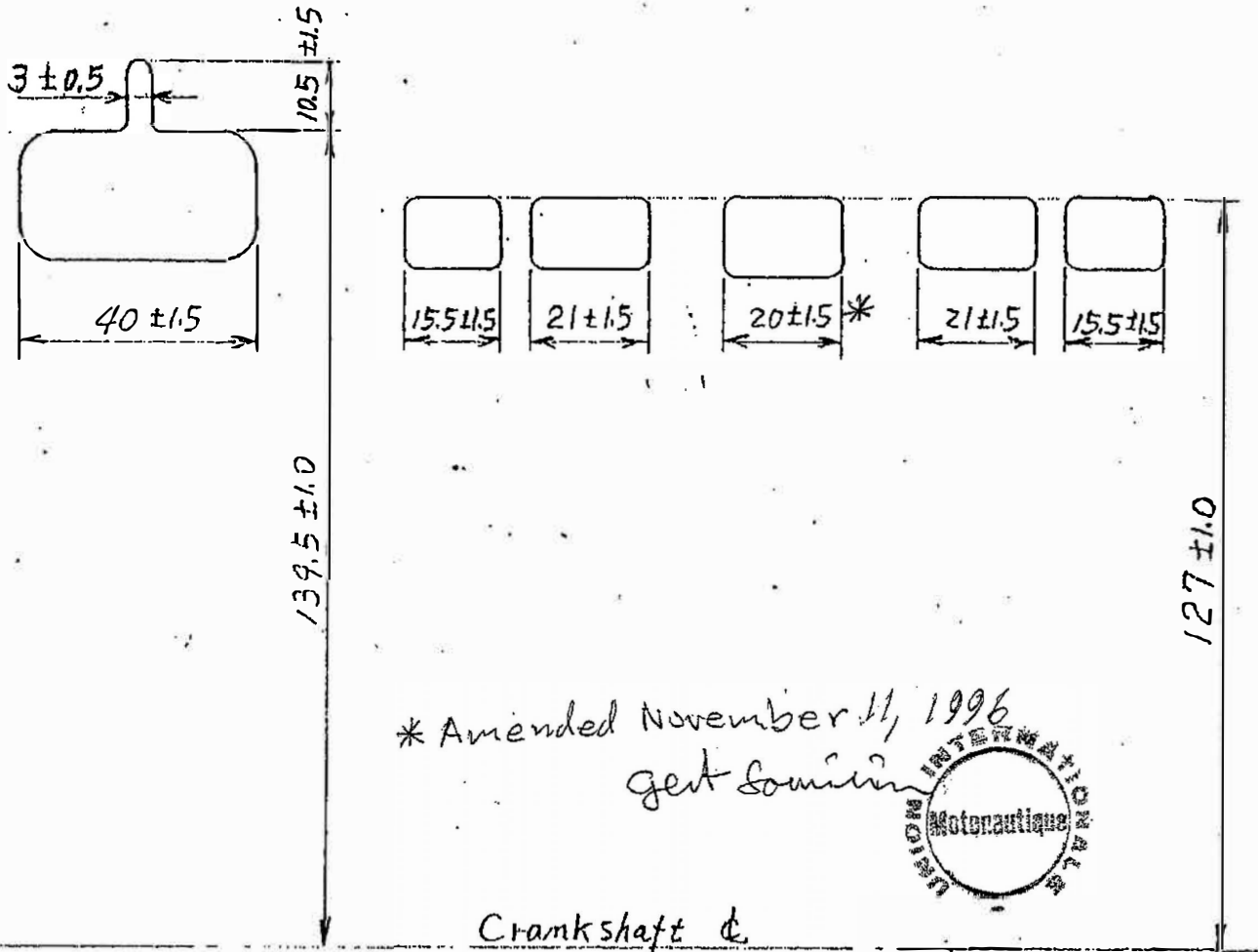


ORIGINAL

CORRECT

Homologation No. 00463 Engine model M.50 D 5.(-12)

Spread-out sketch of the cylinder-wall with location and dimension measurements of the scavenging ports noted.
- All port width dimensions are chordal measurements.



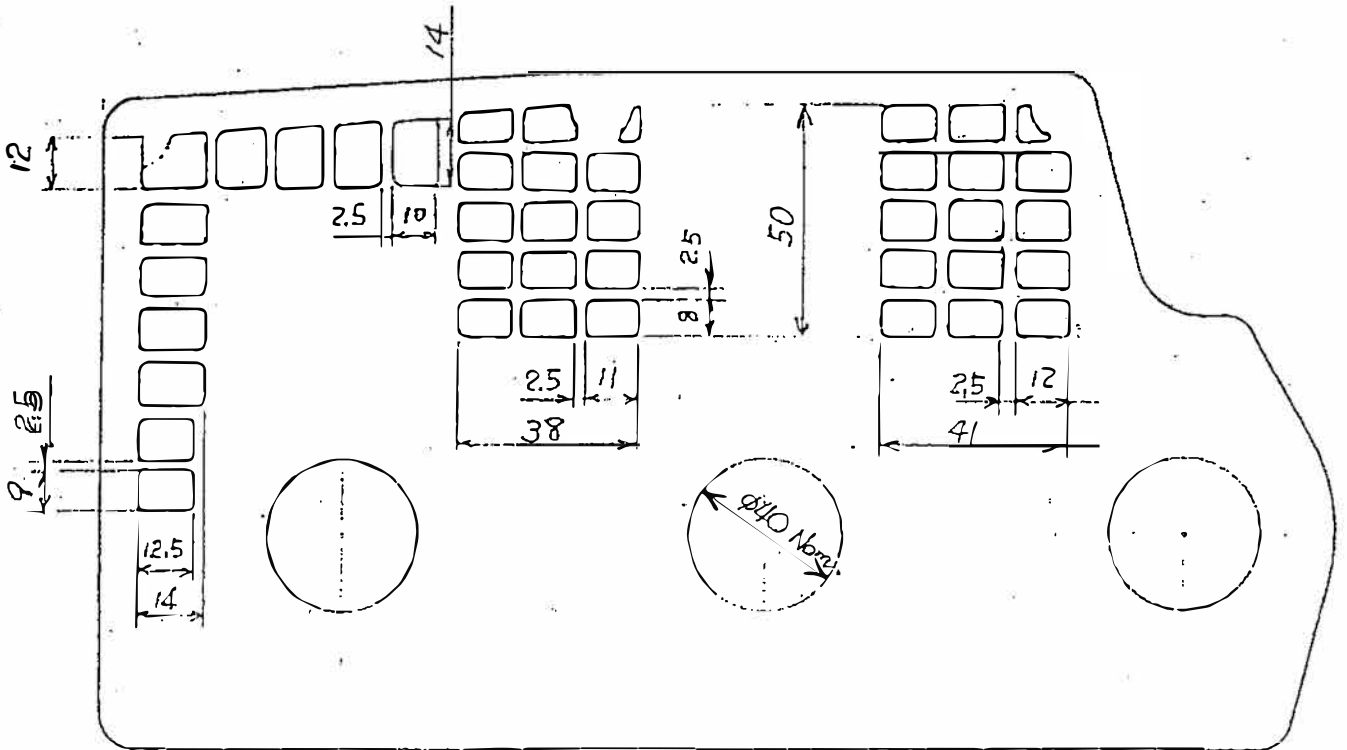
ORIGINAL

00463

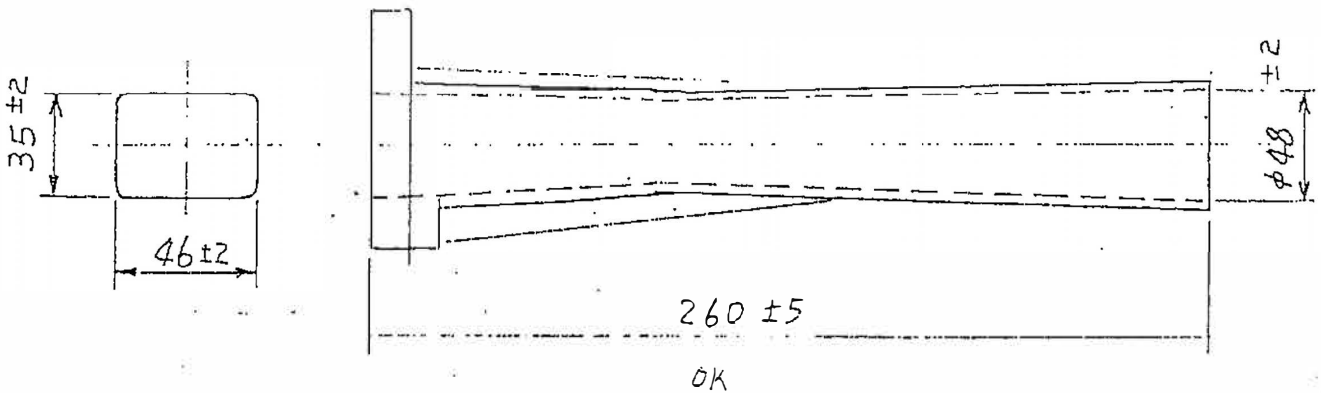
Homologation No. Engine model ... M50D.....

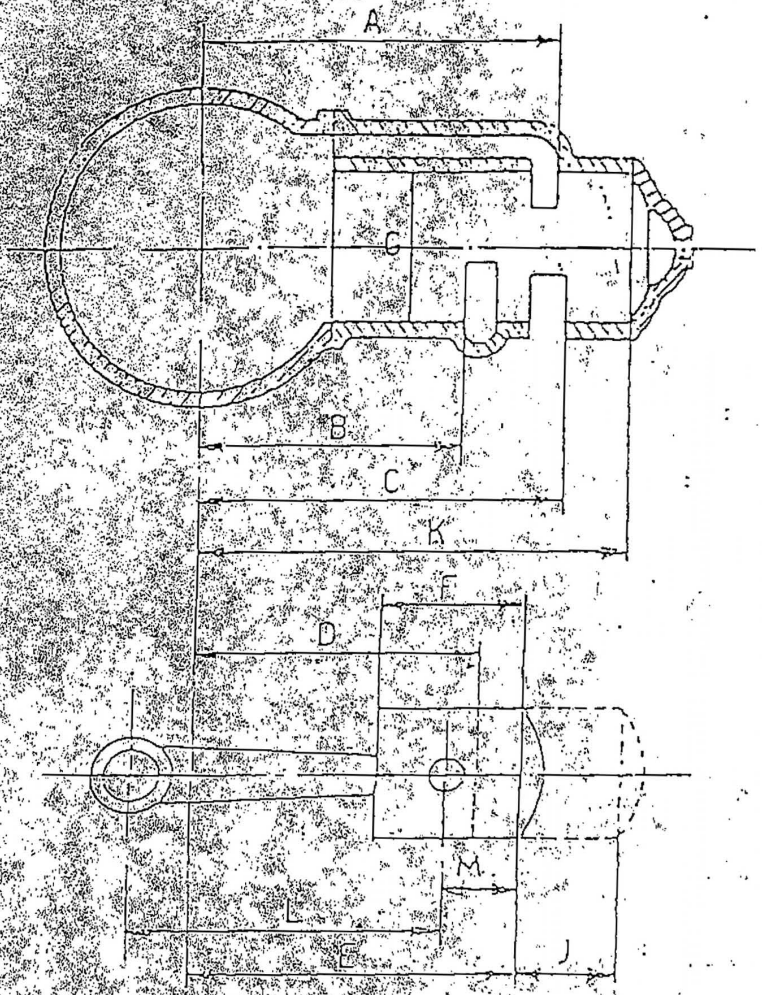
Size of inlet of airtake silencer

Airtake: All openings ± 1.0



Size of exhaust pipe





ORIGINAL

Homologation . **00463** =

Manufacturer **TOHATSU CORPORATION**

Model **M50D**

Cycle 2 stroke
 Number of cylinders
 Cylinder arrangement

2 Stroke
3
In Line

	Description	Tolerances		Value
ENGINE	G Bore	± 0.03	H	68
	J Stroke	± 0.05	H	64
	Capacity per cylinder	maxim.	cm ³	232.8
	Total cylinder capacity	maxim.	cm ³	698.4
	Material of cylinder block			Aluminium Alloy
	Material of sleeves			Cast Iron
	Material of cylinder head			Aluminium Alloy
	*Thickness of compressed head Gasket	± 0.2		1.2
	Volume of combustion chamber (+ volume one spark plug hole when the piston is at top dead center.)	minim.	cm ³	25.0
	Material of piston			Aluminium Alloy
	Number of rings & thickness			2 x 2
	Type of ring	Top: Tapered		Bottom: Plain
	A Distance from crankshaft centreline of top edge of transfer ports	± 1.0	H	127
	B Distance from crankshaft centreline to lower edge of inlet ports	\pm	H	
	C Distance from crankshaft centreline to top edge of exhaust ports	± 1.0	H	139.5
	F Thickness of piston (less baffle = at port opening corner.)	± 0.4	H	67
	K Distance from crankshaft centreline to top face of block at centreline of cylinders	± 0.2	H	180
	L From big end centreline to crosshead end centreline of connecting rod	± 0.05	H	116
	M Distance from the gudgeon pin centreline to the top of the piston (= port opening corner)	± 0.2	H	32
	Number and size (x) of inlet ports 1.0 from cylinder wall	\pm	H	
Number and size (x) of exhaust ports 1.0 from cylinder wall	± 1.5	H		
Number and size (x) of transfer ports 1.0 from cylinder wall	± 1.5	H	 	

00463

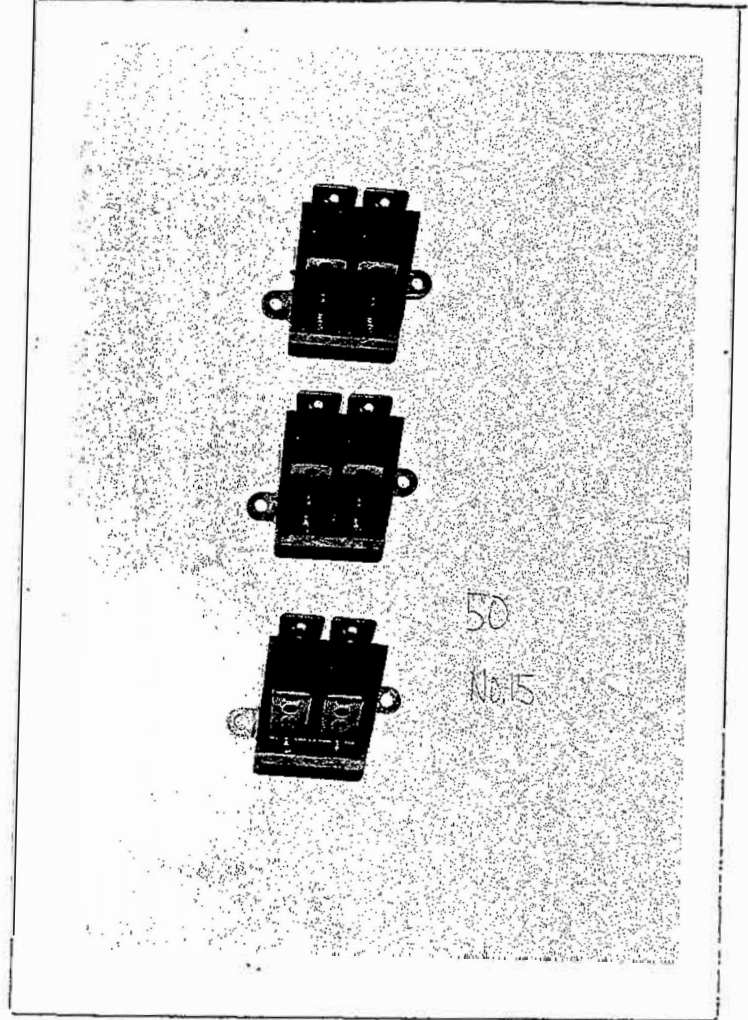
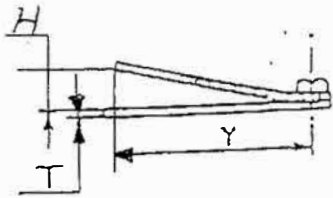


Photo of the complete rotary valve arrangement

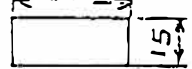
ORIGINAL

00463

TOHATSU CORPORATION

Homologation Manufacturer Model M50D

Category	Item	Tolerances	Value	Notes
Reed valve	T Reed Thickness	± 0.02	0.20	
	H Lift	± 0.7	9.3	
	Reed Material		Stainless Steel	
	Y Checking distance	± 0.5	35.3	
	Number and size of inlet ports	± 0.5	4 Ports	
Reed valve design, see photo on page 8				
Rotary valve	d Diameter of disc	\pm		
	Valve opening time before IDC	± 0		
	Valve closing time after IDC	± 0		
	Dimension of intake opening in cylinder block or crankcase	\pm		
	Rotary valve design, see photo on page 8			
Valve Material				
Weight	Piston with rings, wrist pin and fastenings	minim.	gr 290	
	Connecting rod with bearings in both ends and thrust washers	minim.	gr 253	
	Flywheel with rotating attachments	minim.	gr 4000	
	Crankshaft with connecting rods	minim.	gr 7000	
Carburettors	Number fitted		3	
	Type		TEI KEI	
	Total number of Venturis		3	
	Diameter of Venturis	± 0.5	2.6	
	Diameter of Throttle Housing	± 0.7	32	
Air intake silencer standard equipment, dimensions marked on page 4				
Injection	Make			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Type of pump			
	Number of injectors			
	Type of injectors			
Number of Throttle Bores & Diameter				

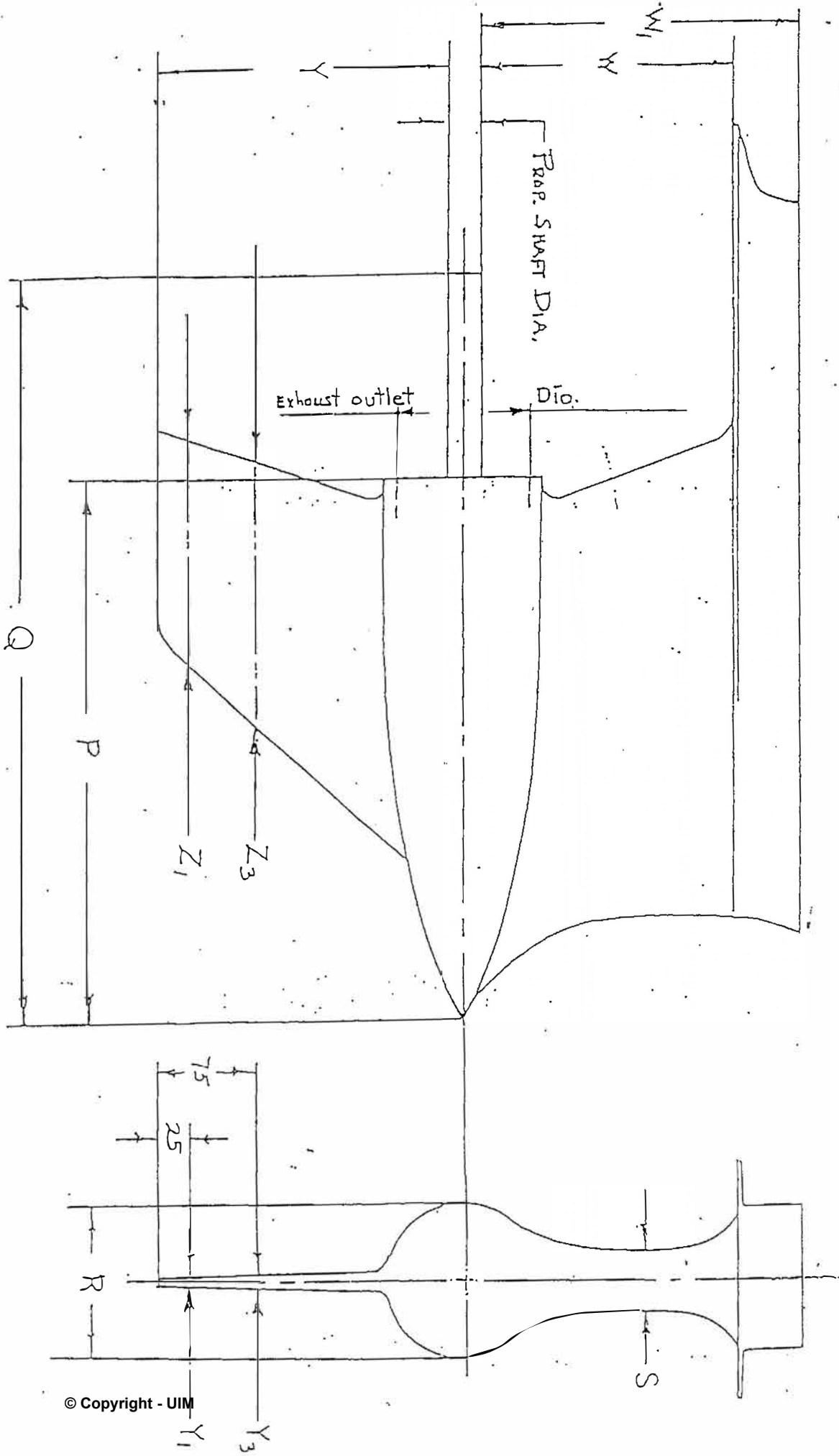


ORIGINAL

Homologation No. 00463.....

Engine Model..... M 50 D

10.(-12)



ORIGINAL

Homologation 00463 Manufacturer Model M50D 11.(-12)

		Tolerances		
Ignition	Type <u>ALTERNATOR DRIVEN CAPACITOR DISCHARGE</u>			Flywheel
			Magneto
Cooling	Type			Water
	Method			Direct
	Pump			PDR
	Number of pump rotor blades			6
	Where are the exhaust outlets located?			Through Prop.
	Dimension of exhaust outlets.....	± 2.0	mm	1.0 / 0.0 44 / 72
Exhaust system	Exhaust outlet dia. in the rear end of torpedo	± 2.0	mm	81
	Internal exhaust pipe standard equipment Dimensions marked on the picture page 4			<u>Yes</u>No.....
Supercharger	Type			
			
Underwater unit	Gear ratio			24:13
	P Longitudinal length of gear case torpedo	± 5	mm	246
	Q Longitudinal dimension of gear case including the propeller shaft	± Max	mm	369
	R Transversal dimension of gear case	± 3	mm	87
	S Thickness of union leg	± 2	mm	40
	Z ₁ Skeg chord length, 25mm above bottom	± 2	mm	80
	Z ₂ Skeg chord length, 75mm above bottom	± 2	mm	132
	W ₁ Distance from propellershaft to the upper flange	± 5	mm	237.5
	W Distance from propeller shaft to anti-cavitation plate (see sketch page 10)	± 5	mm	152
	Y ₁ Thickness of skeg, 25mm above bottom	± 1	mm	4.5
Y ₂ Thickness of skeg, 75mm above bottom	± 1	mm	6.0	
Y Skeg depth from propeller shaft	± 5	mm	156.5	
	© Copyright - UIM Dia of propellershaft bearing & seal retainer only required for gear case without propeller	± 0.5	mm	21

ORIGINAL

12. (-12)

Homologation **00463**

Manufacturer

Model **M.50D**

Notes

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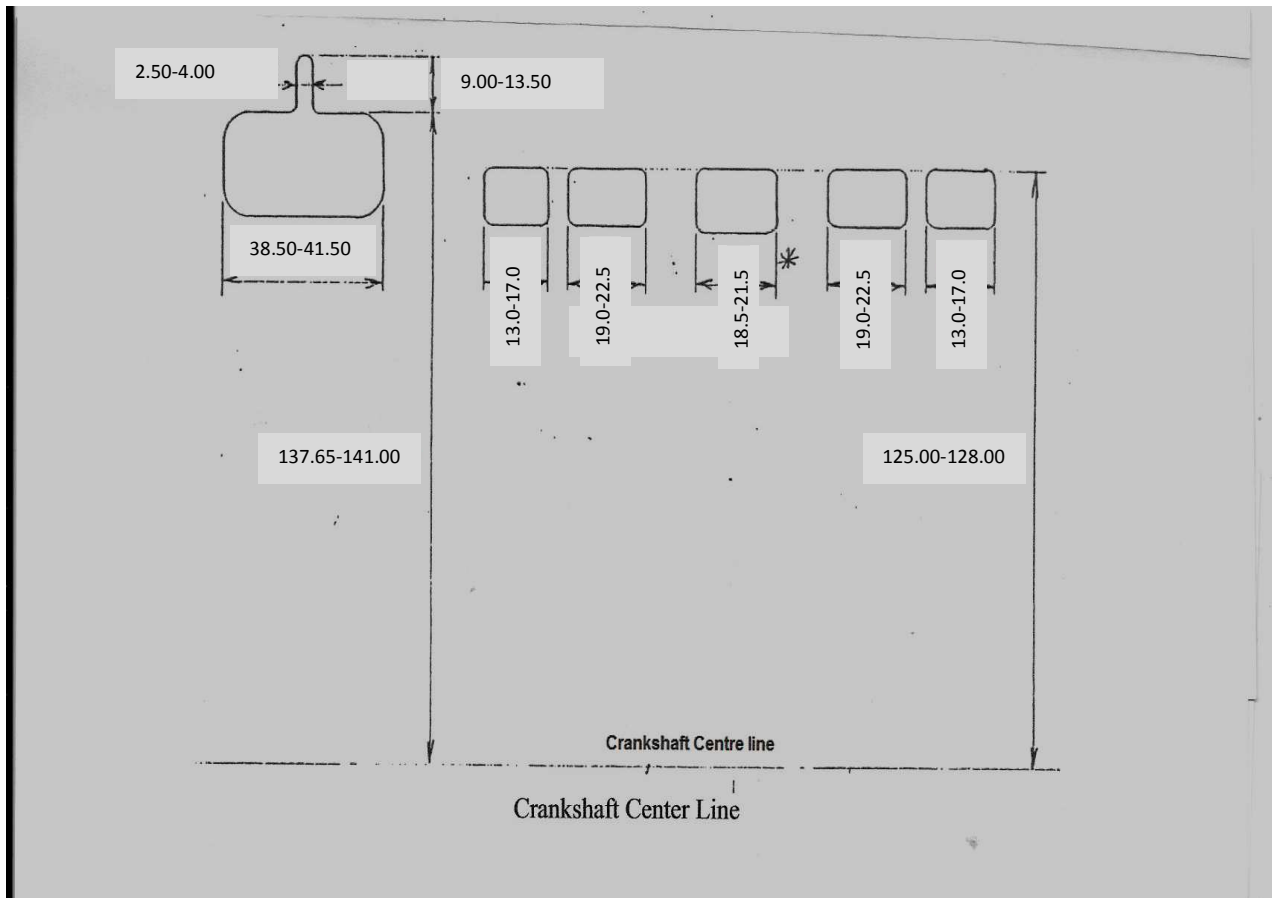
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Notes

Old and new 0463, 463A combined



Distance centerline crankshaft to cylinder block deck face 180.0 ± 0.20 mm