(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 228 959 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
02.01.2003 Bulletin 2003/01

(43) Date of publication A2:
07.08.2002 Bulletin 2002/32

(21) Application number: **02009892.7**

(22) Date of filing: **25.11.1996**

(51) Int Cl.[7]: **B63H 20/00**, B63H 23/34, B63H 25/42

(84) Designated Contracting States:
CH DE FR GR IT LI NL SE

(30) Priority: **24.11.1995 JP 30531895**
14.12.1995 JP 32529595
18.12.1995 JP 32878995

(62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC:
96118850.5 / 0 775 630

(71) Applicant: **Kabushiki Kaisha MORIC**
Shizuoka-ken (JP)

(72) Inventors:
- **Hayashi, Junetsu, c/o Kabushiki Kaisha Moric**
  Shuuchi-gun, Shizuoka-ken (JP)
- **Morisugi, Shigeo, c/o Kabushiki Kaisha Moric**
  Shuuchi-gun, Shizuoka-ken (JP)
- **Takahashi, Hideaki, c/o Kabushiki Kaisha Moric**
  Shuuchi-gun, Shizuoka-ken (JP)

(74) Representative: **Grünecker, Kinkeldey,**
Stockmair & Schwanhäusser Anwaltssozietät
Maximilianstrasse 58
80538 München (DE)

(54) Controller for an electric outboard drive system for a watercraft

(57) The present invention relates to a controller for an electric outboard motor comprising an electric motor drive unit (6) for driving a propeller (33) which protects a control system of the electric outboard motor an is excellent in operating performance. The inventive controller for controlling the electric motor drive unit is provided with an electric motor current detection means (101) for detecting the current to the electric motor (31) of the electric outboard motor when the current is not less than specified value, electric motor stopping means (102) for stopping the electric motor (31) in an overcurrent state in which the current to the electric motor (31) is not less than a specified value, and electric motor control means (105) which performs the step of releasing the stop of the electric motor (103) by operating the accelerator from an overcurrent state to the mutual state, and stopping the electric motor (31) after driving the electric motor (31) for a specified period of time when the accelerator (105) is opened again.

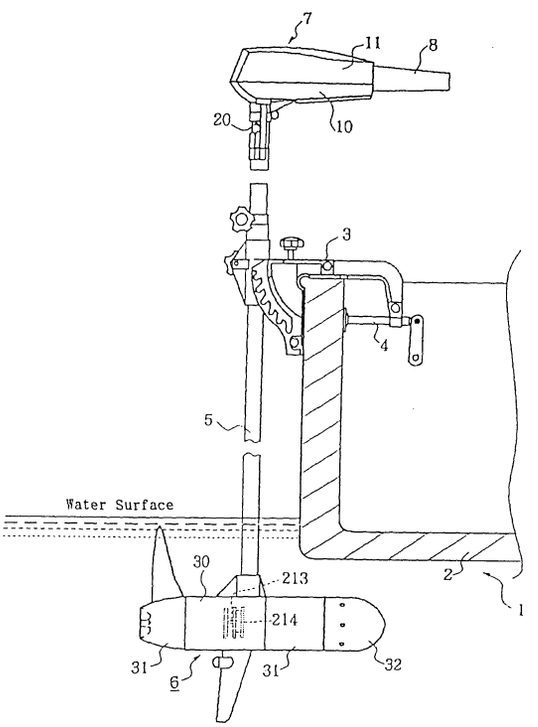

FIGURE 1

EP 1 228 959 A3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 00 9892

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 4 841 203 A (GILBERT DAVID A) 20 June 1989 (1989-06-20) * column 2, line 29 - column 5, line 64; figures *	1,5,6,15	B63H20/00 B63H23/34 B63H25/42
A	US 5 088 943 A (HENDERSON WILLIAM A) 18 February 1992 (1992-02-18) * abstract; figures *	1,2	
A	US 4 022 598 A (GUCWA JR EUGENE F ET AL) 10 May 1977 (1977-05-10) * the whole document *	1-21	
A	US 5 292 269 A (RANDALL JR GENE B ET AL) 8 March 1994 (1994-03-08) * column 2, line 22 - column 4, line 33; figures *	1-21	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

B63H
H02H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	31 October 2002	Moya, E

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 02 00 9892

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

31-10-2002

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4841203 A	20-06-1989	NONE	
US 5088943 A	18-02-1992	NONE	
US 4022598 A	10-05-1977	AR 210293 A1	15-07-1977
		AU 499826 B2	03-05-1979
		AU 1850076 A	13-04-1978
		BE 847766 A1	14-02-1977
		BR 7607209 A	13-09-1977
		CA 1087708 A1	14-10-1980
		DE 2647092 A1	12-05-1977
		ES 452747 A1	01-10-1977
		FR 2330179 A1	27-05-1977
		GB 1549811 A	08-08-1979
		IL 50647 A	25-07-1979
		IN 147486 A1	15-03-1980
		IT 1073345 B	17-04-1985
		JP 52055245 A	06-05-1977
		MX 3757 E	22-06-1981
		NL 7611577 A ,B,	02-05-1977
		NZ 182298 A	25-10-1979
		PH 17117 A	01-06-1984
		SE 411158 B	03-12-1979
		SE 7611707 A	29-04-1977
		SU 644407 A3	25-01-1979
		YU 263976 A1	31-05-1982
		ZA 7605929 A	28-09-1977
US 5292269 A	08-03-1994	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82